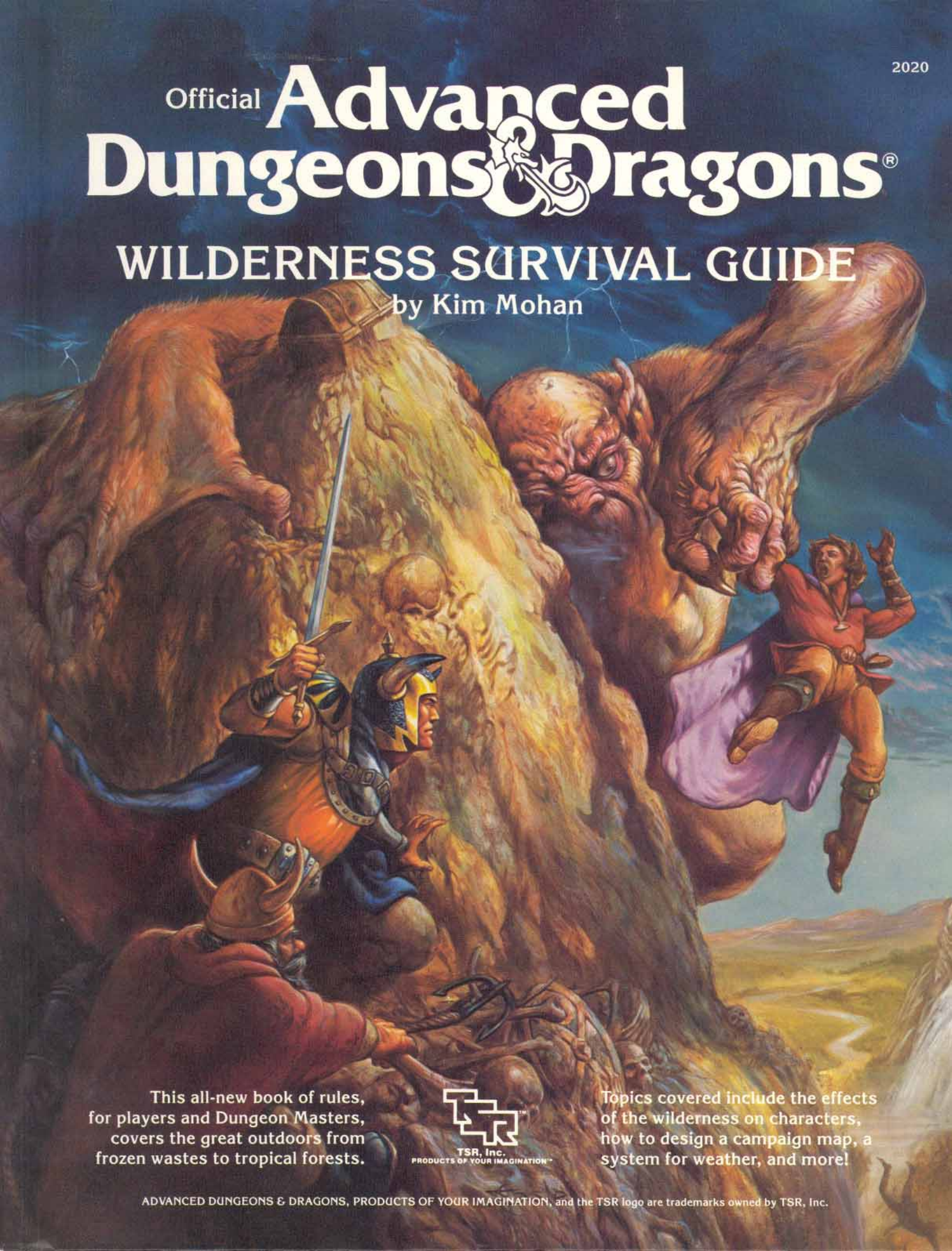
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WILDERNESS SURVIVAL GUIDE

by Kim Mohan



This all-new book of rules, for players and Dungeon Masters, covers the great outdoors from frozen wastes to tropical forests.

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WILDERNESS SURVIVAL GUIDE

by Kim Mohan



The sourcebook for AD&D® game adventures in the great outdoors!

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Special Appreciation to . . .

The three words beneath the title on the cover of this book don't tell the whole story. It would have been impossible for this book to be completed without the help, on both a professional and personal level, of several other people. For reasons that are widely varied but all vitally important to the author, special thanks are due to . . .

Gary Gygax, who planted and nurtured the tree from which this branch has grown.

Harold Johnson, who did his reviews on time even though the manuscript was late.

Frank Mentzer, whose few words of encouragement were worth more than he knows.

Doug Niles, who wrote a book that was a very tough act to follow.

And my dear Pamela, whose faith in me is exceeded only by my faith in her.

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Preface

Writing the *Wilderness Survival Guide* has been a long and exhausting journey, with more than a few obstacles and pitfalls along the way — not at all unlike a trek through uncharted terrain.

First I had to get my bearings. Where was I, and where did I want to end up? To answer those questions, I prepared an outline. Later on, when I felt myself straying from the path, I would haul out the outline — my compass — and re-orient myself.

Then I had to lay in some provisions for the trip. I scrounged some research material from Frank Mentzer's shelves, sent away for a couple of books from a catalog that Zeb Cook thought would be helpful, and made a lot of trips to public libraries. I went from a person who never seems to find time for reading to one who didn't do anything *but* read. And when I was well stocked with facts and figures, I strapped on my mental backpack and started writing — the real treacherous part of the journey.

Step by step, word by word, I used up my provisions. I was glad to see the thoughts in my head turn into thoughts on paper, because that meant I was making progress. I had no way of knowing whether my supplies would carry me through the trip, but there was no turning back.

Eventually, I reached the point in the journey where I *knew* I was going to reach my destination — a feeling very similar to seeing palm trees on the horizon after plodding across a desert. My load lightened, my pace quickened (approaching deadline may have had something to do with that), and the oasis got visibly closer with every paragraph I completed.

When I got where I was going, I looked back at the path I had taken. Pretty straight, I said to myself; not too much backtracking or meandering. And I was pretty proud of the journal I had kept along the way — the journal you are now holding. The next time your AD&D game characters leave the safety of the city or the seclusion of the dungeon, they will fully realize the threats and the thrills that come from wilderness adventuring. I hope all of your journeys are as successful and as satisfying as mine was.



Kim Mohan
Sept. 5, 1986

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WILDERNESS SURVIVAL GUIDE: WHAT IS IT?

From its inception, the AD&D® game has provided rules for both underground and aboveground adventuring. The *Monster Manual*, which was released in late 1977 as the first of the hardbound AD&D rule books, includes descriptions of creatures that inhabit the wilderness in addition to creatures that are normally found only in the darkest recesses of subterranean caverns. One only needs to read as far as the listing for the anhkheg ("usually found in forests and choice agricultural land") to realize that, despite its name, the scope of the ADVANCED DUNGEONS & DRAGONS® game is much larger than the most expansive dungeon.

The *Players Handbook* appeared several months later. Here we were introduced to the druid and the ranger, two character types that do their best work in the great outdoors. We were shown a vast repertoire of magic spells, many of which were obviously designed for use outside the dungeon. In various places throughout the book, we were given rules and guidelines for how to handle adventuring in the wilderness.

And then came the *Dungeon Masters Guide* a year later. Entire sections of this massive work were given over to describing and defining facts and concepts that are integral parts of an aboveground adventure. By putting all these pieces of information together along with details from the earlier books and stirring in a liberal amount of deduction and independent design, the Dungeon Master could reasonably and realistically deal with action and adventure in a wilderness setting.

But despite all that has been said or implied in the original rule books (and in the books that have come out since, such as *Unearthed Arcana*), a veritable mountain of information about the wilderness remained to be "discovered" and set down in game terms. This book is an attempt to add structure and detail to that part of the AD&D game rules concerned with the proper administration of outdoor wilderness adventures in the campaign.

Many of the new rules and systems presented here are not exclusively limited to use in the wilderness; for instance, guidelines on how long a character can survive without food or water are just as relevant in the dungeon as they are in the outdoors. For this reason, the book will be of some use even to Dungeon Masters and players whose game-playing activity is restricted solely to dungeon delving.

Other parts of the book can only be used during adventures in an outdoor setting; perhaps the most notable example is the system for weather determination given in the appendix at the end of this work. Even if the action in your campaign consists of a succession of dungeon expeditions, player characters will have to spend at least some time on the surface as they travel from one dungeon entrance to the next. And as long as they have to make the trip, why not make it interesting for them?

Defining the Outdoor Environment

The greater part of this book is devoted to presenting rules and guidelines that translate the effects of a natural, outdoor environment into game terms: How much damage does a character suffer from prolonged exposure to extremely hot or extremely cold temperatures? How do the terrain, climate, and weather conditions affect a character's ability to move and attack? What precautions must characters take to keep their mounts and pack animals — and themselves, for that matter — in good physical condition? What happens to someone standing nearby when a volcano erupts? How far can a character see on a clear day? (No, the answer is not "forever.")

The general intent of the *Wilderness Survival Guide* is to be faithful to the literal interpretation of the title. The natural physical environment is described in a fair amount of detail, along with rules for how characters and creatures are affected by that environment — in effect considering the wilderness as a "monster" that must be "defeated" if player characters are to succeed in achieving the goal of their mission. If the Dungeon Master chooses to incorporate these rules into his campaign, player characters will no longer be able to sally forth on a trek across the countryside without considering such fundamental questions as where their next meal is coming from, whether they can protect themselves from the elements, and how they expect to get across the mountain range that lies in their path.

Using these rules will require both the Dungeon Master and the players in a campaign to pay much more attention to details that before they might have disregarded or passed over lightly. Players will have to be much more explicit about exactly what equipment their characters are packing, and may have to include things in their gear that were never considered important before. (A tent doesn't just appear out of thin air when it's time to set up camp.) Everyone involved in the game will have to keep close track of time; no longer can a one-day journey be summed up by simply saying, "A day has passed, and you are now here." When a party stops for the night, it's no longer sufficient for the Dungeon Master to announce "Here comes the sun again; let's get going." Even if outdoor travel is only used as a means of getting from one Significant Place to the next, a trek through the wilderness is an adventure in itself. With proper attention to detail, getting there is half the fun — perhaps even more than half.

For the DM's Eyes Only

Most of the information in the *Wilderness Survival Guide* is presented for the use of both the Dungeon Master and his players. However, this doesn't mean that players will almost always know ahead of time what is going to happen to their characters and what they can do about it. The rules and systems in the first part of the book contain enough variables (die rolls) and unknown quantities (Ability Checks and Proficiency Checks) to keep players guessing. Even though a player (and, by definition, his character) may know in general terms what will happen if he pushes his horse too hard, only the Dungeon Master knows *exactly* what will happen in any certain situation and *exactly* when that event will take place. In practical terms, a player can memorize every word of the first part of this book and still have no assurance that his character will be able to deal automatically with every obstacle and opportunity that the wilderness presents.

The second (and much smaller) part of this book contains information especially intended for the Dungeon Master, most of it expressed in the form of suggestions intended to help him flesh out some of the details of what his campaign world looks like and how

it works. The weather-determination system does get down to specifics instead of dealing entirely in suggestions and generalities, but of course it need not be followed to the letter if the Dungeon Master wants to inject some personal flair into the natural environment of his world. Players are strongly encouraged not to examine the second part of the book, but even if they do they won't learn enough to give their characters an advantage during play. As has been said many times and in many different ways throughout all the AD&D® game rule books, the Dungeon Master is the ultimate authority in his campaign. He is not only entitled, but encouraged, to modify and expand upon the material in this book to suit his preferences and the particular makeup of his campaign. This individualization serves two worthy purposes: It makes every campaign (and every adventure within the context of that campaign) a one-of-a-kind experience, and it keeps the game exciting and challenging even for players who think they know *all* the rules. The only one who knows *all* the rules is the person behind the big screen at the head of the table. Neither the Dungeon Master nor his players should ever lose sight of that fact.

Definition of Terms

Certain procedures and conventions are used throughout this book. Although some of them may be directly or indirectly defined in other places as well, all of them are listed here for easy reference.

Ability Checks

This procedure, introduced to the AD&D game system in the *Dungeoneer's Survival Guide*, enables the Dungeon Master to determine a player character's success or failure in an attempt to perform some function related to one of the character's ability scores. An Ability Check will always be referred to by the specific ability in question (Strength Check, Dexterity Check, etc.). To conduct the check, the Dungeon Master or the player rolls 1d20 and compares the result to the character's ability score. If the die result is equal to or less than the ability score, the check is successful and the character is able to do what he tried to do. If the die result is greater than the ability score, the check has failed; the character is unable to do what he tried to do, and may suffer adverse effects because of his failure.

In some cases, an Ability Check may be made with a modifier to the die roll that increases or decreases the chance of success. A positive modifier increases the die result and thus decreases the chance of success; a negative modifier works the other way. An ability score greater than 18 is equivalent to 18 for purposes of an Ability Check; thus, there is always at least a 10% chance that an Ability Check will fail (on a roll of 19 or 20). An unmodified die roll of 19 or 20 means automatic failure, even if a negative die roll modifier would bring the result down into the range needed for successs.

Proficiency Checks

Following in the footsteps of the *Oriental Adventures* book and the *Dungeoneer's Survival Guide*, this book describes special skills, or proficiencies, not related to weapon use that a player character can acquire to give himself (and perhaps his comrades) a better chance of success when performing a certain task or attempting to cope with a hazard or a threat.

Sometimes a player character with proficiency can automatically perform some task or function that is impossible for a non-proficient character; at other times, he may be required to make a Proficiency Check to determine his success or failure. The procedure is essentially the same as for an Ability Check, since each proficiency is directly related to a certain ability score. For more details about Proficiency Checks, see the section on Wilderness Proficiencies.

Three Kinds of Temperature

Temperature is the one factor in an outdoor environment that must constantly be taken into consideration: It may or may not be raining, the wind may be calm or ferocious, but the air around characters is *always* of a certain temperature — and if the temperature is very hot or very cold, the atmosphere itself may prove to be a greater hazard to adventurers than any monsters they might encounter.

Actual temperature is equivalent to what the Dungeon Master would read on a thermometer (if such a device existed). It is, simply, the temperature of the air itself.

Effective temperature is the actual temperature modified by conditions that raise or lower the temperature in terms of how it affects characters exposed to it. If the air has an actual temperature of 20 degrees but a stiff wind is blowing, then the effective temperature is considerably lower than 20 degrees, and characters and creatures exposed to the wind are affected accordingly.

Personal temperature is the effective temperature further modified by conditions peculiar to a certain character. Someone who is dressed in heavy clothing at a low effective temperature has a higher personal temperature than someone who is lightly clad.

Each of these terms is used in various places throughout the book, and the distinction is usually quite important.

Other Terminology

"Attack rolls" refers to both the "to hit" die roll and the damage roll, so that a character who suffers a "-2 penalty on attack rolls" must deduct 2 from his "to hit" roll and then (if the attack succeeds) also deduct 2 from his damage roll. A damage roll can never be reduced below 1 point by any penalty or group of penalties.

"Character" refers to "player character" in all cases, and should also be read as "character or creature" unless the context indicates that the usage pertains to player characters only. In general, creatures (non-player characters, monsters, etc.) are capable of performing any feat that a player character can perform, and are subject to the same restrictions, bonuses, and penalties.

"He," "him," and other masculine pronouns are used in the interest of brevity and simplicity instead of usages such as "he or she" and "him or her." This convention is not intended to offend or exclude female characters, players, or Dungeon Masters, and we sincerely hope it does not carry a negative connotation for anyone who reads this book or plays the AD&D game.

OVERVIEW OF THE WILDERNESS

To achieve a degree of precision and detail that is necessary in a set of game rules on the subject, the wilderness environment must be described in terms of its component parts — the different types of terrain and climate that can be found in a typical (Earth-like) world.

Necessary though this approach is, it is also unfortunate that no better alternative exists, because a wilderness environment taken as a whole must be greater than the sum of its parts in order for the campaign setting to be as challenging and exciting as it can be. In the dungeon, a wall is a wall and a corridor is a corridor; a chamber has certain dimensions, and one is either inside the chamber or not inside it. In the outdoors, hard and fast characterizations of this sort do not apply: When a character moves across the border from one climatic area to another, the temperature does not abruptly rise or fall. In most cases, terrain does not change from one category to another within the distance a character can cover in a single round (or even a single day). The Dungeon Master's campaign map may indicate that an area of hills is bordered by a large, flat desert, but this does not mean that a traveler descends to the base of a hill and suddenly steps onto a sand dune. With obvious exceptions (such as a cliff face that rises majestically above a plain), terrain features in the wilderness change gradually. This means that any attempt at categorization cannot fully describe all the physical features that characters may encounter, and Dungeon Masters and players alike should keep this in mind.

With the above disclaimer out of the way, here are brief descriptions of the basic types of terrain and climate that comprise a wilderness environment.

TERRAIN

Desert

Not all deserts are covered with sand, and not all of them are in hot climates, but every desert has one thing in common with all the others: They are very, very dry. The technical definition of a desert is any area that receives less than 10 inches of rain per year; in actuality, the yearly rainfall in most deserts might be half of that amount or even less.

The lack of moisture in a desert does not render the area totally barren or uninhabitable. Many plants and animals are naturally able to cope with a severe shortage of water; the cactus and the camel are perhaps the best-known examples. However, characters are not so fortunate; they need water frequently and in fairly large amounts, and the best way to satisfy this need during a trek across the desert is to carry a supply of drinking water (or the means to produce water magically). Although it is possible to find water in the desert, either by stumbling across an oasis or by digging for ground water, neither of these methods is especially reliable.

Most deserts are composed of dry, hard-packed earth beneath a layer of gravel, with the terrain occasionally broken by a clump of large boulders. Water can be particularly difficult to find in this kind of desert terrain, because the rainfall tends to run off the surface (flowing toward a place of lower elevation) instead of soaking into the ground. Relatively few deserts are covered with sand, which does permit water to soak into the terrain from where it can be recovered later.

The icy wastes of the polar regions can also be considered deserts. In a desolate place such as the arctic north, vegetation and animal life are even more scarce than in a desert located in a hot climate. Although moisture is abundant on the ground (in the form of ice), the terrain still qualifies as desert because it receives very little precipitation.

On a sandy desert, dunes are formed by the action of the wind; their shape and size depend upon the amount of sand and the velocity of the wind that moves it around. Where sand is abundant and the wind is at least occasionally very strong, dunes can grow to be more than 500 feet high. The slope gradually ascends in the direction of the wind. From the peak of the dune, the sand slopes down sharply on the side opposite the wind direction. In a very active wind, the peak of a dune can move several hundred feet in only a day or two; as windblown sand cascades down the slope away from the wind, that side of the dune becomes able to support more and more sand, and eventually the dune peaks at a point farther downwind. Where the supply of sand is smaller and the wind is less intense, dunes are correspondingly smaller and shorter. In fact, the technical definition of "dune" is an accumulation of sand, formed by wind action, that is no more than 70 feet high. Anything larger is properly called a sand mountain, or "draa."

An object (or a character) that remains in one spot for any great length of time in a desert with heavy sand cover may end up buried under tons of sand. On the other hand, the action of the shifting sands may uncover the entrance to the hidden temple that you've been searching for. . . .

Forest

The term "forest" covers a lot of ground, literally and figuratively. In the typical campaign world, unspoiled by industrial revolutions and large-scale lumbering operations, expanses of densely packed trees can be found in any climate except the polar regions, where the eternal cold makes it impossible for trees and other large plants to survive.

Forests in different climatic areas contain different kinds of trees: evergreens, or conifers, in the subarctic; deciduous, or leaf-bearing, in temperate regions; and "evergreens" of an entirely different sort in subtropical and tropical areas. Characters may discover a large stand of tall cactus in the middle of a desert, but this feature does not qualify as a forest in game terms; the area is still considered as desert for purposes of weather determination, availability of food and water, and so forth.

Taiga (a Russian word) is the name often used to refer to the band of forest that exists on Earth, forming a rough circle just south of the Arctic Circle. The northern edge of the taiga is the "tree line," north of which the climate will not support large plant life. The conifers get their name from their distinctive shape — a tall, thin cone that enables them to shed snow easily. Their



branches are tightly packed with twigs, and the twigs are covered with needles — leaves that are very narrow and have a very small surface area, so that the tree loses very little water through evaporation. (Conifers don't need as much water as other trees, but they have to be careful to conserve what they do receive.) Conifer branches are a good source of material for an impromptu shelter because their "leaves" are so densely packed. Where water is relatively more abundant (near rivers and lakes, and on the southern edge of the taiga), some broadleaf trees may be located. They blossom only briefly during the short subarctic summer, but are able to prosper year after year because of the availability of water.

Temperate forests contain a wide variety of trees, all of which have one important common feature: They are very adaptable, able to withstand the scorching heat of a temperate summer as well as the vicious deep-freeze of a temperate winter. Most temperate forests are composed primarily of deciduous trees — the kind that shed their leaves when cold weather approaches, stand with branches bared to the winter wind, and then grow new leaves when the cold season is over. A temperate forest is a lush breeding ground for many types of smaller plants because the "crop" of fallen leaves each autumn keeps the soil rich in nutrients. However, there are fewer ground plants and less underbrush in a temperate forest than in a rainforest, for the reasons explained in the following paragraph. The largest trees in a temperate forest (usually oak, maple, and ash) can be as much as 160 feet tall with a "leafspan" nearly as great as that.

Rainforest is the name usually given to forests in subtropical and tropical climates. The distinctive feature of a rainforest is its "layered" composition; trees of several different heights coexist with low-lying shrubs and ferns. Most of the trees in a rainforest have thin, straight trunks that stretch toward the sky and are topped (in the fashion of an ice-cream cone or a mushroom) by a roughly egg-shaped clump of vegetation. The trees do not spread out close to the ground the way that trees in a temperate forest do, which makes it possible for a rainforest to support a thick layer of low-lying vegetation at ground level. On a sunny day, a lot of light reaches the floor of a rainforest; on the same kind of day in a temperate forest, many areas beneath wide, tall trees remain shaded from dawn to dusk. As one might expect from its name, a rainforest is also covered with vegetation because of the large amount of precipitation the area receives. Trees in a rainforest are green all year round; before old leaves grow large and drop off, new ones have already appeared to take their places.

Hills

This type of terrain has much more to do with topography than with ecology. A forest can be hilly, as can a desert (even a sandy desert, if you consider the dunes to be hills). Hills can be gently rolling mounds or craggy, mountainlike piles of rock and earth that jut out of the surrounding landscape.

For purposes of classifying a certain area that includes hilly terrain, the Dungeon Master can use the following guidelines:

Any irregular (not level) terrain that includes dense or moderate tree cover is forest.

An area of gently rolling hills at an elevation of less than 2,000 feet containing few or no trees is classified as some type of terrain other than hills; use whichever designation (desert, plains, swamp, or seacoast) is appropriate.

An area *is* classified as hills if it is generally at an elevation of less than 2,000 feet, contains few or no trees, and has sharply sloping mounds with peaks that may rise above 2,000 feet.

Or, an area is classified as hills if it is at an elevation of between 2,000 and 4,000 feet, generally contains irregular terrain, and has few or no trees.

Mountains

For game purposes, mountainous terrain is devoid of large vegetation and usually occurs at high elevation (4,000 feet or above). A heavily wooded area on the lower slopes of a mountain should be considered as forest, even if the elevation is higher than 4,000 feet. A mountainous region (for determination of movement, encounters, food availability, etc.) begins where the trees end. On Earth, the "tree line" (at about 10,000 feet above sea level) marks the place where deciduous growth gives way to coniferous trees, which are better suited for survival at higher elevations and colder temperatures. Beyond the "snow line" (12,000 feet), trees cannot prosper, and only low-lying plants and shrubs can be found; if characters have not reached mountainous terrain by the time they've climbed this high, they will certainly be in mountains if they go any higher. A barren, rocky slope that begins at relatively low elevation and rises high above the surrounding area can also be considered as mountainous terrain, even if the base of the slope is lower than 4,000 feet above sea level.

If hills can be described as irregular terrain, then mountains are downright chaotic. If there is a level spot to be found on a mountainside, it will probably be surrounded on all sides by severe slopes and vertical or near-vertical cliff faces. Of course, the lower slopes of a mountain are much less treacherous than the area near the peak — but, as noted above, the lower slopes often contain features (usually trees) that require the area to be classi-

fied as something other than mountainous.

At any elevation higher than the snow line, some of the rocky surface of a mountain will be covered with snow or ice, making travel even more hazardous. In contrast, exposed rock surfaces at high altitudes can become much warmer than the air temperature because they absorb heat from the sun throughout the day — and on a mountain, there is no such thing as shade except on a slope opposite the sun or in the area beneath an overhang.

A mountain is a study in contrasts — warm in some places, cold in others; practically impossible to climb in some spots, fairly easy to negotiate in others; a place of safety or a place of danger, depending on your point of view and how well equipped you are to deal with the terrain. Not all mountainous areas are inherently treacherous, but adventurers who ascend into the peaks without proper planning and preparation are either very desperate or very foolish.

Plains

The name itself implies something unexciting, even boring. But, in the words of the original bard, What's in a name? The plains of Africa and South America, known as savannas, support perhaps the greatest diversity of wildlife of any place on Earth. The great plain of central North America, before it was "domesticated," was also teeming with wildlife — and, of course, with the vegetation that the wildlife needed to survive.

This terrain designation takes in many types of flat areas, most of which (except in an arctic climate) have at least a moderately dense cover of low-lying vegetation — grasses and small shrubs that have remarkable regenerative powers even after they are eaten almost down to ground level by hungry animals. An occasional tree or small grove of trees also dots the landscape — not enough trees to qualify as a forest, but enough to provide protection from a herd of stampeding elephants. The monotony of the level terrain may be periodically broken by rolling hills or bluffs, but again these features are not frequent enough or predominant enough to cause a change in classification.

Food and water are generally easy to find on a plain, but the materials for an impromptu shelter (tree branches, logs, etc.) are not so easily come by. Because the terrain is usually flat and featureless, adventurers should be especially careful to keep their eyes and ears open: Whenever they can see for a long distance, they should realize that they, in turn, can be seen from far away.

Seacoast

Simply put, practically any place that is a short distance from an ocean is seacoast terrain. In these rules, the distinction is important for determining weather conditions, the availability of animals (for food) and the availability of plant life (for both food and medicinal purposes). If the Dungeon Master uses encounter tables such as those in the *Dungeon Masters Guide* or *Monster Manual II* for determining possible confrontations with wildlife or other residents of the area, the seacoast area should be considered as some other type of terrain that conforms to the classifications in the encounter tables.

Swamp

In game terms, a swamp is any place where a character's feet hit standing water shortly before hitting the ground. Swamps are always located at low elevation or on flat or slightly depressed land at the edge of a river or lake. The vegetation may resemble that of a grassy plain, or it may be forestlike, but no matter what shape and size it comes in, there is always a lot of it; the soil in swampy areas is extremely fertile because it contains a great quantity of decomposed vegetable matter — and, of course, no plant in a swamp ever has to go very far for water.

The depth of the standing water in a swamp can vary from practically zero (where the ground is merely spongy) to several feet, and sometimes goes from shallow to deep in the space of just a few steps if the underlying terrain is irregular. Movement through a swamp can be very difficult, if not actually dangerous, and a swamp is not a good place to take mounts or pack animals. If the shortest distance between two points would take characters on a path through a swamp, they would be well advised to circumvent the soggy area and spend a few more steps to get where they're going. But if their destination is *inside* the swamp . . . well, even if the adventure isn't wild, it will certainly be wet.

Hierarchy of Terrain

The preceding text gives some advice on how to deal with terrain that seems to belong in two categories at once. Even with that advice in mind, occasions may arise when there is some question in the Dungeon Master's mind about how an area of terrain should be classified. If that happens, the following ranking may be of use:

1. Seacoast
2. Swamp
3. Forest
4. Plains
5. Desert
6. Hills
7. Mountains

If an area has properties that are particular to two or more terrain categories, consider it as terrain of the highest-ranking category (1 being the highest rank, 7 being lowest). For instance, a sandy beach that borders the ocean is considered seacoast, not desert. A low-lying area with standing water and a lot of large trees is swamp, not forest.

Obviously, certain circumstances will not fit this ranking system. If the waves of an ocean crash against the base of a jagged, rocky slope, the area next to the sea is mountains, not seacoast. If a deep valley between two hills happens to contain a marshy area, the predominant terrain in the area is hills, not swamp. The listing above should only be used when common sense and reasonability do not help the Dungeon Master reach a decision.

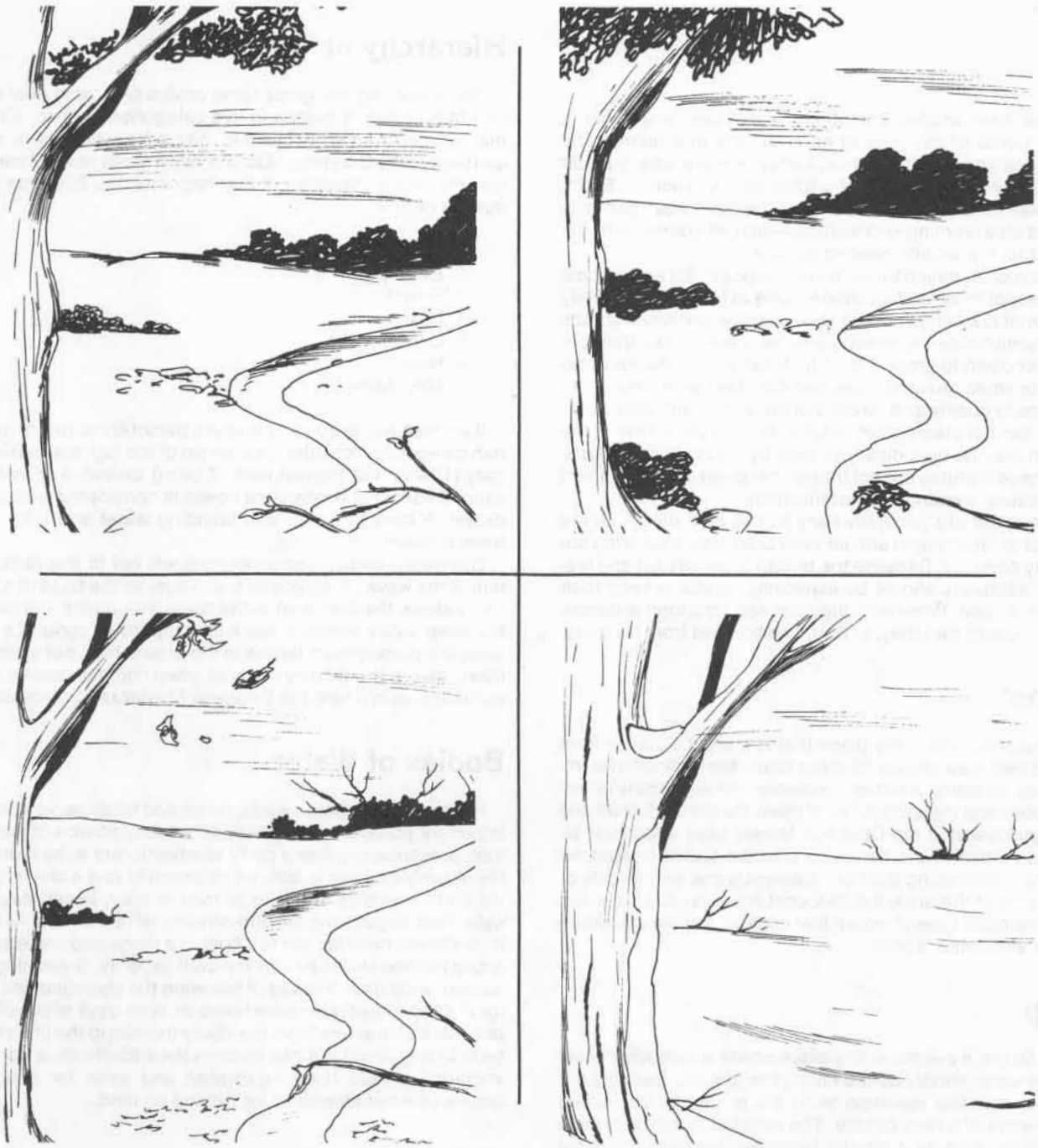
Bodies of Water

In a typical campaign world, rivers and lakes serve at least two important purposes: They provide a ready source of water, and their presence requires a party of adventurers to be more versatile. A body of water is both an opportunity and a challenge. Travel on the surface of a lake or river is often faster, easier, and safer than negotiating the surrounding terrain on foot — but only if characters have access to a boat or a barge and someone in the group has the skill to handle the craft expertly. Swimming across a deep, wide river, instead of following the shoreline and looking for a place to ford, can save hours or even days of travel time — but only if characters have the ability to swim in the first place. To be fully prepared for a trek through the wilderness, a party of adventurers should have equipment and skills for coping with bodies of water as well as for moving on land.

CLIMATE

Full description of the climatic regions of the wilderness are given for the Dungeon Master's benefit in the appendix to this book. All that characters need to know (and would logically know) before they begin an outdoor adventure are some general facts that are presumed to be common knowledge among the inhabitants of a typical campaign world. The greatest extremes of weather from one season to another are found in the zones of temperate climate, which lie roughly equidistant from the poles and the equator on a planet. The weather is usually colder and drier in the regions of subarctic climate, and is almost always frigid in the arctic zones around each pole. Closer to the equator, the subtropical regions have a higher average temperature than the temperate zones and show great extremes of precipitation in certain areas from one time of year to the other. In the tropical zone on either side of the equator, the temperature is almost always warm, except at high elevation, and precipitation (in the areas where rain does fall) can be extremely heavy.

Of course, general facts are just that — general. While characters will not have to contend with a raging blizzard in the tropics or a blistering heat wave in the far north, the weather conditions in a certain climatic region can travel through a wide range of possibilities. As with all other aspects of adventuring, common sense and preparation are the keys to surviving and prospering when the weather does something out of the ordinary — which it almost certainly will do. Characters who expect the unexpected will not be sorry that they made the extra effort.



WILDERNESS PROFICIENCIES

The potential rewards of adventuring in and through the wilderness are great — and equally great are the potential problems and hazards that will be encountered and must be avoided or overcome if a group of characters is to survive and benefit from a sojourn in the wild.

Of course, the best way to avoid or overcome problems and hazards is to be prepared to deal with them — and that's where wilderness proficiencies come into play. Described in this section is a system for handling the concept of wilderness proficiencies, followed by definitions of what these various skills allow a character to accomplish.

The system is essentially the same as that described in *Dungeoneer's Survival Guide* for handling nonweapon proficiencies. A character is entitled to possess a certain number of proficiencies, depending on his class and level. Some of these are weapon proficiencies — "slots" that can be filled by skill with a certain weapon. The others are nonweapon proficiencies — slots that can be filled with the skills described in *Dungeoneer's Survival Guide*, or the skills described herein, or any combination of skills from both sources.

Readers who are familiar with *DSG* will notice that some of the proficiencies described here have the same names as some of the adventuring proficiencies outlined in that other book, and in many of these cases (such as fire-building and land-based riding) the definitions given here are essentially the same as those given in *DSG*. In such cases, the Dungeon Master is advised to rule that the particular nonweapon proficiency can be used to advantage by a character whether he is in a subterranean or an aboveground environment. For example, a character who is proficient in riding a horse should be able to accomplish the feats given for that proficiency no matter where he is located.

In other cases, a proficiency by its nature will only apply in either an underground or an aboveground locale. For instance, the proficiency of plant lore will probably only be useful in the wilderness, while fungus identification (see page 28, *DSG*) is a skill whose practice is limited to the underground environment.

NONWEAPON PROFICIENCIES

Choosing skills

The selection of nonweapon proficiencies for a character is basically up to the player of that character. However, in the interest of faithful and accurate role-playing it is recommended that players take into account the background of their characters and not select initial nonweapon proficiencies for them that seem illogical in light of those facts. For instance, a character who did not grow up in a desert environment or who has not spent a sizable amount of time in the desert should not be able to possess proficiency in desert survival at first level just because the player thinks this would be a handy skill to have. Conversely, a character who did grow up in the desert and thus has spent little or no time in and around the water would not logically have special skill in swimming.

As an outgrowth of this reasoning, players also should not be frivolous about selecting proficiencies as their characters advance in experience levels and become eligible to possess more skills. Until and unless a character has spent a sizable amount of time in the desert (presumably during an adventure), he should not be able to acquire proficiency in desert survival.

In contrast, some of these wilderness proficiencies are not difficult to justify for practically any character at any time. For instance, direction sense is something that any first-level character might be presumed to possess (indicating an inborn knack for such a talent), or that any character of higher level might conceivably pick up when he becomes eligible to add a new skill (indicating that part of his between-levels training involved instruction in this skill).

Ultimately, all selections of proficiencies are subject to the approval of the Dungeon Master. If the arbiter of a campaign feels that a player's selection is illogical, then he is entitled — even obliged — to disallow that selection.

Success and Failure

Unlike a weapon proficiency, the possession of a nonweapon proficiency does not always mean that the character can realize the benefits of having a certain skill. On some occasions, depending upon the particular proficiency or the circumstances surrounding the use of the proficiency, it is necessary for a character to make a successful Proficiency Check in order to be able to use the skill.

A Proficiency Check is accomplished in the same way as an Ability Check. The player rolls 1d20, applies modifiers (if any) to the result, and compares that number to the character's score in the Appropriate Ability for the proficiency being used. If the modified die-roll result is less than or equal to the score of the Appropriate Ability, the Proficiency Check is successful. (In certain circumstances, the Dungeon Master will make a Proficiency Check die roll instead of the player, and he may or may not reveal to the player the result of the attempt. See the description of the direction sense proficiency for an example of this exception; the Dungeon Master may declare other exceptions of this sort when he deems it appropriate.)

Any unmodified die roll of 19 or 20 on a Proficiency Check indicates automatic failure, regardless of modifiers that would otherwise bring the result down into the range needed for success. Also, for the purpose of a Proficiency Check, any ability score greater than 18 is treated as a score of 18. This means that a character with an Appropriate Ability score of 18 or greater must always make a successful Proficiency Check without the aid of any beneficial modifiers, and that even a character with an Appropriate Ability score of 18 or greater has at least a 10% chance (2 in 20) of failing any Proficiency Check he attempts.

Improving Proficiencies

When a character becomes eligible to fill an additional nonweapon proficiency slot gained at 3rd level or higher, the player may elect to improve the character's ability in an existing profi-

ciency instead of acquiring a new skill. If a proficiency slot is used to improve an existing proficiency, the character receives an automatic die-roll modifier of −2 on all subsequent Proficiency Checks (in effect increasing his Appropriate Ability score by 2 for purposes of a Proficiency Check).

If a player desires improvement beyond this first step, additional modifiers of −2 are attached for every additional proficiency slot filled in this fashion. It is possible for a character with improved proficiency in a certain skill to make a successful Proficiency Check with an unmodified die roll of 19. However, no matter how much a proficiency is improved, an unmodified die roll of 20 still represents automatic failure on a Proficiency Check. Example: A character with one step of improvement in a proficiency and an Appropriate Ability score of 17 can succeed on a Proficiency Check with a die roll of 19, since the −2 modifier for improvement would bring the result down to the range needed for success.

Table 1: CHARACTER PROFICIENCIES

Class of Character	Initial # of Proficiencies Weapon/Nonweapon	Add Proficiency Per Level Weapon/Nonweapon
CAVALIER*	3/2	1/1 per 2 levels
Paladin*	3/2	1/1 per 2 levels
CLERIC	2/3	1/1 per 4 levels
Druid	2/3	1/1 per 5 levels
FIGHTER	4/2	1/1 per 3 levels
Barbarian	6/3	1/1 per 2 levels
Ranger	3/2	1/1 per 3 levels
MAGIC-USER	1/3	1/2 per 6 levels
Illusionist	1/3	1/2 per 6 levels
THIEF	2/3	1/1 per 4 levels
Acrobat	2/3	1/1 per 4 levels
Assassin	3/2	1/1 per 4 levels
MONK	1/1	1/1 per 2 levels
BARD	As other classes	1/1 per 4 levels

* — 0-level horsemen and 0-level lancers have one nonweapon proficiency, and gain the second one upon their advancement to the status of a 1st-level character.

Initial # of Proficiencies shows the number of proficiencies the character has at the beginning of 1st level. The number to the left of the slash is the number of weapon proficiencies; the number to the right is the number of nonweapon proficiencies. A weapon proficiency slot can be filled with a nonweapon proficiency if the player desires to develop his character in this fashion, but the reverse is not allowed; a nonweapon proficiency slot *must* be filled with a nonweapon proficiency if it is used at all.

Add Proficiency Per Level shows the number of experience levels that must be passed through before the character is entitled to add more proficiencies. First level is included when counting levels; thus, a cleric must advance through 4th level and be ready to begin 5th level before adding new proficiencies, while an illusionist does not become eligible for new skills until he is ready to begin adventuring as a 7th-level character. The cleric gets his next new proficiencies after finishing 8th level, while the illusionist does not gain any new slots until he has advanced through 12th level.

A character is not obliged to fill every new proficiency slot immediately upon gaining it, although there is usually no good reason for delaying the choice (especially one involving a nonweapon proficiency slot). However, if the Dungeon Master allows a player to delay a proficiency choice, it is recommended that he not allow the slot to be filled during an adventure. (A character in a lake, about to go down for the third time, should not be able to suddenly obtain proficiency in swimming.)

Expanding Proficiency Slots (Optional Rule)

The proficiencies described in this book greatly increase the number of different skills available to characters. If the proficiencies described in *Dungeoneer's Survival Guide* are used in addition to the ones given here, and if the campaign is an especially difficult one, particularly for lower-level characters, the Dungeon Master may decide to allow each character one additional nonweapon proficiency slot at 1st level — but only if all of a character's nonweapon slots are filled right away; if a player elects to delay filling this extra slot, it is lost and cannot be filled later.

Table 2: WILDERNESS PROFICIENCIES

Proficiency	Slots Required	Appropriate Ability	Die Roll Modifier
Alertness	1	Wisdom	+1
Animal Handling	1	Wisdom	+1
Animal Lore	1	Intelligence	0
Blind-fighting	1	NA	NA
Boating	1	Wisdom	−1
Charioteering	1	Dexterity	−2
Direction Sense	1	Wisdom	−1
Endurance	2	NA	NA
Fire-building	1	Wisdom	+1
Fishing	1	Wisdom	+1
Foraging	1	Intelligence	+2
Healing	2	Wisdom	−2
Hunting	1	Wisdom	−1
Mountaineering	1	NA	NA
Plant Lore	1	Intelligence	0
Riding, airborne	2	Wisdom	+2
Riding, land-based	1	Wisdom	−3
Rope Use	1	Dexterity	0
Running	2	Constitution	0
Survival, cold	1	NA	NA
Survival, desert	2	NA	NA
Survival, heat	1	NA	NA
Swimming	1	Strength	0
Tracking	1	NA	NA
Weather sense	1	Wisdom	+1

Slots Required lists the number of nonweapon proficiency slots that must be available before this proficiency can be selected. Unless a proficiency requiring two slots is selected when a character is 1st level, this proficiency can only be chosen after the character has stored up an available slot by not filling it at the first available opportunity.

Appropriate Ability gives the ability score that is used whenever a Proficiency Check is called for.

Die Roll Modifier shows the adjustment to the 1d20 roll that must be applied whenever a Proficiency Check is made. A negative modifier reduces the result of the die roll, making success easier to attain; a positive modifier increases the die roll, making success more difficult. Remember that under normal circumstances, an unmodified die roll of 19 or 20 indicates automatic failure, even if a negative modifier would bring the result down into the range needed for success.

NA stands for Not Applicable, meaning that the use of this proficiency never requires a Proficiency Check, and therefore these categories do not apply.

Proficiency Descriptions

Alertness: A character with this proficiency is able to instinctively notice and recognize signs of a disturbance in the immediate vicinity, reducing by 1 in 6 the character's chance of being surprised whenever he makes a successful Proficiency Check. Assuming that he is able to communicate his information to others in the party, their chance of being surprised is also reduced by that amount.

Animal Handling: Proficiency in this area enables a character to exercise a greater-than-normal degree of control over pack animals and beasts of burden. A successful Proficiency Check indicates that the character has succeeded in calming an excited or agitated animal; in contrast, a character without this proficiency has only a 20% chance of succeeding in the attempt (see the section on Mounts and Beasts of Burden).

Animal Lore: This proficiency represents the ability to interpret the sounds and behavior of animals and thereby anticipate some impending threat or danger. This threat or danger may take many forms: a storm that is brewing, the approach of some large predator (perhaps the approach of the party itself, from the viewpoint of the animals), a forest fire, a volcano about to erupt, an earthquake about to occur, and so forth. A successful Proficiency Check indicates correct interpretation of the impending threat. If the modified die roll indicates a Proficiency Check that is failed by 4 or less, no information will be gained. If the Proficiency Check is failed by 5 or more, some sort of incorrect information will be obtained, either involving a mistake in the direction from which the threat is approaching or a mistake in identifying the nature of the danger.

Blind-fighting: A character with this proficiency is less hampered by the absence of daylight than are characters who do not possess this skill. His penalty on attack and damage rolls in total darkness is only −2 instead of −4; in natural darkness, his penalty is only −1 instead of −3; and in any conditions of brighter illumination he suffers no penalties. (See the text on "Fighting in Poor Visibility" in the section on Combat Rules for Wilderness Play.) A character with proficiency in blind-fighting suffers no penalty to armor class because of lack of illumination (he is just as hard to hit as he would be in daylight), and he retains special abilities and other proficiencies that would otherwise be lost in darkness. For instance, a character with blind-fighting proficiency and proficiency in direction sense would still be able to find his way around during a long journey in the dark (assuming that the Proficiency Check for direction sense is successful); a character with proficiency in tracking and in blind-fighting would still be able to follow a trail in total or natural darkness.

This proficiency also reduces the character's chance of stumbling or falling over an obstacle in his path during total or natural darkness, the chance of tumbling into a pit or over a cliff, and the chance of slipping and falling while climbing. In all such cases, the chance of an adverse occurrence is half that of a character without this proficiency.

Exceptions: Proficiency in blind-fighting does not impart the ability to see across long distances in the dark; the improved visual acuity granted by this skill only pertains to short-range uses of vision such as for tracking, in melee combat, and in the use of the fire-building proficiency. It does not enable the character to see out to the maximum range of visibility that would otherwise apply in daylight conditions, or to perform any skill or function that necessarily involves long-range vision.

Boating: If a character with this proficiency is piloting a boat, canoe, or other waterborne vessel, it can be moved at its fastest possible rate. Also, the presence of such a character reduces the chance of the craft capsizing in rough water or when it is on a body of water during high winds. For details on how the boating proficiency applies, see the text on "Movement in Waterborne Vehicles" in the section on Encumbrance and Movement.

Charioteering: A character with proficiency in this skill is able to safely guide a chariot over any type of terrain that can normally be negotiated at a rate one-third faster than the normal movement rate for a character without this proficiency. For the movement rates of chariots being drawn by animals, see the text on "Movement of Land-based Vehicles" in the section on Encumbrance and Movement. Note that this proficiency does not impart the ability to move a chariot over terrain that it cannot traverse; even the best charioteer in the world cannot take such a vehicle into the mountains.

Direction Sense: Any group containing at least one character with proficiency in direction sense has a reduced chance of becoming lost or disoriented in any type of terrain. A Proficiency Check is required whenever the Dungeon Master determines that the group has a chance of becoming lost or disoriented, and this die roll is always made by the Dungeon Master in secret. The check is made with a die roll modifier of +4 if the group is in total darkness, or +2 in conditions of partial darkness. Success indicates that the group has no chance of straying from its intended path or losing its sense of direction. If the check is unsuccessful but less than 20, the character has incorrectly sensed direction by an error of 90 degrees to the left or right (DM's decision). If the Proficiency Check is a 20, the character determines a direction that is exactly the opposite of the intended path.

If a group includes more than one character with this proficiency, the Dungeon Master should make a Proficiency Check



for each such character. If each character determines that a different direction is the one desired, then the party will have to decide among themselves which character's sense is to be trusted. If more than one character makes the same determination, it is likely that both of their Proficiency Checks have succeeded — but it is also possible that they have both made the same error.

Endurance: A character with endurance proficiency is able to perform continual strenuous physical activity for twice as long as a normal character can before becoming subject to the effects of fatigue and exhaustion. Note that this proficiency does not enable a character to extend the length of time that he can remain unaffected by a lack of food and/or water.

Fire-building: If a character with this skill makes a successful Proficiency Check, he can start a fire without the use of flint and steel or a tinderbox. If such a character does have the abovementioned equipment, the time needed to start a fire is half as long as it would be for a character without this proficiency. For more information on building and maintaining fires, see the section on Camping and Campfires.

Fishing: A character with proficiency in this skill is generally more successful at netting or hooking a substantial catch. See the text on "Fishing" in the section on Food and Water for details on how to determine the success of a fishing attempt.

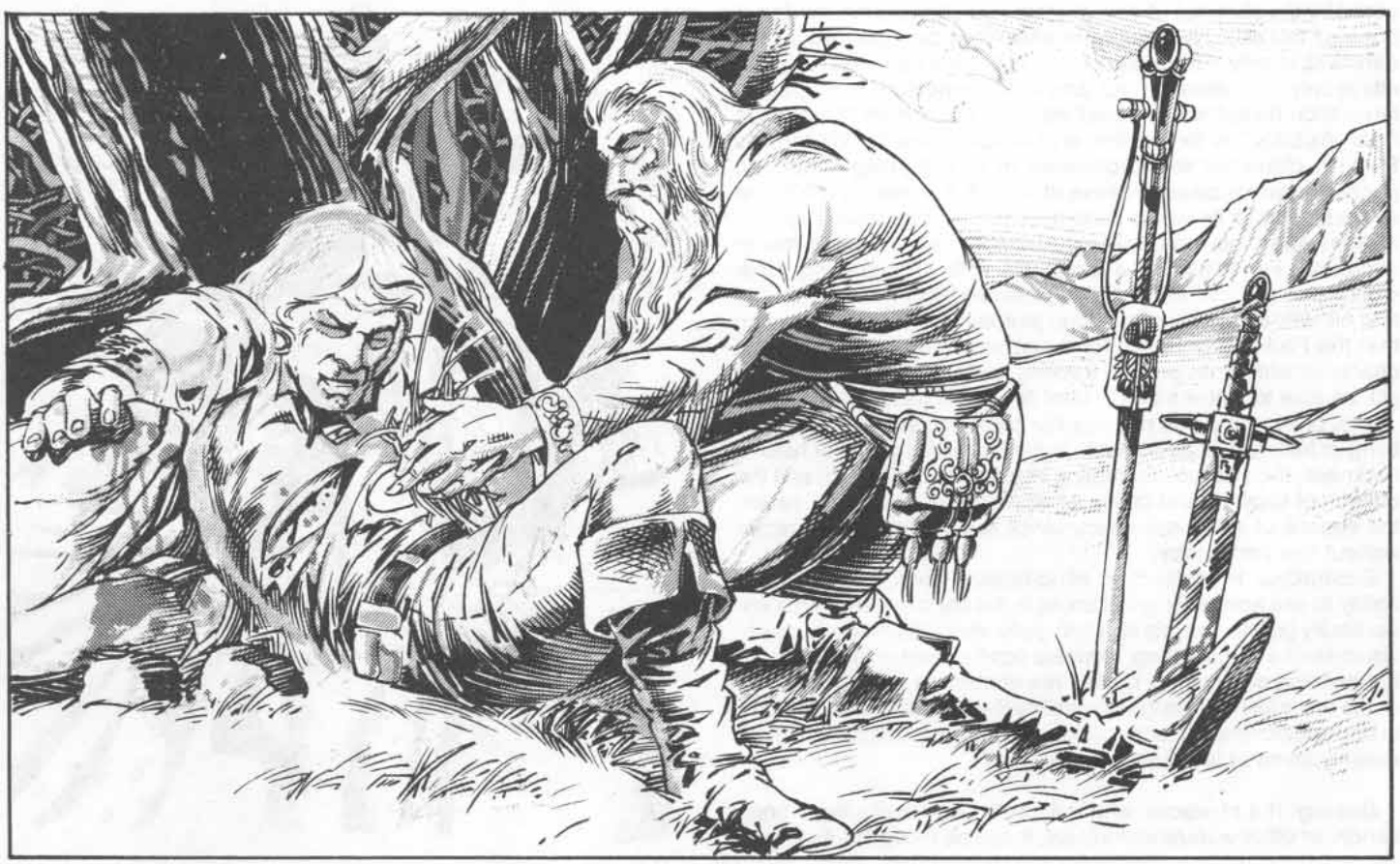
Foraging: Similar to the fishing proficiency, this skill enables a character to locate and obtain edible plants more easily than a normal character can. A successful Proficiency Check indicates that twice as much food is obtained than a normal character would be able to obtain in the same length of time, or that the time needed to obtain a certain amount of food is half as long as a normal character would need to get the same results. See the section on Food and Water for details on how to determine the success of a foraging attempt.

Healing: A character with this proficiency knows how to use substances found in the wilderness to aid a wounded or ill character or creature, and also has some knowledge of "doctoring" techniques that can accelerate the healing of wounds.

If a character with healing proficiency tends to a wounded character within one round after a wound has been inflicted, and makes a successful Proficiency Check, his ministrations will cause the immediate restoration of a maximum of 1d3 hit points to the victim. No more hit points can be restored than were lost in the round preceding the application of treatment; if a wound caused only 1 or 2 hit points of damage, then only 1 or 2 hit points can be restored regardless of the result of the die roll.

If a wounded character remains under the care of someone with healing proficiency, he can recover lost hit points at the rate of 1 point per day even while traveling or engaging in nonstrenuous activity. If the wounded character rests while he is being cared for, he can recover two hit points per day instead of the one point that is normally allowed. This "continuous care" aspect of the healing proficiency does not require a Proficiency Check, and is assumed to be benefitting the wounded character as long as the patient and the healer remain in the same group. However, this skill cannot be used on more than one character during the same day.

A character with healing proficiency can attempt to aid a character or creature who has been poisoned by venom entering his body through a wound. If the victim can be ministered to immediately (beginning in the same round that the poisoning occurs), then his saving throw versus poison is taken at a +2 bonus. No Proficiency Check is required to exercise this ability. However,



the bonus to the saving throw can only be retained if the victim remains at complete rest for one turn thereafter, and if the healing character continues to aid the victim for at least five rounds following the round in which the poisoning took place. If either of these time requirements is not met, the victim must make another saving throw versus poison, with no bonus, and abide by the result of that roll. Note that unless someone in the party has proficiency in animal handling, it may be fruitless to try to aid (for instance) a horse that has been poisoned, since it is unlikely that anyone will be able to keep the animal calm and resting for one turn.

A character with healing proficiency can also attempt to help a character who has been taken ill, either by a disease occurring because of the condition of the character or the environment or by a disease resulting from parasitic infestation (see pages 13-14, *Dungeon Masters Guide*, for a discussion of both types of disease). If the healing character begins tending to the victim within three turns of the onset of symptoms, and if that character makes a successful Proficiency Check, then the severity of the disease will be one step lower than indicated by the die roll (terminal becomes severe, or severe becomes mild). If the severity of the disease was already determined to be mild, then the disease will run its course in half the time that would have been required otherwise. These benefits will only continue to apply to the diseased character as long as he receives aid from the healing character at least twice per day, at regular intervals, until the disease runs its course. If two of these "medicine sessions" are missed consecutively, or if a total of three of them are missed during the duration of the disease, then the illness reverts to the level of severity that was originally indicated.

Note that in order for a character to be able to exercise his proficiency in healing, he must possess or have immediate access to any necessary materials or substances. See the section on First Aid and Medicine for details on the availability of medical equipment and medicinal substances.

Hunting: Similar in effect to the proficiencies of fishing and foraging (see above), the hunting proficiency enables a character to locate and kill wild game for food more easily than a normal character can.

The best chance for success at hunting is afforded when the hunter goes out by himself. For every additional character in the hunting party, the hunter's Proficiency Check die roll is modified upward *cumulatively* according to the number of characters accompanying him: +1 for one additional character, +3 for two additional, +6 for three, +10 for four, and +15 for five. Obviously, a hunting Proficiency Check will automatically fail (and thus need not be made) whenever a hunting party contains six or more members in addition to the hunter. This cumulative penalty applies even when other characters with hunting proficiency are in the hunting party.

See the section on Food and Water for details on how to determine the success of a hunting attempt.

Mountaineering: This proficiency allows a character to ascend steep, rocky terrain by using spikes that he drives into cracks in the rock face, thereby being able to negotiate a surface that is not normally able to be climbed. A character with this proficiency also gains other benefits as described in the text on Climbing in the section on Encumbrance and Movement.

Plant Lore: A character with proficiency in this skill is able to more easily locate and positively identify plant life that is useful for some purpose other than its food value, such as plants that have medicinal use. If some medicinal plant is found and a Proficiency Check succeeds, then the plant will certainly be the correct sort (no chance of misidentification). See the section on Medicine and First Aid for details on how to determine the success of a search for a certain medicinal plant.

Riding, airborne: A character with this proficiency is especially skilled in the riding and handling of a flying mount. When this proficiency is selected, the player must indicate what type of mount it pertains to, according to the categories of flying mounts given in the section on Encumbrance and Movement. The player may select this proficiency more than once if he desires his character to have skill in handling more than one type of aerial mount.

A character with proficiency in airborne riding can perform all of the following feats, some of them automatically and others requiring a Proficiency Check to determine success.

1) The character can leap onto the back or neck of his mount whenever the creature is at rest on the ground, or can drop onto his mount from a distance of no more than 10 feet above the mount without causing damage either to himself or to the mount. The former maneuver can be performed even if the character is wearing armor. However, the second maneuver cannot succeed if the character is wearing armor heavier than leather; in such a case, the character will suffer falling damage and his mount will panic (and perhaps also suffer incidental damage from the impact). Accomplishing either of these feats does not require a Proficiency Check, but the character must make a successful Proficiency Check if he intends to get the mount airborne during the same segment in which he landed. A successful Proficiency Check is also required if the character attempts to drop from above and land on the neck or back of a mount that is hovering a short distance off the ground. Failure on this check indicates either that the mount was driven to the ground by the impact (possibly causing it to suffer damage), or that the character's leap was ill-timed and he ended up on the ground.

2) The character can spur his mount on to greater speeds, adding 1" to the mount's flying movement rate for as many as four consecutive turns. A successful Proficiency Check is required at the beginning of each turn in which this extra speed is desired. If the initial check fails, no more attempts can be made until at least three turns have passed, but the mount can still be made to move at its normal maximum movement rate. If the second or a later check fails, the mount has become fatigued from overexertion. It will immediately slow to 2/3 of its normal maximum movement rate and will perform as if it were one Maneuverability Class worse than it actually is. These conditions will persist until the mount is allowed to land and is given at least two turns to regain its strength. If the mount is successfully pushed to greater speeds for four consecutive turns, it will slow and become less maneuverable as described above and must be landed and rested before its normal levels of ability can be regained.

3) The character can guide his mount with his knees or feet, leaving his hands free for the use of weapons or equipment that requires two hands. A Proficiency Check is not necessary to accomplish this feat unless the rider takes damage; in such a case, a check must be made. Failure indicates either that the character drops what he was holding and clutches his mount to keep from falling off (if the damage is slight), or that he is knocked off the mount and falls (if the damage is more than slight). Note that with some mounts of exceptionally large size, it may be prudent or necessary for a rider to use some sort of harness or series of straps to keep himself securely positioned on the mount. When a harness is being used, this aspect of the riding proficiency does not apply — but it may prove perilous to be strapped to a mount that has taken damage and is plummeting toward the ground.

4) If his mount is hovering, the character can leap from the back of his mount to the ground from a height of 10 feet or less and, in the same round, make a melee attack against any character or creature within 10 feet of where he landed. This is a risky maneuver, requiring the character to make a successful Profi-

ciency Check with a +4 modifier to the die roll. Failing this check indicates that the character lands in a heap, suffers 1d3 points of damage, and has a −4 penalty to armor class for any melee attacks directed against him in the current round.

Riding, land-based: This proficiency is essentially the same as the riding proficiency described on page 28 of *Dungeoneer's Survival Guide.* A player choosing this proficiency for his character must specify the type of mount to which it applies. More than one proficiency in land-based riding may be taken if the player desires his character to be skilled in handling and riding more than one type of mount.

A character with land-based riding proficiency can perform all of the following feats, some of them automatically and others requiring a Proficiency Check for success.

1) The character can vault into a saddle or onto the back of a mount whenever the mount is standing still, even if the character is wearing armor. A successful Proficiency Check is required if the character vaults into the saddle and then tries to get the mount moving during the same segment in which he landed on its back. The character can vault onto a moving mount by making a successful Proficiency Check. Failure indicates that the character falls to the ground, but he does not suffer any damage as a result.

2) The character can urge his mount to jump tall obstacles or leap across gaps. No check is required if the obstacle is less than three feet tall, or the gap is less than 12 feet wide. If the character makes a Proficiency Check, the mount can be urged to leap obstacles up to seven feet high, or clear gaps of as much as 30 feet in width. Success means that the mount makes the leap. Failure indicates that the mount balks (stops suddenly just in front of the obstacle), and another Proficiency Check is required to determine whether the character keeps his seat or falls to the ground.

3) The character can spur his mount on to great speeds, adding 1″ per round to the animal's maximum movement rate for up to four turns. A Proficiency Check is required at the beginning of each turn in order to accomplish this feat. If the initial check fails, no further attempt of this sort can be made until at least three turns have passed, but the mount can still move at its maximum rate. If the second or a later check fails, the mount immediately slows to a walk, and the character must dismount and lead the animal for a turn. In any event, after four turns of racing the steed must be walked by its dismounted rider for a turn.

4) The character can guide his mount with his knees, allowing him to use equipment and weapons that require both hands to wield. This feat does not require a Proficiency Check unless the character takes damage while riding in this fashion. In this case, a check is required; failure means that the character falls to the ground and takes an additional 1d6 points of damage.

5) The character can drop down and hang alongside the mount, using it as a shield against attack. No Proficiency Check is required to accomplish this feat, and it can be performed while the mount is moving at full speed. However, the character cannot be wearing any armor heavier than leather, and he cannot make any attacks while in the shielded position. The character receives a bonus of 6 steps to his armor class (10 becomes 4, 8 becomes 2, etc.) while in the shielded position against attacks coming from the direction he is shielded from. However, any attacks directed against the mount and rider that would have struck the character's armor class under normal circumstances are considered to have struck the mount instead of the rider.

6) The character can leap from the back of his mount to the ground and make a melee attack, in the same round, against any character or creature within 10 feet of where he landed. However, this is a risky maneuver; the character must make a successful Proficiency Check with a +4 modifier to the die roll. Failure indicates that the character lands in a heap, suffers 1d3 points of damage, and must take 1-3 segments to get to his feet. If he is attacked before regaining an upright position, the opponent's attack is made at +2 to hit because of the character's vulnerable position.

Rope Use: A character with this proficiency has extraordinary knowledge in the use of rope, pertaining especially to the tying and releasing of knots. If the construction of a temporary shelter involves the use of rope (which is almost always the case), a character with proficiency in rope use can erect or take down the shelter in half the length of time that a normal character would require. Such a shelter erected by a character with this proficiency is half as likely to be adversely affected by inclement weather (high winds, heavy rain or snow) as a shelter erected by a normal character. See the section on Camping and Campfires for details on the effects of weather conditions upon a temporary shelter.

If a proficient character has his hands bound and tied with a rope or a cord, he can escape the bonds by making a successful Proficiency Check. This check is made with a +3 modifier to the die roll if the character's hands are tied in front of his body, or with a +6 modifier if the character's hands are tied behind his back.

A character with proficiency in rope use gains +2 to hit on all attacks made with a lasso. He also receives a 10% bonus on all Climbing Checks made while he is using a rope, including attempts to belay companions. See the section on Climbing for details on how to determine the success of a climbing attempt.

Running: This proficiency takes two forms: sprinting and distance running. Either skill can be employed separately, but both cannot be used at the same time. Proficiency in running is most often found in characters who were raised or have spent a considerable amount of time in a high-altitude environment, although other characters are capable of training themselves to acquire these skills.

Sprinting is the ability to move at high speed on foot for a relatively short period of time. A proficient character who is not encumbered and is not wearing armor heavier than leather can run at twice his normal maximum movement rate for five rounds, or one and one-half times as fast as normal (round up to the nearest whole number) for one turn, whichever is chosen by the character. Extended sprinting is possible if the character makes a series of Proficiency Checks, one per round beginning when the above-mentioned time limit expires. Each Proficiency Check after the first one is made with a cumulative modifier of +3 to the die roll (+3 on round two, +6 on round three, etc.). Each successful Proficiency Check indicates that the character can keep sprinting for another round. One failed Proficiency Check indicates that the character has become fatigued. He can continue to sprint, but he runs the risk of becoming exhausted if he fails another Proficiency Check.

A character can choose to stop sprinting at any time. If he is fatigued when he stops, he will remain fatigued and is still subject to becoming exhausted if he performs any other strenuous activity. If he becomes exhausted, he must stop sprinting immediately and will remain exhausted until he has recovered. If a character stops sprinting before becoming fatigued, he can continue to move at his normal maximum rate for two turns and then begin sprinting again. If he slows to one-half his normal maximum rate, he can begin sprinting again in one turn.

Distance running is the ability to move at normal running speed for longer than a normal character can, without risking adverse effects. For the purpose of the rules governing

fatigue and exhaustion, running is not considered a particularly strenuous activity for a character with this proficiency. All the time limits given for the fatigue rules in the section on Fatigue and Exhaustion are either doubled or halved (in favor of the character) for a character with running proficiency who is engaging in a long-distance run. For instance: A character with running proficiency can avoid the effects of fatigue by resting for one turn after exerting himself for eight turns. If a character spends twelve turns in long-distance running (without one turn of rest), the player must make a Constitution Check. If that check is successful and he continues to run for ten more turns, another check is required, and so on.

This alteration of the time requirements does not apply if the character becomes fatigued or exhausted. Also, the benefits of this aspect of the running proficiency are negated if the character stops in the middle of a long-distance run to engage in any other type of strenuous activity (such as fighting or climbing). In such a case, the character must immediately begin to abide by the standard rules governing fatigue and exhaustion, as if he had just begun to perform strenuous activity.

Survival, cold: A character with this proficiency is more resistant to the adverse effects of a cold climate. For this character, the effective temperature is considered to be 20 degrees warmer than it is for a character without this proficiency. This proficiency only applies when the effective temperature is 30 degrees or lower.

Survival, desert: A character with this proficiency is more easily able to anticipate or avoid the hazards of a desert environment. His chance of locating a water hole on any given day is twice as great as that of a normal character — perhaps the single most important aspect of this skill. This proficiency also includes foraging skill; the character can locate a certain quantity of edible plants in half the time it takes for a normal character to obtain the same quantity. At the Dungeon Master's discretion, other advantages may be afforded to a character with desert survival skills and to the other members of his party. For instance, a proficient character may be able to better endure a long stretch of time when no fresh water is available — not because he can go without water for longer than anyone else, but because he knows how to conserve his supply.

Survival, heat: A character with this proficiency is more resistant to the adverse effects of a hot climate. For this character, the effective temperature is considered to be 20 degrees cooler than it is for a character without this proficiency. This proficiency only applies when the effective temperature is 80 degrees or higher.

Swimming: This is something of a special case among the so-called "normal" proficiencies (as opposed to something such as a survival skill, which might be called a "special" proficiency). A character without hunting proficiency still has a chance of being able to bring down some wild game for dinner; one without foraging proficiency is still able to gather plants that he believes to be edible. But a character without swimming proficiency cannot swim at all. He can hold his breath under water, and under the right circumstances he can float at the top of a body of water, but he cannot move through the water under his own power. Rules governing the swimming proficiency are given in the section on Encumbrance and Movement.

Tracking: A character with this proficiency is able to follow the trail of a character or creature in the same fashion that a ranger can track (see *Unearthed Arcana*, page 21) — except that the base chance for success is half that of a ranger: 5% per level of the character, plus an additional 5%, up to a maximum of 55%. A character without proficiency in tracking has a base chance of 0% on any attempt to follow a trail, but may still be able to engage in tracking if the total of all applicable modifiers is a positive number.

Weather sense: This proficiency enables a character to determine something about what the weather conditions will be in the place he is currently occupying during the coming six hours. A successful Proficiency Check indicates that the character correctly ascertains at least one general fact about the upcoming conditions: rain is on the way, rain is not on the way, it will get warmer, it will get cooler, conditions will remain basically the same, and so forth. The Dungeon Master always rolls Proficiency Checks for weather sense, and is not obliged to reveal the result of the attempt. The information gained from a successful check is whatever the Dungeon Master deems it appropriate for the character to know (and, of course, the information must be at least generally true). A failed check indicates that no definite information is gained, or (at the Dungeon Master's discretion) some incorrect information is obtained.

This proficiency can only be used without penalty once in every 24-hour period. For every attempt beyond the first one on a given day, the Dungeon Master will attach a cumulative +2 modifier to the die roll (decreasing the chance that multiple Proficiency Checks during a single day will all succeed). Also, when a weather sense Proficiency Check is failed, any subsequent check in the next 12 hours will automatically fail.

Sometimes, impending weather is so obvious that even a character without this proficiency will be able to tell what is going to happen. In such cases, the Dungeon Master should not require, or even acknowledge, an attempt for a Proficiency Check and should instead simply describe the conditions, which would be apparent to anyone who can see. For instance, anyone ought to know that "a mass of dark clouds on the horizon, moving toward you" is a pretty clear sign that a rainstorm is on the way.

DRESSING FOR THE WEATHER

In a game campaign where weather conditions are not taken into account — or in a world where, mysteriously, the weather is always pleasant — it is usually a good idea for a character to be outfitted in the best armor he can wear and afford. All too frequently, armor is the only thing a player or a Dungeon Master considers when it becomes important to know what a character is wearing. No one worries about what *other* clothing a character has on, and even plate mail is so comfortable that a character can keep wearing it hour after hour and day after day.

But in a campaign world where the weather can vary significantly from one day to the next, and drastically from one area to another, it is impossible to ignore the importance of being suitably attired. Being covered up in combat is one thing, but if a character is *too* covered up he may be so weakened by the time combat takes place that he can't defend himself anyway.

Personal Temperature

A term used frequently in this section, and in other parts of this book, is *effective temperature.* This figure, expressed in degrees Fahrenheit, is based upon the actual temperature at a given time and in a given location. In most cases, it is modified by other conditions such as wind velocity; for instance, even those of us who live in warm-weather climates are familiar with the concept of wind chill: If the actual temperature is 30 degrees, the effective temperature will be much lower than that if a strong wind is blowing, and if that additional factor is taken into account by the Dungeon Master.

The effective temperature for a particular character may be quite different from the effective temperature for another one who is standing right next to him, because this figure can also be modified by how a character is attired. Obviously, the effective temperature in any environment is lower for a magic-user dressed only in a loose, flowing robe than it is for his fighter companion decked out in a full suit of plate mail. When the difference is important, the effective temperature for each character is described as his *personal temperature.* This is the term that is used in this section, and the following section on Effects of the Environment, to describe the effective temperature for a certain individual.

Clothing

Armor is any attire that offers some protection in combat by improving the character's armor class; clothing is any attire that usually does not provide such protection. However, the word "usually" is important in this context. As will be seen, some forms of weather attire do incidentally provide a character with some amount of armor-class benefit that he would not be able to realize if he was not wearing the clothing.

Clothing is classified in one of four categories, according to the temperature range for which it is best suited:

Very cold clothing provides good protection from the elements at temperatures below 0 degrees. This category includes thick garments such as parkas and trousers made from the furs of animals that are accustomed to very cold weather (bears, wolves, etc.). Extremely important is the quality of insulation the clothing provides; the clothing should fit loosely, so that air can circulate between the body and the garment. This air is warmed by the body, and in turn helps to keep the body warm; in other words, the garment itself doesn't have to do all the "work" of protecting the body from freezing. The equivalent of *very cold* clothing can be obtained by wearing two layers of *cold* clothing or four layers of *moderate* clothing. As a rule, multiple layers of relatively thin clothing provide more insulation (and thus more warmth) than a single garment equivalent in thickness to the multiple layers. However, in extremely cold temperatures there is no substitute for a thick, bulky garment (presumably worn over at least one layer of normal-temperature clothing) to act as a shield between the character's body and the subzero temperature. Gloves or mittens, heavy foot coverings, and face coverings are also recommended, and often necessary, to prevent a character's extremities from being affected by the cold even if the greater portion of his body is protected. *Very cold* clothing has en encumbrance value equivalent to that of plate mail (bulky, 450 gp), and an outfit of such clothing will cost about 15 gp.

Cold clothing offers adequate protection at temperatures from 0 to 30 degrees. This clothing need not be made of animal furs; often, a bulky and fairly thick garment of woven fabric will suffice. Wool has the best insulating qualities of any fabric that characters are likely to have access to; the very fibers of a wool garment contain "pockets" that add to the fabric's ability to trap air. Canvas or some other tightly woven fabric is not nearly as good an insulator as wool, because it does not allow air to circulate through and under the garment. However, tightly woven fabrics do help to keep the body's natural warmth from dissipating too quickly, and they act as good protection against the wind. Some kind of heavy garment, regardless of how it fits or what it is made of, is certainly better than nothing in cold or very cold temperatures. *Cold* clothing has an encumbrance value equivalent to that of ring mail (fairly bulky, 250 gp), and an outfit of such clothing will cost about 7 gp.

Moderate clothing covers a wide range of garments, since the category includes anything that keeps a character comfortable at temperatures from 31 to 75 degrees. At the lower end of this range (up to around 50 degrees), common sense dictates that some kind of light or moderately thick outer garment is necessary (in addition to normal clothing of the sort that would be worn in a heated room). At the upper end of this range, characters can usually get by with nothing more than the shirt (or tunic, or robe) on their back — except during rest stops and sleep periods, when a blanket or some similar extra protection may be needed to keep the body from being uncomfortably chilled. *Moderate* clothing may have no encumbrance value at all (if the Dungeon Master considers it to be the same as a character's normal attire), or may be considered equivalent to leather armor (non-bulky, 150 gp) if the clothing is relatively heavy. An outfit of *moderate* clothing will usually cost no more than 3 gp.

Hot clothing keeps a character from becoming overheated

when the temperature is higher than 75 degrees. The garments in this category are greatly varied in style and appearance, ranging from the loincloths worn by natives in a humid tropical forest to the full-length robes that entirely cover the bodies of tribesmen in the hot, dry air of the desert. When the humidity is high, the body tends to perspire more than normal, and it is best to expose as much skin as possible (within the bounds of decency) so that perspiration can evaporate and thereby help to keep the body cool. In a climate where the humidity is consistently low — usually also a place where water is scarce — the body does not perspire as readily, so the inhabitants keep themselves covered and are thereby able to retain more moisture. *Hot* clothing has no encumbrance value, and a minimal cost (perhaps as much as a robe, which is priced at 6 sp).

Table 3: EFFECTS OF CLOTHING AND ARMOR ON PERSONAL TEMPERATURE

	Effective Temperature			
Attire	**−1 or lower**	**0 to 30**	**31 to 75**	**76 or higher**
Very Cold	+30	+40	+50	+60
Cold	+20	+30	+40	+50
Moderate	+10	+20	+20	+30
Hot	+0	+0	+0	+0
Full Plate	+10	+20	+30	+40
Field Plate	+10	+20	+30	+40
Plate Mail	+10	+20	+30	+30
Splint Mail	+5	+10	+15	+20
Banded Mail	+5	+10	+15	+20
Chain Mail	+0	+5	+10	+20
Scale Mail	+0	+5	+10	+20
Ring Mail	+0	+5	+10	+15
Studded Leather	+5	+0	+15	+30
Padded Armor	+20	+30	+40	+50
Leather Armor	+10	+5	+10	+20

Entries on this table are cumulative, no matter whether armor is being worn over clothing or vice versa. For instance, a character in subzero temperatures who is wearing plate mail and *very cold* clothing has his personal temperature increased by 40 degrees over the effective temperature.

Protected and Unprotected Characters

As described in the section on Effects of the Environment, a character may suffer hit-point damage from exposure to either hot or cold temperatures. The amount of damage and the likelihood of it occurring depend upon whether the character is *protected* or *unprotected* from the elements.

Unprotected characters are those of whom at least one of the following things is true:

— Wearing very cold clothing in an effective temperature higher than 30 degrees.

— Wearing cold clothing in an effective temperature lower than 0 degrees or higher than 50 degrees.

— Wearing moderate clothing in an effective temperature lower than 30 degrees or higher than 80 degrees.

— Wearing hot clothing in an effective temperature lower than 50 degrees.

— Wearing any metal armor (not including studded leather) in an effective temperature higher than 80 degrees, regardless of clothing.

Any character who does not fit at least one of those categories is protected and, as such, has a reduced chance of suffering damage as a direct result of exposure to the temperature.

Effects of Exertion

The figures for personal temperature derived from the above table apply to characters who are stationary and not engaging in any significant physical activity. Exertion of any sort, whether strenuous or nonstrenuous, will raise a character's personal temperature under certain circumstances.

In an effective temperature of less than 0 degrees, a protected character's personal temperature will rise by 5 degrees whenever he exerts himself for four consecutive turns. After that, the character can rest for one turn without becoming colder, but if he rests for more than one turn he will lose the 5-degree increase. By alternately exerting himself for four turns and then resting for one turn, a protected character can increase his personal temperature by a maximum of 20 degrees. After that, he must continue the prescribed pattern of exertion and rest to retain the benefit of the increased temperature.

In an effective temperature of 0 to 30 degrees, a protected character's personal temperature will rise by 5 degrees if he exerts himself for six consecutive turns, and it will rise by 10 degrees (the maximum increase) if he remains active for 12 consecutive turns. This increase can be retained indefinitely until the character rests for more than two turns in a row, at which point his personal temperature will drop back to its normal level.

In an effective temperature of 80 degrees or higher, an unprotected character's personal temperature will rise 5 degrees for every three consecutive turns of activity, up to a maximum of 25 degrees. Such a character can avoid becoming overheated if he rests, which will cause his personal temperature to drop 5 degrees for every three consecutive turns of inactivity. If he rests *and* alleviates his unprotected condition (*i.e.*, takes off his armor), his personal temperature increase from exertion will diminish by 10 degrees for every three consecutive turns of inactivity. A character's personal temperature cannot be decreased in this manner to a number lower than it would be when he is not exerting himself.

Example: The effective temperature is 90 degrees when a character puts on his chain mail. His personal temperature immediately increases by 20 degrees because of the armor, meaning that he is affected as if the temperature was 110 — and, of course, he is unprotected because of the armor. If he then sets out on a hike and walks for two and a half hours (15 turns), his personal temperature increases by another 25 degrees because of exertion. The heat of the day, plus the heat of the armor, plus the heat his body is giving off combine to make his personal temperature a blistering 135 degrees. If he stops and rests without taking off his armor, his temperature increase from exertion will be lost at the rate of 5 degrees per three turns, so that after an hour and a half he has lost 15 degrees. If he takes off his armor at the beginning of the rest stop, he helps himself in two ways: In addition to immediately losing the 20 degrees accounted for by the armor, he can lose the entire 25-degree increase from exertion in the same hour and a half — 10 degrees in the first three turns, 10 degrees in the second three turns, and the final 5 degrees in the third three turns.

Clothing That Functions as Armor

In our real world, cold-weather clothing can be made of thin, lightweight synthetic fibers and manmade insulating material. The resulting garment can provide remarkable protection from cold and wind — but it won't keep out a slashing sword or give its wearer any cushion if he is clouted with a club.

However, substances such as nylon, rayon, and vinyl don't exist in the game universe. Cold-weather clothing available to characters is bulky, cumbersome, and — best of all — thick. In fact,

very cold clothing is thick enough so that (at the Dungeon Master's discretion) it may be considered to impart an armor class of 8 to its wearer. Similarly, cold clothing is the equivalent of armor class 9.

Obviously, this distinction is only important to characters who are not wearing armor over the clothing — and to magic-users and illusionists, who are forbidden to wear actual armor of any sort. But, technically, cold-weather clothing is *not* armor, even though it does provide some protection from physical attacks.

To balance the benefit that magic-users and illusionists can gain from being bundled up, the Dungeon Master may wish to rule that the wearing of thick, bulky clothing inhibits the character's ability to move freely. This could be translated into (for instance) a base chance of 10% that any spell requiring a somatic component will be miscast and thus ruined. If the character wants to avoid this risk of spell failure, he can take off his cold-weather garb before beginning to cast the spell — but that may be easier said than done when the temperature is 20 below zero.



EFFECTS OF THE ENVIRONMENT

At most times and in most places, the physical conditions of the environment do not generally present any hindrance to the successful performance of normal activities. However, when one or more extreme conditions are evident, the effect on performing even the simplest task or maneuver can be so drastic as to make success virtually or actually impossible.

Temperature and Wind

When the Dungeon Master assesses the effect of the environment on characters and creatures, he first takes into account the effective temperature and the current wind velocity. Other considerations may also apply in special cases, and those effects may either augment or supersede the effects of temperature and wind velocity.

Table 4: TEMPERATURE EFFECTS

Personal Temperature	Str	Dex	Con	Land Move	Attack Rolls
−40 or lower	−1/−2	−4/−5	−1/−2	1/2	−4
−39 to −30	−1/−2	−3/−4	−1/−2	1/2	−3
−29 to −20	0/−1	−2/−3	0/−1	2/3	−2
−19 to −10	0/−1	−1/−2	0/−1	2/3	−1
−9 to 0	—	−1/−2	—	3/4	−1
1 to 10	—	0/−1	—	3/4	—
11 to 20	—	0/−1	—	—	—
21 to 79	—	—	—	—	—
80 to 89	—	—	0/−1	3/4	—
90 to 99	0/−1	—	−1/−2	3/4	−1
100 to 109	−1/−2	0/−1	−2/−3	2/3	−2
110 to 119	−1/−3	−1/−2	−3/−4	1/2	−3
120 or higher	−2/−4	−1/−3	−4/−5	1/2	−4

How to Use the Temperature Effects Table

First, the Dungeon Master must determine the *personal temperature* for the character in question; see the section on Dressing for the Weather for details on how this value is determined. Reading across on the appropriate line will give the effects of that temperature upon the physical abilities of the character and some activities he may attempt.

Str: This column shows the reduction in a character's strength score that applies for as long as his personal temperature remains within the indicated range. Numbers to the left of the slash indicate the reduction if the character is performing non-strenuous activity; numbers to the right of the slash are used when the character is performing strenuous activity, or if such activity has been performed within two turns. Example: A character is walking along in an environment where his personal temperature is 105 degrees. If he attempts to accomplish something that requires a *bend bars* roll to succeed, the success of the attempt is determined as if he had a strength of one less than his actual score. (Any exceptional strength score is reduced to a score of 18 for purposes of this determination.) If the character has been performing strenuous activity, or has undertaken such activity within two turns of the time of the *bend bars* attempt, then success is determined as if the character had a strength of two less than his actual score. (Any exceptional strength score is reduced to 17 for purposes of this determination.)

The columns for *Dex* and *Con* are used in much the same way as the *Str* column: A character's scores in these areas are lowered by the indicated amount whenever an Ability Check or some other use of the ability score is required. For purposes of these determinations, percentile scores for a cavalier or a paladin in dexterity and constitution are disregarded and only the part of the score represented by a whole number is used.

Land Move gives a fraction that represents the amount of reduction a character must take in his normal maximum movement rate at a certain personal temperature. For example, a character with a normal maximum move of 12″ can only move at 6″ in an personal temperature of −30 degrees or lower. Round all fractional results up to the nearest whole number; half of 9″ is 5″, and three-quarters of 6″ is 5″.

Attack Rolls shows the penalty on "to hit" and damage rolls that a character must take when using either a missile weapon or a melee weapon at a certain personal temperature. This penalty is cumulative with any penalties that may apply because of a reduction in strength. For instance, at a temperature of 100 degrees a character with 17 strength is treated as if he had a strength score of 16 or 15 (depending on the kind of activity he is engaged in). This automatically prohibits him from enjoying the "to hit" bonus that he would normally have by virtue of his 17 strength. In addition, he takes a penalty of −2 on "to hit" and damage rolls, as prescribed by this column of the table. A damage result can never be reduced below 1 point as the result of these penalties.

All of the entries on this table assume that a character is appropriately attired and outfitted for the temperature; for instance, the dexterity penalties for cold temperatures take into account the fact that a character has wisely clothed himself and covered his hands — reducing his mobility and flexibility, but enabling him to avoid the possibly fatal effects that would occur if he was not properly protected against the elements. The effects of the environment on a character who is not properly protected are described later in this section.

Table 5: WIND VELOCITY EFFECTS

Wind Velocity	Missile Combat	Melee Combat	Move vs. Wind
0 to 10	—	—	—
11 to 20	0/−1/−2/−3	—	—
21 to 30	−1/−2/−3/xx	−1	3/4
31 to 45	−2/−4/xx/xx	−2	2/3
46 to 79	−4/−6/xx/xx	−4	1/2
80 +	xx/xx/xx/xx	−8	1/4



How to Use the Wind Velocity Effects Table

First, the Dungeon Master must know the current wind velocity. This represents the maximum velocity that the wind can reach, but does not mean that the wind blows constantly at this maximum speed. Therefore, the Dungeon Master can decide that, at any given moment, the wind velocity is less (perhaps considerably less) than the maximum speed it can reach. Of course, in most cases the characters would be immediately aware of any significant change in the wind velocity, and thus they should be kept informed, in general terms, of what the wind speed is at any time — especially during combat, when a decision about whether or not to loose an arrow may depend entirely on how hard the wind is blowing.

Missile Combat gives the "to hit" adjustments for point blank, short, medium, and long range whenever a missile is released during certain wind conditions. The direction in which a missile is fired makes no difference; an arrow sent sailing in the same direction the wind is blowing is just as likely to go off course as one fired at right angles to the wind direction. An entry of "xx" in this column means "impossible"; under normal circumstances, an *intended* target cannot be hit. However, the Dungeon Master may decide to be more liberal in this determination (and if so, players should be informed of this decision). For instance, he may decide to allow a possibility, however small, that an archer can hit what he aims at even if the target is at medium range in a wind of 35 miles per hour. Also, it is conceivable that an attacker could fire a missile at a clustered group of creatures and hit *something*, even if he doesn't strike the creature he was aiming at. Determinations of this sort depend upon the circumstances of an adventure or encounter, and the preference of the Dungeon Master. All missile-combat penalties that apply are cumulative with any other adjustments, including those given under the "Attack Rolls" column of the Temperature Effects Table.

Melee Combat gives the penalty on both "to hit" and damage rolls that applies at a certain wind velocity when a character engages in melee combat. These adjustments are cumulative with those given under the "Attack Rolls" column on the Temperature Effects Table; however, a damage roll can never be reduced below 1 point as the result of these penalties.

Move vs. Wind gives a fraction that represents the amount of reduction in a character's maximum movement rate when he attempts to travel directly into the wind. If a character is moving perpendicular to the wind direction, use the line pertaining to the next lower velocity. This movement reduction applies for as long as the maximum wind velocity remains at its current level; a character's movement rate does not fluctuate with every momentary and temporary change in wind velocity. Example: The current maximum wind velocity is 35 miles per hour, and the wind is blowing from the north. A character with a movement rate of 12″ who is traveling north is restricted to a maximum movement rate of 8″. If he is traveling east or west, his movement rate is 9″.

When movement reductions are indicated by both the Temperature Effects Table and the Wind Velocity Effects Table, use the greater of the two reductions: If the temperature is 85 and the wind velocity is 40 mph, movement against the wind is reduced to $^2/_3$ of normal.

Precipitation

If precipitation of moderate intensity is occurring, use the line on the Wind Velocity Effects Table referring to the next higher in-

crement of velocity; for instance, during a moderate rainfall with little or no wind (0-10 mph) missile combat is affected as if the wind was 11-20 mph.

If precipitation of heavy intensity is occurring, move down two lines on the Wind Velocity Effects Table; during a heavy snowstorm with winds of 11-20 mph, combat and movement are affected as if the wind velocity was actually in the 31-45 mph range.

As a result of adjustments for precipitation, conditions can never become worse than indicated on the bottom line of the Wind Velocity Effects Table.

Special Weather

Several unusual or infrequently occurring weather conditions can present special problems to characters who try to perform what would otherwise be normal, nonstrenuous activities. Those effects are summarized below.

Cyclone/Hurricane/Typhoon: If characters are so unfortunate or unwise as to be caught in a hurricane, the best conditions they will have to operate in are as described on the bottom line of the Wind Velocity Effects Table. But things won't stay this good for very long; as the storm moves in and first approaches and then reaches full intensity, it will be effectively impossible for characters to do anything except huddle in a shelter and wait for the storm's fury to abate.

If no structure (natural or manmade) is available for a character to use, the best thing he can do is hollow out a space in the earth or sand, assuming that such terrain exists, and lie face-down in the depression. Of course, rain and wind will work continually to wear down the sides of the depression, so the area around the head and face must be frequently scooped out and kept clear of water and sediment. If no soft ground is available, the character should flatten out face-down on a rock face, preferably one that is slanted away from the direction of the wind and one that offers some cracks or protrusions to use as handholds and toeholds. A character who is not anchored or protected in at least some minimal fashion must make a Strength Check once per turn for the duration of the storm. Failure indicates that the character has been buffeted and blown across the ground, and he has a 50% chance of taking 1d3 points of damage, either from the force of the storm itself or from incidental impact with debris.

Anyone who attempts to stand up or move during a hurricane must make a Strength Check to get to his feet and an additional Strength Check at the beginning of every round thereafter, with a die-roll modifier of +2, to remain erect. Failure indicates that he has been thrown to the ground and takes 1d6 points of damage.

If characters are lucky enough to find a cave along the seacoast or some other similar sturdy, natural shelter, they can take refuge there and wait out the storm in relative comfort and safety. A manmade shelter, other than one hewn out of solid rock, will be subject to structural damage from the storm; although such a structure will hold up for a while and may even withstand the hurricane, a significant chance exists that it will gradually become weakened and then abruptly collapse. The table below summarizes the possible effects of a hurricane on an aboveground, manmade structure.

Table 6: HURRICANE DAMAGE TO STRUCTURES

Intensity	.....Points of Damage Against.....			
of Storm	Wood	Earth	Soft Stone	Hard Rock
Light	1	1/2	—	—
Normal	2	1	1/2	—
Heavy	3	2	1	1

The left-hand column on the preceding table describes the three stages that a hurricane may go through. *Light* is a relative term; it refers to the hurricane in its formative stage, when wind velocity has climbed to at least 80 miles per hour. After an hour or two of such activity, the storm will increase to *normal* intensity, with winds of 100 to 140 miles per hour. Some hurricanes, but not all, will reach *heavy* intensity, in which wind speeds can be as great as 200 miles per hour. The Dungeon Master must determine if and when *heavy* intensity occurs.

The "Points of Damage" columns show the structural points of damage that *may* occur to any structure in the hurricane's path. The Dungeon Master should check once every three turns to see whether damage has accrued. There is a 50% chance on each check that the indicated amount of damage will have been absorbed by the structure in question. This damage will not usually manifest itself on a piece-by-piece basis; that is, a structure will not come apart gradually. However, non-reinforced doors and windows will be the first things to go, and will separate from the surrounding structure when the structure has taken damage sufficient to cause such an occurrence. After that, the structure itself will absorb damage up to the amount of its defensive point value (see *Dungeon Masters Guide*, page 110). If this figure is reached before the hurricane abates, the structure will collapse and parts of it will be carried away by the wind. Characters inside a structure when it collapses may suffer damage from being hit by debris, at the Dungeon Master's discretion depending on where the characters are located and how they are outfitted.

Drought: The effects of this type of special weather are manifested primarily in a scarcity of sources of drinking water. See the section on Food and Water for general rules covering characters' success in finding water.

Gale: This is a very strong wind, ranging in velocity from 46 to 79 miles per hour. The basic effects are as described on the Wind Velocity Effects Table. In addition, the Dungeon Master may wish to incorporate some aspects of the effects of a hurricane, especially if the wind velocity is in the upper part of the given range. A severe gale may be treated as a *light* hurricane for purposes of possible damage to structures. Also, the Dungeon Master may require a Strength Check every round (or every turn, depending on the severity of the wind) for characters who attempt to stand and move under such conditions. A character who is knocked off his feet by a gale-force wind should only take 1d3, or perhaps as little as 1d2, points of damage, instead of the 1d6 points of damage that a hurricane wind will cause. However, if gale-force winds are accompanied by precipitation, the effects upon characters will be the same as for a light or normal hurricane, depending on the velocity of the wind and the intensity of the precipitation.

Mist or Fog: The special effects of this type of weather are covered in the sections on Encumbrance and Movement and Vision and Visibility.

Sandstorm/Dust Storm/Blowing Snow: The greatest physical danger in a sandstorm or dust storm (hereafter referred to as a sandstorm) is the chance of damage to the eyes, with respiratory damage a close second.

Any character who does not take precautions to shield or cover his eyes during a sandstorm may be blinded (roll of 1 on 1d6) or partially blinded (roll of 2 or 3 on 1d6). This check is made once every three rounds for as long as the eyes remain unshielded. A partially blinded character will automatically become blinded three rounds later if his eyes remain unprotected and he does not receive aid from someone else. An opponent attacking a character blinded from a sandstorm does so at +4 "to hit" and damage with a melee weapon, or +4 "to hit" only with a missile weapon.

An opponent attacking a character partially blinded from a sandstorm does so at +2 "to hit," regardless of the weapon or attack mode, but receives no bonus to damage.

A blinded character, in this context, is not necessarily sightless; he can distinguish light and movement, but not with any great degree of acuity or accuracy. A blinded character cannot attack (or, at the DM's option, he may be allowed to wield his weapon at a substantial penalty to hit and damage), and can move at no more than ½ speed unless he is being led by another character. A partially blinded character cannot successfully attack in missile combat, attacks with a −2 penalty on all other attack rolls, and can move at no more than ⅔ speed unless he is being led by another character.

A character whose nose and mouth are unprotected during a sandstorm has a 1 in 6 chance per round of going into a choking fit. This does no damage initially, but for anyone who suffers a choking fit there is a 3 in 6 chance that it will continue and worsen in the following round, this time causing 1d3 points of damage and forcing the character to take a −2 penalty on all attack rolls and saving throws during this round. On the third round, there is a 4 in 6 chance that the character will become fully disabled. He must make a Strength Check to remain on his feet, and if this check succeeds he still suffers a −4 penalty on all attack rolls and saving throws during this round. On the fourth round he will fall to the ground, go into convulsions, and begin to suffocate unless he receives aid.

Several means are available to assist the victim of a sandstorm, including spells that can alleviate or cure blindness or suffocation. Nonmagical means are covered here. Any character, including the victim himself, can aid a blinded or partially blinded victim by splashing water into the victim's eyes; this will wash the foreign substance out of the eyes, and in 2-7 hours (1d6+1) thereafter the victim will be recovered. If the eyes are not washed out, a partially blinded victim will recover naturally in 12 hours. A blinded victim whose eyes are not washed out will recover to the point of partial blindness in 24 hours, but will require the aid of magic or a character with healing proficiency before his full vision is restored. In all of these cases, whether water is used or not, the victim's eyes must be kept closed and tightly covered for the duration of the healing period. Any treatment will be totally ineffective if this requirement is not met.

Fallen snow that is whipped up by a strong wind and driven against characters can cause partial blindness. When such conditions exist, any character whose eyes are not shielded from the driving snow has a 1 in 6 chance of suffering partial blindness (this check should be made every 3-5 rounds, depending on the wind velocity). This partial blindness is much less severe than that caused by a sandstorm: a victim will recover naturally in 1d6 turns, provided that the eyes are kept shielded (but not necessarily closed) for that length of time. Nonmagical healing efforts will not hasten this recovery process.

Tornado: Because of a tornado's very small area of effect and its relatively high speed when moving at ground level, it is usually quite easy for a group of player characters to get out of the direct path of the funnel cloud — and this is definitely a case where discretion is the better part of valor.

If a character is somehow caught out in the open in the path of a tornado, he faces death in two forms. First, he will take 4d20 points of damage from being battered by whirling debris that is carried along by the tornado near ground level. Second, he will be lifted 10-60 feet into the air (d6 × 10), carried along for 100-600 yards, and then dropped from that height — suffering falling damage in addition to any damage caused by the debris.

Characters are more likely to be caught in the path of a tornado if it approaches them while they are inside a structure. If they are taking refuge inside a structure during the lightning storm that normally precedes and accompanies a tornado, there is a 1 in 6 chance (2 in 6 at night) that they will not notice an approaching tornado until it is too late to leave the structure and seek other shelter. If the tornado strikes the structure (which is entirely at the DM's discretion) and the structure is destroyed or damaged, characters inside the structure will each take 3d10 points of damage (if the structure is destroyed) or 3d6 points of damage (if it is damaged) from falling and flying debris, and there is a 1 in 10 chance that a single character (determined at random) will be lifted into the air by the tornado, suffering effects as described above.

Table 7: TORNADO DAMAGE TO STRUCTURES

Type of	Die Roll					
Structure	1	2	3	4	5	6
Light wooden	D	D	X	X	X	X
Heavy wooden	—	D	D	X	X	X
Earth	—	—	D	D	X	X
Wood and stone	—	—	D	D	D	X
Light stone	—	—	—	D	D	D
Heavy stone	—	—	—	—	—	D

Letter Codes

—: No significant effect

D: Damaged (deduct half of defensive point value, assess 3d6 damage to each occupant)

X: Destroyed (reduce defensive point value to 0, assess 3d10 damage to each occupant)

The Dungeon Master should determine into which category a structure falls, and he may modify this table to account for especially strong structures of a certain type. For instance, a heavy wooden structure with metal-reinforced walls and beams would be considerably sturdier than a heavy wooden structure without such features. Any structure flimsier than "light wooden" (for example, one constructed of canvas or animal skins) is automatically destroyed if it is hit by a tornado.

Hailstorm: A character caught out in the open during a hailstorm may suffer damage from being pelted by the rocklike clumps of ice, but a well-prepared or well-armored character can often avoid any difficulties. A character who is wearing splint mail, banded mail, or any other armor with a natural armor class of 4 or better can avoid damage entirely by taking the simple precaution of squatting or rolling into a ball and covering his head. (Of course, this makes the character a much easier target to hit in a combat situation.) A character can also protect himself by squatting or rolling into a ball and covering himself with a large shield. Partial or total protection may be afforded by draping a large skin or canvas over a couple of handy tree branches and taking refuge beneath this makeshift tent. Other means of protection may be devised, and the Dungeon Master should moderate the benefit (if any) of such attempts.

A character who is not suitably protected has a 50% chance of suffering damage on a round-by-round basis, depending on the type of armor he is wearing and the size of the hailstones:

Table 8: HAILSTORM DAMAGE TO CHARACTERS

Type of	Size of Hailstones		
Armor	Small (up to ½")	Medium (up to 1½")	Large (over 1½")
None	1d4	1d6	1d8
Leather or studded	1d3	1d4	1d4
Padded	1d2	1d3	1d3
Scale or chain mail	—	1d2	1d3



The damage figures on the preceding table assume that the character is doing what he can to protect himself by reducing the surface area of his body that is exposed to the hailstones. If a character is unable or unwilling to take such precautions, 1d2 points of additional damage should be added for each round in which damage is taken. The use of a small shield to protect part of one's body (while in a protected position) brings damage down to half of the indicated amount, with a minimum of 1 point of damage whenever it occurs.

The Dungeon Master must determine when small, medium, or large hailstones fall in the course of a storm. A single hailstorm can produce stones of various sizes at different times, or can be made up entirely of stones of one size.

Ice/Sleet Storm: As fearsome as it may seem, this type of precipitation does not normally cause damage to characters who are caught out in the open when it occurs, as long as the characters take simple precautions and as long as they keep moving.

Exposed skin and lightly clothed parts of the body must be covered promptly, regardless of whether the characters are stationary or moving. Failure to do this will result in characters taking cold damage as described below in the section on Damage from Heat and Cold.

It is important to keep moving, if this is possible, because the body heat generated by physical exertion helps to offset the effects of ice buildup on a character's clothing and forestall the possibility of damage from exposure (see the section on Damage from Heat and Cold). "Moving" does not necessarily mean forward movement; even simple calisthenics will suffice, if characters are unable or unwilling to travel. Unconscious or immobilized characters can be protected from icing up by simply shielding them with canvas, skins, or other characters' bodies.

A character who keeps moving will not be hindered in terms of movement or dexterity by the accumulation of ice on his armor and clothing; the ice will not form around the joints in a suit of armor, for instance, as long as the joints are frequently moved.

Lightning Storm: As with the other types of severe precipitation discussed above, a lightning storm presents no special hazard to characters who take simple precautions. However, the word "simple" in this context is an expression of complexity and not necessarily a measure of difficulty. For instance, it may not be at all easy for a character to find somewhere to hole up during a lightning storm if he's in the middle of a flat, featureless plain that extends for hundreds of yards, or miles, in every direction.

The most important precaution to take against being struck by lightning in the outdoors is to get rid of, and get away from, any metal armor, weapons, and equipment. If time permits, it is a good idea to scatter individual pieces of metal (the parts of a suit of armor, for instance) over an area at least several yards in diameter to minimize the possibility of lightning hitting the armor and gear. Heaping everything up in a pile for easier access later is asking for trouble, especially if the top of the pile is higher than any surrounding terrain.

Second, if solid cover is not available, get as low as possible, either by dropping flat on the ground or lying in a ditch or depression. Lightning is not immediately absorbed into the ground after it hits; the electrical force may travel some distance (up to several hundred yards, if the stroke is very powerful) along the ground before dissipating, and along its route it will seek out gullies, ruts, and other such low spots. Thus, someone lying in a ditch is not entirely safe, but this course of action is still better than presenting oneself as a target above ground level. (Contrary to popular belief, lightning does not travel from the clouds to the ground but rather in the opposite direction; even so, we tend to speak of lightning "hitting the ground" because of the visual impression created when a strike occurs.)

Even an apparently safe place, such as a rock overhang, is not necessarily the best place to be. If lightning strikes on a ridge above the overhang, it may travel downward and into the enclosure as described above. Still, an alcove of this sort is much more preferable than a more exposed position.

Taking cover under a lone tree is not a good course of action at all; if the tree is taller than the surrounding terrain, it is a prime target for lightning — and even if the electrical force of the lightning stroke does not travel down through the tree, a character is still vulnerable to damage from falling debris (at the DM's discretion) if the tree is hit.

Standing beneath a thick cover of trees of equal height is perhaps the best precaution one can take against lightning in the outdoors when no better cover is available. Of course, if an enclosed structure is within running distance, that is the place to head for. If lightning hits the structure, the electrical charge will ground itself through the roof and walls. A structure with an earthen floor is the safest of all, since the ground provides additional insulation against any electricity that may leak through the structure.

The chance of a character being struck by lightning is a very small one, even considering the possibility of normal foolish behavior, such as standing out in the open while wearing a suit of plate mail. In contrast, abnormal foolish behavior is rushing to the only tall tree in sight, climbing to the top, and thrusting your sword toward the heavens. The suggestions that follow do not take abnormal behavior into account; the Dungeon Master is free to arbitrate such occurrences, and it is strongly recommended that if a character voluntarily and knowingly engages in such behavior, he be given exactly what he appears to want — the jolt to end all dolts.

Below, in order from least dangerous to most dangerous, are the general circumstances in which a character could conceivably be struck by lightning. The list is not exhaustive, and the Dungeon Master may extrapolate from it to account for circumstances that are not specifically mentioned. The exact chance of lightning hitting a character is left up to the Dungeon Master, but this list does offer relative rankings, using 1 to represent the smallest chance. In all cases except the last, this list assumes that the character has divested himself of armor and other large items of metal and has taken the best available opportunity to protect himself.

1: Inside a solid, nonmetallic structure and not touching the structure itself. (If someone is sitting or leaning against the side of the structure, treat this as a relative chance of 10.)

5: Protected beneath or within a natural shelter that is not the highest point on nonfeatureless terrain, or a shelter that is expansive enough to absorb the force of the lightning (under a large rock overhang; beneath a thick grove of equally tall trees).

15: Partially protected on featureless terrain (lying in a ditch in the middle of a field, or at the bottom of a gently sloping hill).

30: Scantily protected beneath a large object in the middle of otherwise featureless terrain (standing or lying under a big tree in a field).

50: Unprotected on featureless terrain (standing, sitting or lying in the middle of a field).

100: Unprotected, and asking for it, on featureless terrain (standing fully armored in the middle of a field).

The damage that can be suffered from a lightning strike extends through a wide range of possibilities. A character who has taken no precautions to prevent injury will be killed on a 4 in 6 chance, and if he doesn't die outright he will lose 40-90% of his maximum total hit points (which may still result in death if the character was not at or near full hit points to begin with). A character who has taken the best precautions available to him and still gets hit will be killed on a 2 in 6 chance, and otherwise will lose 10-60% of his *current* hit points. As with the rules concerning the chance of being hit, the Dungeon Master is free to adjust these figures in any way he sees fit.

Severe Snowstorm: This is another type of special weather that isn't as treacherous as it might seem, as long as characters are well prepared for it or are able to take appropriate precautions at the outset of the storm. In addition to what is described on the Temperature Effects Table and Wind Velocity Effects Table above, a severe snowstorm will affect visibility (see the section on Vision and Visibility) and may cause exposure damage in addition to possible damage from cold for a character who is unable to take precautions (see the following section).

Damage from Heat and Cold

In addition to the effects of temperature on a character's ability to perform certain functions (see the Temperature Effects Table, above), extremely hot and cold temperatures can also cause damage to a character — sometimes even if he has taken every possible precaution to prevent such an occurrence. However, a character who has properly outfitted himself and who allows the conditions to govern his activity to some degree has a smaller chance of suffering damage as a result of those conditions.

Table 9: TEMPERATURE DAMAGE TO CHARACTERS

Personal Temperature	Unprotected Con	Unprotected Dmg	Protected Con	Protected Dmg
−60 or lower	+14	8	+9	4
−59 to −50	+13	8	+8	4
−49 to −40	+12	7	+7	3
−39 to −30	+11	7	+6	3
−29 to −25	+10	6	+5	3
−24 to −20	+10	6	+5	2
−19 to −15	+9	5	+4	2
−14 to −10	+8	5	+3	2
−9 to −5	+7	4	+2	1
−4 to 0	+6	4	+1	1
1 to 5	+5	3	0	1
6 to 10	+4	3	—	—
11 to 15	+3	2	—	—
16 to 20	+2	2	—	—
21 to 25	+1	1	—	—
26 to 30	0	1	—	—
31 to 84	—	—	—	—
85 to 89	0	1	—	—
90 to 94	0	1	0	1
95 to 99	+1	2	0	1
100 to 104	+2	3	0	2
105 to 109	+3	3	0	2
110 to 114	+3	4	0	3
115 to 119	+5	5	0	3
120 or higher	+6	6	+1	4

Damage Adjustments

	Cold	Hot
Stationary/inactive	+1 to +3	−1 to −3
Strenuous activity	+1 to +2	+1 to +4
Fatigued and not resting	+1 to +6	+1 to +6

Constitution Check Adjustments

Character level 4-6	−1
Character level 7-9	−2
Character level 10-12	−3
Character level 13-15	−4
Character level 16+	−5

How to Use the Temperature Damage to Characters Table

The Dungeon Master should locate the line referring to the current effective temperature and determine the status (protected or unprotected) of the character in question. For general definitions of "protected" and "unprotected," see the section on Dressing for the Weather.

Con: This column shows whether or not a Constitution Check is required, and if so the amount of the die roll modifier for that check. An entry of "—" means that no check is required; an entry of "0" means that a check is required, but no die roll modifier is used. The modifiers at the extreme ends of the table take into account the reduction in a character's constitution score that is called for by the Temperature Effects Table. A Constitution Check should be made every three turns, and all such die rolls are made by the Dungeon Master in secret. For characters of 4th level or higher, the adjustments given below the table should be applied to the die roll before success or failure on the check is determined. A failed check indicates that the character in question has suffered damage because of the heat or cold.

Dmg: This column shows the maximum amount of damage that a character can suffer as the result of a failed Constitution Check. The actual damage suffered is either a random number between 1 and the given maximum, or 10% of the character's current hit points, whichever is less. (To determine damage in the range from 1 to 7 points, simply roll 1d8 and reroll if a result of 8 is obtained.) The damage figures in the table assume that a character is engaged in normal, nonstrenuous activity. If this is not the case, the appropriate damage adjustment given below the table should be used; generate a random number within the prescribed range and apply it as an addition or subtraction to the damage figure. (The negative adjustment for being stationary or inactive in hot weather can negate any damage that would otherwise have been taken.)

To be eligible for a damage adjustment, a character must have been engaged in something other than normal activity for at least one full turn out of the three turns that elapse between Constitution Checks. If more than one of the categories applies to the activity a character has undertaken during the three-turn period, the Dungeon Master should use the category least favorable to the character unless common sense dictates otherwise. Example of an exception: A character is resting in 100-degree heat when suddenly he is ambushed. He jumps to his feet and engages in melee combat for one turn, successfully dispatching or beating off his attacker. He rests again afterward, and is resting when it comes time for a Constitution Check. Even though he has engaged in strenuous activity for one turn out of the three, the Dungeon Master should consider the circumstances and the character's intent and apply the damage adjustment for being inactive instead of the adjustment for strenuous activity — or perhaps make no adjustment at all, considering the fact that the character did indeed engage in strenuous activity but it wasn't of his choosing.

Damage from heat or cold is different from damage that a character takes as the result of a wound or some other physical trauma. A character can die from the effects of hot or cold temperature, but if he survives then he can regain hit points lost from heat or cold at the rate of one per hour. To be eligible for this speedy recovery, the effective temperature for the character must be within the tolerable range (where no Constitution Check is required) and the character must be resting or performing only minimal physical activity. (Building a campfire and cooking a meal is minimal physical activity; moving at normal speed is not.)

Hypothermia: When an unprotected character fails three consecutive Constitution Checks for cold damage, or when a protected character fails six consecutive Constitution Checks for cold damage, he begins to suffer the effects of hypothermia. Until he helps himself or is aided by someone else, he will lose 1 point per turn thereafter from his physical ability scores (strength, dexterity, and constitution) and 1 point every two turns from his wisdom score, to a minimum of 3 in any category. If two of his physical ability scores drop to 3, the character is incapacitated. In 1d3 turns thereafter, he falls unconscious, and 2d4 turns after that he will die, regardless of hit points remaining.

An afflicted character can be aided by getting him into a tolerable environment (warm enough so that no Constitution Check for cold damage is required). As long as the effective temperature for the victim remains tolerable, he will regain lost ability-score points at the rate of 1 point per category per hour. Until all of his ability scores are restored to their original levels, he will be susceptible to a relapse if he moves back into the cold; every time he fails a Constitution Check after re-entering the cold, he has a 50% chance of again suffering hypothermia.

Frostbite: Whenever the effective temperature for a character is 0 or lower and his hands, feet, or ears are exposed or improperly covered, any cold damage he suffers will affect the vulnerable extremities first, and the character may develop frostbite.

Table 10: FROSTBITE DAMAGE TO CHARACTERS

Body Parts Vulnerable	Damage Caused To	Frostbite Occurs At
Feet	Feet all	4 pts.
Ears	Ears all	6 pts.
Hands	Hands all	8 pts.
Hands & Ears	Ears 1/2, Hands 1/2	
Feet & Ears	Feet 2/3, Ears 1/3	
Hands & Feet	Feet 1/2, Hands 1/2	
All Three	Feet 1/3, Ears 1/3, Hands 1/3	

When a character susceptible to frostbite suffers cold damage, the first points of that damage are applied to any vulnerable extremities for the purpose of determining whether frostbite occurs. If more than one body part is vulnerable and the damage cannot be distributed evenly among the parts, apply the "leftover" damage to the body part(s) named first, making the distribution as even as possible. Examples: If hands and ears are vulnerable and 3 points of damage is indicated, apply 2 points to ears and 1 point to hands. If feet, ears, and hands are all vulnerable and 7 points of damage is indicated, apply 3 to feet and 2 each to ears and hands. If all three are vulnerable and 5 points of damage is taken, apply 2 to feet, 2 to ears, and 1 to hands.



The right-hand column of the table shows the amount of cold damage that will cause a certain body part to become frostbitten. Damage continues to accrue after frostbite occurs, until a body part receives an additional four points of damage; at that point, *severe frostbite* occurs.

Frostbitten ears will cause discomfort and distraction; the victim takes a −1 penalty on all initiative rolls, and any opponent's chance to surprise him is increased by 1 in 6. Severely frostbitten ears are numb; the victim suffers no noticeable discomfort, and the penalties given above no longer apply — but if the victim does not treat or receive treatment for the frostbite within two turns after it becomes severe, his ear(s) will be permanently damaged.

Frostbitten feet are a great hindrance to mobility and maneuverability for a character on foot; he moves at one-half normal speed and takes a two-step penalty to armor class in any situation that requires dodging ability or abrupt changes of position (such as defending himself in combat). Severely frostbitten feet are no longer painful, and because of this the character can once again move on foot at normal speed, but the penalty to armor class still applies.

A victim who is riding or being carried or is otherwise elevated so that his feet are not touching the ground does not suffer either of the above penalties, but is still in danger of serious injury from the frostbite. If the victim does not receive treatment for severely frostbitten feet within one turn after the onset of that condition, his feet will be permanently damaged.

A character with frostbitten hands has a −6 penalty to hit with any thrown or fired missile weapon, and is −4 to hit with a melee weapon. If his hands become severely frostbitten, the penalty to hit with a melee weapon lessens to −2, but the −6 penalty for missile weapons still applies. Other penalties and restrictions may apply, depending upon the circumstances and the Dungeon Master's judgment. For instance, it should be very difficult (if not impossible) for the victim to make a successful Proficiency Check for rope use. If the victim does not receive treatment for severely frostbitten hands within two turns of the onset of that condition, his hands will be permanently damaged.

Heat exhaustion: The "hot" end of the Temperature Damage to Characters Table accounts for the effects of heat exhaustion, which is the milder of the two temperature-related maladies that can affect characters in hot weather. As described in the text following that table, damage suffered as a result of the heat can be negated if the character moves into a cooler environment and does not engage in strenuous activity. Heat exhaustion is not the same as "normal" exhaustion, as described in the section on Fatigue and Exhaustion; heat exhaustion (or, simply, damage taken from exposure to hot weather) can occur even if a character is not fatigued.

Heatstroke: If a character becomes exhausted when the effective temperature for that character is high enough to require a Constitution Check for damage (see the Temperature Damage to Characters Table), then he has suffered heatstroke. He will immediately collapse, with a 50% chance of lapsing into unconsciousness. Even if he remains conscious, he will be incapable of moving or defending himself (unlike a normally exhausted character, who can still fight if necessary). From this time until he recovers, all of his Constitution Checks will automatically fail, and he will suffer maximum damage whenever damage from heat is indicated.

The treatment for heatstroke involves much more than simply getting the victim into a tolerable environment — he must be cooled quickly and drastically by immersion in very cold water or by some magical means that cools him and keeps him cool for at least an hour (see the section on Magic in the Wilderness).

If a heatstroke victim does not receive treatment within three turns after the onset of the condition, he will suffer a drop in constitution of one point per turn thereafter, and if constitution reaches zero, the character dies. If he is treated after the constitution loss has begun, he will naturally regain one point of constitution for every turn that he remains in the treatment up to a maximum of two-thirds (rounded up) of the points that were lost. The remainder of his constitution points are permanently lost (although they may be restored by magical means).

Example: A protected character with a constitution of 13 gets lost in the desert when his personal temperature is 105 degrees and becomes exhausted from continually moving at a fast pace in search of his comrades. He has taken some damage from heat, but fortunately he started with enough hit points to stay away from death's door during his search. Now, however, he succumbs to heatstroke. On the failed Constitution Check that signaled the onset of heatstroke, he suffers 8 points of damage (the maximum of 2 for the temperature plus the maximum adjustment of 6 for being fatigued and not resting). Three turns after collapsing, he automatically fails another Constitution Check for heat damage and suffers 1 point of damage (the maximum of 2 for the temperature, plus the least beneficial adjustment of −1 for being inactive). Now he begins losing constitution points at the rate of one per turn (and, in addition, suffers another 1 point of heat damage every three turns). A total of 10 turns pass before he is found by his comrades, who immediately begin treatment for heatstroke. The victim is down to a constitution of 3 at this point, but after at least seven consecutive turns of treatment he will have regained seven constitution points (⅔ of 10, rounded up). The other three constitution points are lost forever (unless magically restored), and the character will have a constitution of 10 even after he has fully recovered from his brush with death.

Effects on Equipment

Ice, water, dust, and sand can do much more damage to clothing and equipment than to the characters who are wearing or carrying the gear. However, damage to equipment often cannot be expressed in terms of game mechanics — and even when it can, frequently the Dungeon Master must consider the circumstances to determine whether a character suffers adverse effects, and if so what those effects are.

This section is composed primarily of general statements and suggestions, the sum total of which does not begin to cover all the possibilities that can arise. But with these guidelines in mind, the Dungeon Master should be able to make reasonable and consistent decisions on what happens to equipment that is exposed to the elements — and players, likewise, should be able to decide how their characters can minimize or avoid damage to their equipment by taking precautions or making repairs. In addition to what is given here, see the section on Dressing for the Weather for more information on proper attire and the possible adverse effects of not being properly outfitted and equipped.

Effects of Water (Precipitation or Immersion)

Clothing that becomes water-soaked will not be damaged as such, but if it is porous and becomes waterlogged by prolonged exposure to moisture it will lose some of its insulating quality until it is taken off and dried out. The wetness and loss of insulating ability may result in an alteration of the personal temperature for the character wearing the clothes: Someone decked out in wet clothing when the environment is at an effective temperature of 30 degrees may be treated as if the effective temperature (for purposes of determining his personal temperature) was 10 degrees colder.

Remember that clothing worn under metal armor is not neces-

sarily safe from moisture, unless a character is completely covered with tight-fitting, leakproof armor — and this sort of attire can be dangerous in cool or cold weather, since it does not allow the body to "breathe" naturally.

Metal armor or equipment that is exposed to significant moisture will begin to rust if it is not dried off or dried out at least once every two days and oiled or otherwise protected at least once every two weeks. Rusted armor will not suffer a penalty to armor class, but the Dungeon Master may wish to allow the possibility that such armor will weaken or break if it is hit; for instance, if an opponent in melee combat makes an unmodified "to hit" roll of 20 and does more than four points of damage with a weapon, there is a 1 in 3 chance that the armor will crack or split and thereafter be treated as if it had an armor class one step worse. On a second hit of this sort, the armor will break entirely and be useless until it is repaired.

A rusted shield will serve its bearer well until an opponent in melee combat records a "to hit" roll one number less than the number needed to score damage. This indicates that the opponent's blow hit the rusted shield, and there is a 50% chance that the blow split or shattered the shield, so that it is useless thereafter.

A rusted weapon will not perform any differently than a normal one until the wielder records an unmodified "to hit" roll of 1, whereupon there is a 1 in 3 chance that the weapon will break and become useless.

The precautions to avoid rusting are simple, and most characters will perform them as part of their regular routine to keep their own equipment in good working order. But it should be remembered by Dungeon Master and players alike that any metal items that characters scavenge during a journey in the wilderness will in all probability be at least partially rusted (if they are found in the open in an environment where moisture is a factor). A character who recovers a chain mail vest from the body of an adventurer found along the trail may find out later that the chain mail didn't protect him as well as he expected.

Articles of leather (such as boots, armor, and backpacks or other accessory equipment) are not usually damaged by excess moisture as long as they are waterproofed periodically; even an item of leather that is not waterproofed will not be directly harmed by becoming waterlogged, but the water may seep through and moisten or harm materials (clothing, equipment, etc.) on the inside of the leather. Boots are somewhat of an exception to this general statement; because of the stress they are under when they are being used, water-soaked boots may begin to come apart at the seams as the hide softens and weakens from being moistened. If boots are not thoroughly dried out once every two days or so, they may start to show signs of this deterioration.

Generally, the greatest danger to waterlogged leather is the owner's failure to dry it out properly. If too much heat is applied to the leather, it will certainly dry out — but in the process it will become cracked, and the seams will be weakened even more than they might have been if they had been allowed to remain wet. (Treat cracked leather armor the same as rusted metal armor for determining whether it is affected by a blow during combat.) Leather gear should also be kept free of mud and grime; an excessive amount of dried mud can crack leather almost as quickly as an excessive application of heat.

Rope expands when it gets wet. A knot made in a dry rope will be very difficult to untie quickly if the rope has been drenched in the meantime. Conversely, a knot made with a wet rope will be weaker or looser, or both, after the rope dries out.

Certain items of equipment will be less useful, or perhaps altogether useless, if they take on moisture. For instance:

If the container for a magic-user's spell components is not moistureproof, he may find that the pinch of sand he needs for a *sleep* spell has become a soggy clump, or the pinch of powdered brass for his *push* spell must be dried out before he can puff the particles off the palm of his hand.

Vegetable matter (food, medicinal plants, spell components) may develop mold or begin to rot if it is kept for too long in a moisture-laden environment, especially at high temperatures.

Nonmagical ink will run and bleed across the surface it is written on, making instructions and maps at least partially illegible. Spell scrolls, protection scrolls, and other types of magical writing are presumed to be written in waterproof ink — but the substance on which the ink was placed is not necessarily waterproof as well.

Arrows that get wet will not fly true until the fletching is dried out; any character who is not a specialist in the use of his bow will take a −1 penalty "to hit" and damage when firing a waterlogged arrow.

Effects of Blowing Sand or Dust

Flying grains of sand have an abrasive quality, but under less than extraordinary circumstances the abrasion does not have any appreciable short-term effect on exposed surfaces — skin, leather, metal, wood, or anything else. This is not necessarily the case in extraordinary circumstances, such as a very strong wind combined with a massive amount of sand being lifted into the air, but the vast majority of sandstorms are not this severe.

Effects from abrasion may occur as the result of exposure to several sandstorms over a long period of time, but this is not relevant to characters or their possessions since they won't normally find themselves in such a situation. A suit of armor that has been abandoned in the desert and then "sand blasted" during several storms may have a pitted, mirror-bright finish on its exposed surfaces — but more often than not, an object lying on the ground will be not so well polished because it will be alternately exposed and covered by blowing sand, and is only vulnerable to abrasion when it is exposed.

The effect of blowing sand that characters will often find themselves having to cope with is the aftermath of a storm. Sand can find its way between joints and panels in armor, between seams in clothing and backpacks, into a pouch that is not closed absolutely tight. Rations that are not protected will be rendered unpalatable, if not inedible. Liquids in open or loosely stoppered containers will be contaminated, but not necessarily undrinkable. In a water skin or water bottle, sand will settle to the bottom and not impair the drinkability of the water. A magical potion that is contaminated by sand may be untainted — or, at the Dungeon Master's discretion, it may be ruined or even turned to poison by interaction with the foreign substance.

After a sandstorm subsides, characters should spend some time getting the sand out of their clothing, armor, and gear — especially and most importantly the former. Sand that has collected inside clothing and boots may chafe the skin as a character moves, causing discomfort and distraction. An opponent's chance to surprise such a character is increased by 1 in 6. If a character is unable or unwilling to alleviate the chafing, it can become severe enough to inhibit his movement (¾ of normal speed) or decrease his mobility (−1 to dexterity for dodging and abrupt movements) or both.

Dust is not abrasive, but is even more insidious than sand because the particles are smaller. The residue from a dust storm will find its way into places that not even blowing sand can penetrate. Characters should check for contamination of food and liquids, which (as with sand) may or may not be ruined by the foreign substance. Dust inside clothing does not chafe the way sand does, so "dusted" characters need not worry about cleaning out the residue promptly.

ENCUMBRANCE AND MOVEMENT

Overland movement in the outdoors can be relatively easy, or it can be impossible, depending on a character's physical abilities, his physical condition, the amount of gear he is carrying, and the terrain across which he is attempting to move. Many of the rules in this section are an adaptation and extension of the rules for outdoor movement given on page 58 of the *Dungeon Masters Guide,* and the rules for determining encumbrance on pages 101-102 of the *Players Handbook* and page 225 of the *Dungeon Masters Guide.* They need not be taken literally, but no great deviation from these figures should be made. If some deviation is considered appropriate by the Dungeon Master, then every attempt should be made to keep the movement rates and encumbrance limits in proportion to one another.

Encumbrance of Characters

Under normal circumstances, any character needs clothing, armor, and equipment (including weapons) to survive in the wilderness. The advantages of wearing and carrying equipment far outweigh the disadvantages. In fact, there is only one significant disadvantage: encumbrance.

Practically anything a character wears or carries contributes to his degree of encumbrance. Notable exceptions (as mentioned in the *Dungeon Masters Guide,* page 225) include, but are not necessarily limited to, the following:

One set of clothing — normal, light attire, but not heavy and bulky cold-weather outerwear.

Thieves' picks and tools, or any similar small and easy-to-carry items (a small waterskin, a small food pouch, etc.), when such an object is the only thing being carried.

Material components for spells, if such items are not large or bulky.

A helmet (but not a great helmet) worn by a character who is also wearing armor.

The encumbrance value of an object is expressed in gold pieces, and a standard conversion in the game system specifies that a weight of 10 gp is equivalent to one pound. However, for purposes of determining an object's encumbrance value, this direct conversion does not always suffice. Although the weight of an object is often a major factor, other considerations are also important. The volume, or bulkiness, of an object may be more significant than its weight; as pointed out on page 101 of the *Players Handbook*, a 20-pound sack of feathers certainly has an encumbrance value greater than its actual weight in gold pieces. Similarly, a character who is walking while balancing a 20-foot-long wooden pole on his shoulder is encumbered to a much greater degree than the weight of the pole alone would indicate.

No set of rules or guidelines can cover all the objects a character may want to wear or carry, and for this reason the Dungeon Master will frequently be required to make rulings on encumbrance value. As a rule of thumb, any non-bulky item can be assigned an encumbrance value equal to, or only slightly greater than, its weight in gold pieces; a bulky object should be given an encumbrance value of at least two or three times its weight; and a very bulky object should have en encumbrance value of at least five times its weight.

Table 11: ENCUMBRANCE LIMITS FOR CHARACTERS

	Encumbrance Category			
Strength	**Light**	**Moderate**	**Heavy**	**Severe**
3	40-100	101-350	351-700	701-1150
4-5	50-150	151-450	451-800	801-1250
6-7	60-200	201-550	551-900	901-1350
8-11	90-350	351-700	701-1050	1051-1500
12-13	120-450	451-800	801-1150	1151-1600
14-15	140-550	551-900	901-1250	1251-1700
16	160-700	701-1050	1051-1400	1401-1850
17	170-850	851-1200	1201-1550	1551-2000
18	180-1000	1001-1400	1401-1700	1701-2250
18/01-50	190-1100	1101-1450	1451-1750	1751-2500
18/51-75	200-1200	1201-1500	1501-1800	1801-2750
18/76-90	210-1300	1301-1600	1601-2000	2001-3000
18/91-99	220-1400	1401-1700	1701-2200	2201-3500
18/00	250-1500	1501-1900	1901-2400	2401-4500

How to Use the Encumbrance Limits for Characters Table

Calculate the total encumbrance value, in gold pieces, of all objects worn or carried by the character. Read across on the line where the character's current strength score appears until reaching the column that contains the number range where the encumbrance value falls. The character's current encumbrance status is described by the heading at the top of that column.

If the total encumbrance value is less than the lower number in the "light" column, the character is considered not encumbered. An encumbrance value greater than the higher number in the "Severe" column is effectively impossible; a character cannot move, engage in combat, or perform any other physical activity if the encumbrance value of his equipment exceeds this amount — and he may, at the Dungeon Master's discretion, suffer damage as a result of being overburdened.

Terrain Definitions for Movement

The terrain designations used in other parts of this book (forest, hills, seacoast, etc.) are not appropriate for some purposes, such as determining the speed and ease of movement through a certain area of the wilderness. For the purpose of determining overland movement rate, terrain is classified as either *normal, rugged,* or *very rugged*:

Normal terrain includes areas such as flat plains; gently rolling hills; hard-surfaced desert; light forest (where it is easy to pick a path between trees and other vegetation); and any well-kept path or roadway that passes through normal terrain or rugged terrain that is topographically consistent (does not change elevation frequently or abruptly).

Rugged terrain includes uneven ground (such as a flat plain strewn with boulders, which must be either negotiated or circumvented); sharply sloping hills; soft-surfaced desert; moderate forest (where the path angles sharply and repeatedly around trees

and other vegetation); any normal terrain covered with 5 to 10 inches of snow; areas where several streams or rivers must be crossed (one every 3-4 hours) to maintain constant movement in one direction; and any well-kept path or roadway that passes through very rugged terrain.

Very rugged terrain includes mountains; thick forest (where no path is apparent); swamps and bogs; any normal terrain with more than 10 inches of snow cover; any rugged terrain with more than 5 inches of snow cover; and areas where rivers or streams must be crossed frequently (one every 2 hours or less) to maintain constant movement in one direction.

When taken into consideration along with a character's or creature's encumbrance value, these terrain definitions are important in determining movement rate, as described in the following sections.

Large-scale Overland Movement

Large-scale movement considers each 1″ of a character's movement rate as the number of miles that can be traveled by walking at normal speed — faster than a stroll, slower than a trot — for one-half day (see *Players Handbook*, page 102). This assumes that one-half day is eight hours, and that the character in question is lightly encumbered and moving over rugged terrain. For example, such a character with a movement rate of 12″ can travel 12 miles in eight hours, or 1½ miles per hour for any span of time less than eight hours. If a character attempts to move for more than eight hours without a prolonged rest period (at least one hour), he will move at ¾ of his normal maximum speed for the next eight hours or any part of that time he spends traveling. Thus, after 16 hours of continual movement, a character with a 12″ movement rate will have traveled 21 miles (12 miles in the first eight hours and 9 miles in the second eight hours).

If a character attempts to move for more than 16 hours without stopping to eat and rest, he will move at ⅓ of his normal maximum movement rate. Thus, a lightly encumbered character with a 12″ movement rate who is traveling over rugged terrain can cover a total of 25 miles if he travels for 24 hours without stopping to rest. However, not resting may cause him to suffer other penalties; see the section on Fatigue and Exhaustion.

Table 12: CHARACTER MOVEMENT ON FOOT

	Terrain Type		
Encumbrance	**Normal**	**Rugged**	**Very rugged**
None	15/18	12/16	8/10
Light	12/16	12/15	6/9
Moderate	10/12	9/11	4/6
Heavy	7/10	6/8	3/5
Severe	5/7	3/5	2/3

The number to the left of the slash is normal maximum movement rate (in miles per half-day), assuming a character with a base movement rate of 12″. For a character with a slower movement rate, the figures should be scaled down accordingly.

The number to the right of the slash represents accelerated movement rate — the fastest a character can travel if he exerts himself. Strenuous activity of this sort will require the character to rest periodically to avoid risking fatigue (see the section on Fatigue and Exhaustion). This accelerated movement rate takes these periodic rest stops into account; for instance, a character who is lightly encumbered and moving across normal terrain can cover 16 miles in his first eight hours of movement, even if he stops to rest for two turns after every four turns of exertion. If he



keeps moving without resting to avoid fatigue, his movement rate is increased by 1/3 of the given amount (round to the nearest whole number) for the length of time involved. If the character described above chooses not to stop for rest every four turns, he will move at a rate of 21" (16+5), or roughly 2½ miles per hour, for as long as he chooses to maintain this pace — or until he becomes exhausted.

Encumbrance and Movement for Land-based Animals

The encumbrance categories for characters do not apply to mounts and pack animals. For such creatures, only two designations are important: the normal load, which an animal can carry without being encumbered, and the maximum load, which represents the greatest amount of encumbrance value an animal can carry and still be able (or willing) to move.

An animal's large-scale movement rate indicates the number of miles it can travel in one-half day, and the rate can vary with terrain, just as a character's movement rate does. The movement rate for a mount or a beast of burden also is a general indication of the animal's stamina; such an animal can be forced to move continually for a number of hours equal to one-half of its current movement rate, up to a maximum of 12 hours. If it is moved for a longer period of time, there is a cumulative chance per hour that the animal will become fatigued. This chance is 20% in normal terrain, 35% in rugged terrain, and 50% in very rugged terrain. (For the effects of fatigue on mounts and beasts of burden, see the section on Fatigue and Exhaustion.)

Examples: A light warhorse that is not encumbered can be ridden at 24" over normal terrain for 12 hours without the animal suffering any adverse effects. At the end of 13 hours, there is a 20% chance of the horse becoming fatigued; after 14 hours, the chance rises to 40%, and it continues to rise until fatigue actually sets in unless the animal is allowed to stop moving before that happens. A medium warhorse that is encumbered and is being ridden over rugged terrain has a movement rate of 6" (see the table below), and can be forced to move for three consecutive hours without incident. At the end of four hours of movement, the chance of the horse becoming fatigued is 35%; after five hours, the chance rises to 70%; and if the animal is kept moving for six hours it will automatically (105% chance) be fatigued at the end of that time.



In addition to (or instead of) the general characteristics described here, certain animals have characteristics of behavior that can affect their ability or willingness to perform as mounts or pack animals. These special characteristics are covered in the section on Mounts and Beasts of Burden.

Table 13: ENCUMBRANCE LIMITS AND MOVEMENT RATES FOR ANIMALS

	Normal	Maximum	.....Movement by Terrain.....		
Animal	**Load**	**Load**	**Normal**	**Rugged**	**Very Rugged**
Ape, gorilla	2000	4000	12/6	9/6	6/3
Bear, brown	3000	6000	12/6	9/6	3/0
Camel, bactrian*	4000	6000	18/6	9/6	3/0
Camel, dromedary**	4000	6000	21/9	12/6	3/0
Dog sled (7 dogs)	3000	6000	12/9	6/3	0/0
Donkey	1500	2500	12/6	9/6	6/3
Elephant, African	5000	10000	15/9	9/6	0/0
Elephant, Asiatic	5000	10000	12/9	6/6	0/0
Horse, draft	4000	8000	12/6	6/3	3/3
Horse, heavy war	5000	7500	15/9	9/6	6/3
Horse, light war	3000	5000	24/12	12/6	6/3
Horse, medium war	4000	6500	18/9	9/6	6/3
Horse, wild	3000	6000	24/12	12/6	6/3
Mule	5000	7500	12/6	9/6	6/3
Pony	2000	3000	12/6	6/3	3/0
Ram, giant	2500	4000	15/9	12/9	6/3
Sheep	250	500	9/6	6/3	6/3
Yak	2250	3500	12/6	9/6	6/3

How to Use the Encumbrance for Animals Table

Normal Load and *Maximum Load* are described in the preceding text; the figures on the table are in gold pieces of encumbrance value.

The three movement columns describe an animal's top speed over a certain type of terrain. The figure to the left of the slash is its movement rate when not encumbered (carrying its normal load limit or less), and the figure to the right of the slash is its movement rate when encumbered (carrying more than a normal load but not more than a maximum load). An entry of "0" indicates that the animal cannot move, or be moved into, the indicated terrain under the indicated condition of encumbrance.

Obviously, the above table does not include every animal that a character could conceivably use as a mount or a beast of burden. (An *animal friendship* spell or a *charm* spell can work wonders in the wilderness.) If the Dungeon Master needs to devise figures for another sort of animal, he should consider the animal's physical characteristics (size and bulk of body, strength, normal movement rate) and, if possible, compare the animal to a similar beast that is listed on the table. For instance, a tiger is about as large and strong as a yak, so it also ought to be able to carry 2250 gold pieces of encumbrance without being slowed. But because of the flexibility of its body structure, it can negotiate obstacles more easily than a yak can, and as such it might be able to maintain a 12" movement rate in rugged terrain when not encumbered.

Movement of Land-based Vehicles

Carts and wagons are useful for transporting equipment (and possibly characters) over long distances, enabling a party to carry much more gear than the characters could pile on their backs. Chariots are used mainly for the transportation of characters, but the larger ones can also haul equipment.

Table 14: MOVEMENT OF VEHICLES

	Terrain		Maximum
Vehicle/animal(s)	Normal	Rugged	Load
Cart, small/pony	8	4	3500
Cart, small/light horse	10	5	5500
Cart, small/medium horse	12	5	6000
Cart, small/mule	12	7	6000
Cart, medium/pony	6	0	4000
Cart, medium/light horse	8	3	6500
Cart, medium/medium horse	8	5	7500
Cart, medium/mule	10	6	7500
Chariot, small/pony	6	3	3000
Chariot, small/light horse	9	5	4000
Chariot, small/medium horse	10	6	4000
Chariot, large/light horses	12	7	5500
Chariot, large/medium horses	14	8	5500
Chariot, large/heavy horses	16	10	5500
Wagon, small/light horse	8	3	7500
Wagon, small/medium horse	10	6	8500
Wagon, small/heavy horse	12	9	9000
Wagon, large/light horses	10	6	12000
Wagon, large/medium horses	12	8	13500
Wagon, large/heavy horse	14	8	13500
Wagon, large/heavy horses	16	10	15000

Movement rates given in this table (again expressed in miles per half-day) are self-explanatory. Note, however, that none of the vehicles mentioned can be taken into very rugged terrain — or, if they are, progress will be so slow as to make large-scale movement effectively negligible. Also, the given movement rates assume that the vehicle is on flat, featureless ground or on a path or roadway; if this is not the case, treat the terrain as one category more rugged than it actually is. For instance, a lightly forested area is considered normal terrain for a character on foot or a character mounted on a horse — but if that area does not contain a path smooth enough and wide enough to accommodate a vehicle, it is considered rugged terrain for the purpose of determining the vehicle's movement rate.

MOVEMENT ACROSS SPECIAL TERRAIN

Climbing

The rules in this section and the following one are adapted from the rules for climbing and moving with the aid of a rope as found on pages 14-17 of the *Dungeoneer's Survival Guide.* A summary of those rules, altered slightly to take into account the conditions of the wilderness, is given here for ease of reference and for the sake of those who do not have access to the other book.

Rates of Climbing

All characters, not just thieves, have a chance of being able to ascend, descend, or move laterally across most non-horizontal, natural surfaces, such as the face of a mountain. In the wilderness, mountain climbing is the particular skill that most often applies to this ability, and that is the skill upon which these rules concentrate.

Table 15: CLIMBING MOVEMENT RATES

	.....Condition of Surface.....		
Surface Climbed	Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	90	60	30
Rough slope, moderate	80	50	25
Rough slope, severe	60	40	20
Normal slope, gentle	80	45	25
Normal slope, moderate	60	30	15
Normal slope, severe	50	20	5*
Smooth slope, gentle	60	30	15
Smooth slope, moderate	40	20	10*
Smooth slope, severe	20*	10*	5*
Cliff, rough, with ledges	25*	15*	5*
Cliff, rough, no ledges	15*	10*	5*
Cliff, smooth, with ledges	15*	10*	5*
Cliff, smooth, no ledges	10*	5*	5*

* — These surfaces can be climbed only by a thief, or by a character with proficiency in mountaineering who is using special tools.

Movement rates given on this table (expressed in feet per round) are for thieves; all other characters move at one-half the indicated rate. Any character with exceptionally low or exceptionally high dexterity uses his Reaction/Attacking Adjustment (see *Players Handbook,* page 11) as a penalty or bonus to his climbing movement rate.

In all cases, the climber is assumed to be using no special tools (other than a rope, which is of limited use for direct climbing unless it it used in conjunction with other mountaineering equipment). Also, the surface being climbed is assumed to contain cracks or protuberances that are used as handholds and footholds by the climber — except for any gentle, nonslippery sur-

face, where such aids are not necessary and do not have to be used even if they are present. Thieves are the only characters who can negotiate any surface that is completely devoid of handholds and footholds.

Modifications for Encumbrance

Any character who is severely encumbered (thief and non-thief alike) cannot climb anything other than a gentle slope that is either nonslippery or slightly slippery, and does so at one-half of his normal climbing rate.

A character who is heavily or moderately encumbered cannot climb anything other than a gentle or moderate slope that is either nonslippery or slightly slippery, and does so at one-half of his normal climbing rate.

A character who is lightly encumbered can climb any slope (but not a cliff face) and does so at his full normal climbing rate.

In order to be able to climb a cliff face, a thief (or a character with mountaineering proficiency) must be not encumbered; that is, the gear he is carrying must have a total encumbrance value less than the lower figure given for light encumbrance on the Encumbrance Limits for Characters Table.

Surface Types

Gentle slopes have a tilt of at least 15 degrees but not more than 30 degrees. In the least extreme case, a gentle slope changes 2 feet in elevation for every 10 feet of horizontal distance measured on a line that cuts through the slope. In the most extreme case, the elevation changes 5 feet for every 10 feet of horizontal distance. (A slope of less than 15 degrees is not a slope at all, for the purpose of these rules, and can be moved across at the same speed as if it were flat terrain.)

Moderate slopes range from 31 degrees through 50 degrees. In the most extreme case, the elevation changes 12 feet for every 10 feet of horizontal distance.

Severe slopes range from 51 degrees to 70 degrees. In the most extreme case, the elevation changes 35 feet for every 10 feet of horizontal distance.

Cliff refers to any slope of greater than 70 degrees. A cliff of 90 degrees, of course, is perpendicular to the ground from which it rises. It is possible for a cliff to rise at an angle greater than 90 degrees, in which case it is properly called an overhang, but this sort of cliff is not treated any differently for the purpose of these rules.

Rough surfaces are those that are strewn with convenient deviations in the surface (protuberances, cracks, etc.) so that it is virtually impossible *not* to find a handhold or a foothold whenever a character attempts to move along the surface.

Normal surfaces have a relative abundance of handholds and footholds, but they are not so closely spaced as on rough surfaces, so that the character must plan his route more deliberately (and thus, move more slowly) when traversing such a surface.

Smooth surfaces are not completely devoid of handholds and footholds, but such features are few and often far between. A climber must plan his route *very* carefully, and sometimes is forced to backtrack and take a different route if his original path leads to a "dead end" where no more usable handholds and footholds are in sight.

Ledges, found on cliff faces more often than not, are outcroppings where one layer of rock meets another and the lower layer protrudes farther away from the cliff face than the upper layer does. Most ledges are not more than three or four inches wide, but this is sufficient to offer a handhold or foothold for a character able to climb such a surface. Sometimes a ledge will protrude six inches or a foot away from the cliff face, providing enough width for a character to assume a stable standing position, but extreme protrusions of this sort are rare, and when they do occur there is always a possibility that the ledge itself is unstable and may give way under the full weight of a climber who has perched on it without also supporting himself with one or more other handholds or footholds.

Surface Conditions

Nonslippery surfaces are dry and solid and present no great peril to a climber other than the slant of the slope in question. However, some of the handholds and footholds in such a surface may be "false" — rocks or roots that come loose when they are pulled on, for instance. Thus, it is entirely possible for a character to fall on, or from, a nonslippery surface.

Slightly slippery surfaces are moist or are composed of material that gives way easily under any significant weight or pressure — a grassy slope covered with dew or the moisture from a recent rain, or a surface with a thick covering of sand, loose dirt, or gravel.

Slippery surfaces are thoroughly wet or coated with ice, snow, or some foreign substance (such as moss or lichens) that is either slippery in itself or tends to pull away from the surface when it is pressed against or pulled on.

Chance of Falling

A character's chance of falling while climbing is a percentage equal to 100 minus his Climbing Rating. A thief's Climbing Rating is the same as his *climb walls* score (see *Players Handbook*, page 28). A non-thief without proficiency in mountaineering has a Climbing Rating of 40%, and a non-thief with proficiency in mountaineering has a Climbing Rating of 80% whenever he is using his mountaineering tools on a surface that only he (or a thief) is capable of climbing.

Any character's Climbing Rating can be modified by several conditions or circumstances, with the result that some surfaces can be climbed by some characters with no chance of falling, and other surfaces may prove practically impossible for a certain character to negotiate unless he can change one or more of the prevailing conditions in his favor. Also, certain conditions (such as the wearing of heavy armor; see below) can negate the possibility of a climbing attempt altogether.

When a character's final Climbing Rating (or *climb walls* score, for a thief) is determined, that number is used to determine the success or failure of any Climbing Checks that are called for. For each Climbing Check, the Dungeon Master or the player of the character rolls percentile dice. A result greater than the Climbing Rating indicates failure, and a result equal to or less than the Climbing Rating indicates success.

Table 16: MODIFIERS TO NON-THIEF'S CLIMBING RATING

	Condition of Surface		
Surface Climbed	Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	+70	+55	+35
Rough slope, moderate	+60	+40	+20
Rough slope, severe	+40	+20	+10
Normal slope, gentle	+60	+40	+20
Normal slope, moderate	+50	+25	+10
Normal slope, severe	+30	+15	+0
Smooth slope, gentle	+50	+25	+10
Smooth slope, moderate	+30	+10	+0
Smooth slope, severe	+10	+0	−10
Cliff, rough, with ledges	+0	−10	−20
Cliff, rough, no ledges	−10	−20	−30
Cliff, smooth, with ledges	−10	−25	−40
Cliff, smooth, no ledges	−20	−35	−50

The appropriate number from this table is added to the Climbing Rating for a non-thief when determining that character's chance of falling. Other modifiers may also apply (see below). If the character's final adjusted Climbing Rating is 100% or greater, he can negotiate the surface with no chance of falling. If the final adjusted Climbing Rating is 5% or lower and the character is not specifically prohibited from climbing the surface in question, his Climbing Rating is treated as 5%. In other words, any character who is able to attempt climbing a surface is entitled to try, but with only a slim chance that he will succeed.

Other Modifiers to Climbing Rating for Non-thieves

Encumbrance: Light or none, no penalty; Moderate, −5%; Heavy, −10%; Severe, −20%.

Race: Human, elf, or half-elf, no adjustment; Dwarf, −5%; Gnome, −10%; Halfling, −5%; Half-orc, +5%.

Armor worn: Chain, splint, scale or banded, −15%; studded leather or padded, −5%. A character outfitted in anything heavier than chain mail cannot climb any severe slope or cliff, and climbs all other surfaces at a −20% penalty.

Strength (on severe slopes or cliffs only): +5% for each full point greater than 15, counting an exceptional score as 18.

A character cannot climb a severe slope or cliff while carrying a shield and/or a weapon at the ready; both hands must be free to grip the surface being climbed. One hand can be used to hold a shield or a weapon while climbing a moderate slope, but at a −5% penalty to the character's Climbing Rating. It is not necessary to use one's hands when climbing a gentle slope, and a character with both hands full is not penalized in such a case.

Modifiers to Climbing Rating for Thieves

Whenever a thief is traveling across terrain for which the value on Table 16 (above) is +30 or greater, he does not need to make a Climbing Check at all; his natural ability enables him to automatically negotiate the surface. When traveling across terrain for which the value on the table is less than +30%, he must make a successful Climbing Check by rolling his *climb walls* score or lower on percentile dice to keep from falling. However, on a slightly slippery surface his *climb walls* score is modified downward so that his chance of falling is twice as great as on a nonslippery surface — and on a slippery surface, his chance of falling is four times as great as on a nonslippery surface. As with non-thieves' Climbing Ratings, a thief's *climb walls* score can never be less than 5% as the result of these modifiers: Anyone who wants to try to climb a surface should be given a chance to do so, if he feels lucky.

Climbing Checks

A character must make at least one successful Climbing Check to manually ascend or descend any non-horizontal surface when the total distance to be traveled is at least 10 feet. A character who begins a climb must make a successful *Initial Climbing Check* after traveling 10 feet in order to be able to continue climbing. Failure on this check indicates that he has fallen back to the point from which the climb started.

Depending on the length and difficulty of the climb, the Dungeon Master may require another Climbing Check to be made at the midpoint of the current ascent or descent. The current ascent or descent is measured from where the climb began to the nearest location where a character can assume a stable position (standing, sitting, kneeling, lying, etc.) without having to hold onto the slope or cliff face to maintain that position. This *Intermediate Climbing Check* may be called for when the current ascent or descent covers a substantial distance (more than 100 feet), or when the surface being climbed is smooth, slippery, severe, or a combination of those three qualities. It is recommended that an intermediate check always be made when a character is traveling laterally and any of the above conditions apply. (Brief stretches of lateral movement do not count for purposes of this determination, as long as the character's principal direction is either up or down.)

Another Climbing Check is always made at the beginning of the round in which the character will complete his climb if he does not fall. This *Final Climbing Check* is made with a +20% modifier to the character's Climbing Rating. Failure indicates that the character has fallen, and if the fall occurs while he is on a severe slope or a cliff, he won't stop until he hits bottom. If the distance of the climb and the character's movement rate cause this check to come in the same round as the *Initial Climbing Check*, then the initial check (with no bonus applied) is the only one that must be made to determine success or failure.

Damage from Falling

For the purpose of these rules, a distinction is made between *falling* and *tumbling* (the latter not to be confused with the thief-acrobat ability of the same name). The former is much more liable to cause serious injury or death, while the latter can (in the least perilous circumstances) result in nothing more than a minor inconvenience.

Falling describes a vertical drop, and occurs when a character releases his hold on a cliff face or a severe slope and plummets down until hitting a surface that stops the fall. A character takes damage from such a fall at the rate of 1d6 cumulative for each 10 feet fallen, as follows:

Table 17: DAMAGE FROM FREE FALL OR SEVERE SLOPE

Distance of Fall	Damage
10 feet	1d6
11-20 feet	3d6
21-30 feet	6d6
31-40 feet	10d6
41-50 feet	15d6
51 feet or more	20d6 (maximum)

The above damage figures apply whether the character is in free fall or tumbling down a severe slope. In the latter case, he is assumed to take some damage from recurring impact with the slope itself, in addition to being hurt when he comes to a stop at the end of the fall. If the slope is smooth and/or slippery, abrasion

damage on the way down is not a great factor, but in such a case the character's body will reach a greater velocity during the fall, so that when he hits bottom the end result is essentially the same as if he had tumbled down a rough slope at a slower speed.

A character whose fall is not impeded or stopped will fall 1000 feet per round in free fall or 600-800 feet per round down a severe slope (depending on the texture and degree of slipperiness of the slope).

Tumbling is what happens to a character who slips and leaves his feet, or releases handholds and footholds and tumbles down a moderate or gentle slope. Damage is assessed according to the terrain:

Table 18: DAMAGE FROM TUMBLING DOWN MODERATE OR GENTLE SLOPE

	.....Condition of Surface		
	Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	20/3/50	30/3/40	40/3/30
Rough slope, moderate	10/6/40	20/6/30	30/6/20
Normal slope, gentle	30/3/50	40/3/40	50/3/30
Normal slope, moderate	20/6/40	30/6/30	40/6/20
Smooth slope, gentle	40/3/40	50/3/30	60/3/30
Smooth slope, moderate	30/3/30	40/3/20	50/3/20

Each entry on the table above consists of three numbers. The first number is the distance in feet that a character can tumble down the slope before taking damage from abrasion. The second number is the die that is rolled (6 = 1d6, 3 = 1d3) to determine damage from abrasion for every 10 feet of distance greater than the first number. The third number is the minimum distance that the character must travel in order to take damage from the impact of the stop at the end of his tumble. Impact damage is 1d6 for a tumble of the indicated distance, and an additional 1d6 for each full or partial increment of that distance.

Example: A character fails a Climbing Check when he is almost at the top of a moderately slanting smooth slope that is slightly slippery. He takes a tumble that does not end until the bottom of the slope 100 feet away. The figures for that category on the table are 40/3/20, meaning that he suffers no abrasion damage for the first 40 feet of the fall, but he takes 6d3 damage from abrasion during the last 60 feet of the fall (1d3 for each 10 feet after 40). His body has built up a substantial velocity during the tumble, so that he suffers 5d6 damage (1d6 per 20 feet) from impact with the bottom of the slope at the end of his tumble.

It should be noted that the figures for impact damage as the result of a tumble down a slope represent a worst-case situation, when a character comes to an abrupt stop at the bottom of the slope. If the topography of the terrain is such that the character can and does come to a gradual stop (such as by tumbling down a slope onto a large expanse of flat, featureless terrain), then the Dungeon Master should decrease impact damage accordingly — perhaps eliminating it altogether. At the same time, if a character tumbles across flat terrain for some length of time before gradually coming to a stop, the Dungeon Master could assess some additional damage from abrasion to account for the extra distance of the "fall."

If a character's tumble down a slope is not impeded or stopped, he will fall 100-300 feet in one round down a gentle slope and 300-500 feet per round down a moderate slope, depending on the slipperiness of the surface (slowest rate for nonslippery).

Stopping a Fall

A character can attempt to halt his descent in a fall or a tumble and thereby reduce the damage he suffers. Of course, the chances for success in such an endeavor are much greater for a character tumbling down a gentle slope than they are for a character in free fall. The Dungeon Master can use these rules in one of two ways: He can require the player of a character to announce an attempt to stop a fall before it becomes impossible to do so, or he can simply allow any character an automatic attempt right after the character begins to fall, as long as the character is able to make the attempt. (Someone who begins to tumble down a gentle slope and insists on continuing to hold his sword and shield cannot try to stop his fall unless he drops what he is holding.)

Table 19: CHANCE OF STOPPING A FALL OR TUMBLE

	.....Condition of Surface		
Surface Fallen From	Non-slippery	Slightly Slippery	Slippery
Gentle slope	7/8	3/4	2/3
Moderate slope	3/4	2/3	1/2
Severe slope	2/3	1/2	1/4
Cliff face	1/2	1/4	—

The entries on this table represent the chance of stopping a fall or tumble, expressed as a fraction of the character's Climbing Rating. Only one attempt may be made, and it must be made within the first 50 feet of a fall from a cliff face or down a severe slope; within the first 75 feet of a fall down a moderate slope; or within the first 100 feet of a fall down a gentle slope. In the case of a fall from a cliff or a severe slope, the attempt can only succeed if some protrusion exists for the character to grab onto. For a tumble down a moderate or gentle slope, the character can use the slope itself to halt his fall by pressing down against it with his arms and legs. But if the attempt is not made before the fall or tumble exceeds the indicated distance, it cannot be made at all, since after that time the character's velocity will be too great to make the attempt worthwhile.

A character who stops his fall will still take impact and/or abrasion damage for the distance fallen, if such damage applies. It is entirely possible for a character to halt his tumble down a moderate or gentle slope before he suffers any damage, if his hands are free and he makes a successful attempt immediately after starting his tumble.

USING ROPE FOR MOVEMENT AND CLIMBING

Characters are not expected to climb slopes or cliff faces while relying only on the strength and dexterity of their hands and feet. Certain equipment is available (and often necessary) to assist a character in climbing a severe slope or a cliff face, and the single most important equipment any climber can have is a coil of rope.

The standard 50-foot coil of rope is assumed to be somewhat smaller than 1/2 inch in diameter, and a rope of this diameter can support up to 1,500 pounds without being in danger of fraying or breaking. If this weight limit is exceeded, there is a 20% chance per turn (non-cumulative) while the strain remains on the rope that it will break. If the rope does not break, there is a 10% chance, cumulative per turn, that it has become weakened from the stress (10% after one turn, 30% after two turns, 60% after three turns, 100% after four turns). The chance of a weakened rope breaking the next time it is used to support more than its weight limit is 40% per turn (noncumulative).

For mountain climbing and other uses in the wilderness, a longer and stronger rope is often used. A climbing rope is 150 or 200 feet long and ½ inch in diameter, with a weight limit of 2,000 pounds. It is also subject to weakening or breaking as described above.

A rope can be used to tie characters in a group together, so that if one character falls his comrades have a chance of arresting his fall (see below). A 50-foot rope will suffice to tie two characters together, and another character can be added to the string for every additional 50 feet of rope in the coil.

It is usually not a good idea to make a longer rope out of two or more shorter ones by knotting them together. Only a character with proficiency in rope use can make a knot that will hold the same amount of weight as the ropes on either side. If the knot is made by anyone else, the amount of weight the rope will hold without weakening or breaking is reduced by 500 pounds. If two ropes of different diameters are tied together, the weight limit of the smaller rope (minus 500 pounds, for the knot) applies to the combined line.

Roping Together

If two or more characters are roped together while on a climb and one of them fails a Climbing Check, the character or characters adjacent to the one who fell must make additional successful Climbing Checks (even if they had just made a successful check earlier in the same round) to keep from being pulled away from the slope or cliff face and also falling. If a character on either end of the rope falls, only the character adjacent to him needs to make a Climbing Check. If a character in the middle of the group falls, the climbers on both sides must make successful checks to halt his fall. If one or both of the adjacent characters fails his Climbing Check, then two or three characters are in danger of falling instead of just one. For each character who fails his Climbing Check beyond the first, the adjacent character(s) must make Climbing Checks with a −10% penalty to their Climbing Ratings. The process continues until characters on either side make successful Climbing Checks or until everyone in the group fails a Climbing Check — which means that the entire group has fallen. If the last two characters in a group are both required to make checks at the same time and only one of them succeeds, then the successful character must make one more check to keep the entire group from falling.

Examples: Five characters are strung together on a 200-foot rope, attempting to scale a cliff face. If the last character in line fails a Climbing Check, the fourth character must make a successful check to arrest his companion's fall and keep from falling along with him. If the fourth character fails his check, then the third character must make a successful check at a −10% penalty to stop both of his comrades.

If the third character in line falls, the second and fourth characters must both make successful checks. If they both fail, then the first and fifth characters must both make successful checks at a −20% penalty (since three characters have fallen away from the cliff), or all five characters will head for the bottom. If only the first or the fifth character makes his check, then that character does not fall immediately, but he must make another check — this time at a −30% penalty (since the four other characters have all fallen) to keep everyone else and himself from falling.

Rappelling

By securing a rope at the top of a slope or cliff and then winding it around his body, a character can descend a non-horizontal surface quite rapidly by the process known as rappelling. By applying sideways pressure against the surface being descended and using the friction of the rope as it moves around his body to additionally slow his fall, the climber can come down under control and at a base speed of 120 feet per round. (Penalties to this movement rate, for encumbrance and other factors, apply just as they do for an ascent.)

To successfully rappel down a slope of a cliff, the character must make a Climbing Check with a +50% modifier to his current Climbing Rating for every round or part of a round spent descending in this fashion. Failure on any check indicates that the character has lost his grip on the rope, and he will hang upside down, spinning while suspended by the rope, until he is rescued or until he makes a successful Dexterity Check (indicating that he has regained his bearings and secured a new hold on the rope). Dexterity Checks are allowed once per round.

Rappelling down a free-hanging rope, where the character has no surface to brace against, can be done, but the modifier to the character's Climbing Rating is only +30% instead of +50%. And if the character fails a Climbing Check while rappelling in this fashion, his Dexterity Checks are made with a +2 modifier to the die roll.

Belaying

This is a process similar in some ways to both roping together and rappelling, in that it produces the same effects — but those effects are achieved in a much different way. Belaying is a means of helping a character slowly descend a surface, or a means of keeping the character from falling while he is trying to ascend or travel laterally.

The character to be belayed must have one end of a rope tied securely around his body. The character performing the belay holds onto the rope and pays it out as the character moves farther down or away, always keeping just a small amount of slack in the line. For an ascending climber, the process is reversed; the belayer pulls the rope in as the climber comes closer to where he is located.

If the climber begins to fall, the belayer can halt the fall by making a successful Climbing Check. Failure on this check indicates that the belayer has lost his hold on the rope, and the climber will fall the full distance possible. Success indicates that the belayer has managed to hang onto the rope, and at worst the climber will fall no farther than the length of the rope.

If the belayer is himself in a precarious position (relying on handholds and footholds to maintain his location), he may find that successfully holding the rope was not conducive to his own continued safety. If he makes the first Climbing Check and thereby succeeds in halting his companion's fall, he must make a second successful check to keep from being pulled down by the jolt of the rope going taut. If this check is failed, both the belayer and his companion will fall. If the belayer is in a secure position (such as on the top of a plateau or a wide ledge, where he does not need to hold himself onto the slope or cliff), this second check is not necessary.

A string of characters connected in pairs with different ropes can belay one another in sequence (except, of course, for the last character in line, who cannot belay anyone, and the leader, who cannot be belayed). However, only one belay can be performed at any time, and a character cannot climb while he is belaying someone else. As a result, this method of ascending a slope or a cliff is a relatively slow one, but it has the advantage of increased safety for the group as a whole. If one character in the middle of a string of belayers begins to fall, he will not drag down anyone beneath him (as would be the case if all characters were roped together). If the belayer of the falling character fails to arrest his fall, then that belayer has a chance of being saved by the character

above who is belaying him — but nothing can help the first character who fell, since only two characters are connected to the same rope.

Use of Grappling Hooks

The other piece of equipment that can be used by any climber (thief or non-thief, mountaineer or non-mountaineer) is a grappling hook — a three- or four-pronged metal hook that is attached to the end of a rope and thrown toward a protrusion, in hopes that the hook will catch and hold so that climbers can pull themselves upward with the help of the anchored rope. Grappling hooks are normally only needed when ascending severe slopes and cliff faces, but they may also come in handy to expedite movement up a moderate slope, especially if it is slippery or slightly slippery.

A character can throw a grappling hook (attached to a rope, of course) upward a maximum distance of 1/3 of his strength score (rounded up) times 10 feet; a character with a strength of 8 can throw the hook toward a protrusion as far as 30 feet above his head. If the throw is horizontal (on an incline of 30 degrees or less), the character's maximum throwing distance is the same as for a vertical toss unless he is in a secure position and has a 10-foot radius of space around himself to allow for whirling the hook in a circle before letting it go; in that case, he can make a horizontal throw twice as far as his maximum vertical throw.

It takes one round to make a throwing attempt with a grappling hook, regardless of the type of throw. If the hook misses, the character must spend the next 1d4 rounds coiling the rope, whether he intends to make another attempt or he plans to stow the equipment until a later time. It can be dangerous to throw a hook toward a target directly above oneself; if the throw misses and the dice roll was 01-05, the thrower is hit by the hook and takes 1d6 points of damage.

A climber can climb up a rope anchored by a grappling hook at a 3" bonus to his normal climbing movement rate if he is lightly encumbered or not encumbered. In other cases, the rope affords no benefit to movement — except, perhaps, to make upward movement possible where it was not possible before.

The chance of a suitable protrusion being available within the character's throwing range, and the chance of the hook catching on the intended target, are both dependent on the type of terrain toward which the hook is being thrown.

Table 20: GRAPPLING SUCCESS

		Condition of Terrain		
Target terrain	Chance of Protrusion	Non-slippery	Slightly Slippery	Slippery
Moderate slope, rough	30/50	50	60	70
Moderate slope, normal	50/70	60	72	84
Mod. slope, smooth	70/85	64	76	86
Severe slope, rough	30/40	68	80	88
Severe slope, normal	50/60	72	84	90
Severe slope, smooth	70/80	76	88	92
Cliff, rough, with ledges	20/40	80	92	94
Cliff, rough, no ledges	40/60	84	96	96
Cliff, smooth, w/ledges	60/80	88	98	98
Cliff, smooth, no ledges	80/90	92	99	99

How to Use the Grappling Success Table

First, the Dungeon Master rolls percentile dice and refers to the Chance of Protrusion column for the appropriate terrain type. If the dice result is equal to or greater than the first number given, a protrusion exists within the character's throwing range. If the result is equal to or greater than the second number, the protrusion is a solid one; if the character is able to snag it, the hook will hold indefinitely. If the result is equal to or greater than the first number but less than the second number, the protrusion is not solid; if the character is able to snag it, the hook will give way after 1d6 rounds are spent climbing up the rope.

The numbers in the Condition of Terrain columns represent the chance of a character being able to catch a thrown hook on a protrusion, assuming that one exists. If a second roll of percentile dice results in a number equal to or greater than the number given for the terrain in question, the throw was successful.

If no protrusion exists within throwing range, a character can check for protrusions again after traveling a distance of 10 feet vertically or horizontally.

Crossing a Chasm on a Rope

Whether climbing a mountain or traversing some other sort of terrain, characters will sometimes find it advantageous to negotiate a chasm or deep canyon by anchoring a rope on the far side and moving hand-over-hand across the rope to get to the other side. The success of this tactic depends mainly on two factors: whether the terrain offers any protrusion on which to anchor a line, and whether the characters can successfully anchor the rope so that it will hold their weight. If a rope attached to a grappling hook is being used, then answers to both of those questions can be determined by using the Grappling Success Table (above), choosing the line that most closely corresponds to the terrain of the target area, and following the procedure for throwing a grappling hook.

It is also possible to catch a protrusion with a thrown loop of rope, if the target is located directly across from or only slightly above or below the thrower. (The thrown-loop tactic does not work on a vertical climb, which is why it was not discussed in the preceding section.) However, the character doing the throwing must be a thief or a character with proficiency in rope use; no one else can succeed in such an endeavor.

The character's experience level determines the maximum distance at which he can hit a target, and his chance of looping the rope around the target depends partially on how far away the target is.

Table 21: THROWN LOOP RANGES

Character Level	Maximum Range (in feet)
1-4	40
5-8	50
9-12	60
13-16	75
17+	90

The range figures given above assume that the character has a clear 10-foot radius space around him so that the loop can be whirled around before it is released. If this is not the case, maximum range is half of the given figure.

The base chance of hitting the target is 20%, with a +1% bonus for every foot of distance between thrower and target that is less than the maximum range. If moderate to heavy precipitation is occurring, or the wind is blowing more than 20 miles per hour, or any condition exists that hampers visibility (fog, night, etc.), the chance of hitting the target is modified downward by half. For instance, a 17th-level character attempting to throw a loop over a target 50 feet away on a fog-shrouded mountaintop has a 30% chance of succeeding.

Before characters can move across a horizontally anchored rope, both ends must be anchored, which means that a suitable

protrusion must exist at the location the characters are moving from. (It is a wise idea for characters to check this out before they go to the trouble of anchoring the rope on the far side of the chasm.) Once a rope is securely anchored at both ends, characters can move along it with a hand-over-hand motion at a maximum rate of 30 feet per round. It is prudent for only one character to use the rope at a time; if more than one character hangs from the rope at the same time, each of them must make a Dexterity Check with a +2 modifier to the die roll. Failure indicates that the character loses his grip on the rope and falls.

The Mountaineering Proficiency

A character with proficiency in mountaineering (see the section on Wilderness Proficiencies) is only slightly more accomplished than any other non-thief character is at climbing or traversing most non-horizontal surfaces, where the mountaineer's special equipment is not needed or does not offer any advantage. But when a difficult surface must be ascended or descended by one or more members of an adventuring party, the presence of a mountaineer can mean the difference between life and death.

The essential tools and skills of a mountaineer are these:

Pitons, specially crafted metal spikes that are pounded into small cracks and fissures in a rock face to provide an anchor on which a line can be secured. Contrary to popular conception, pitons themselves are not used as handholds or footholds; this is uncomfortable at best and dangerous at worst, since the surface area of a secured piton is not very large.

A special hammer used to pound the pitons into the rock face where they will be secured. (A hammer that serves as a weapon will not do; it is not made out of the right material, and is much too unwieldy to swing while the holder is perched on the side of a cliff.)

And, last but certainly not least, the knowledge of where to place the pitons so that they will hold and will provide the greatest amount of support for the weight that will be put on them. Anyone, conceivably, can drive a piton into a crack, but only a mountaineer can tell which cracks will not widen or crumble so that the piton has only a small chance of coming loose.

If a group of characters includes one mountaineer, that character can enable everyone else in the group to ascend or descend a surface they could not climb without him, as long as all the characters are roped together and the mountaineer is in the lead.

A mountaineer's ability to use pitons can come in handy in several instances when a rope needs to be anchored, or when tying it to a secured piton would provide an extra margin of safety. A piton will serve as a backup for a belayer, or provide an anchor for someone rappelling, or serve as a place to tie a rope before crossing a chasm.

No matter what a piton is used for or how much strain is put on it, there is only a 10% chance that it will come loose. This chance is checked the first time the piton is called upon to support a weight of 100 pounds or more (simply pulling on the rope will not dislodge a piton or indicate whether it has a chance of coming loose). If the piton passes this first check, it will remain lodged until a mountaineer dislodges it with his hammer — and there is a 10% chance that any secured piton will not be able to be dislodged and must be left behind.

MOVEMENT ON SLIPPERY HORIZONTAL SURFACES

A character who does not exercise caution when traveling across a slippery horizontal surface risks slipping and falling down, which does not directly cause him to suffer damage but could be an indirect cause of greater problems to come.

A character can move at his full normal movement rate across a slippery surface without risking a fall, if he travels in a straight line. But if he attempts anything other than a very gradual turn, or if he tries to stop or speed up abruptly, he must make a successful Dexterity Check to avoid slipping and falling down. If a character attempts to run on a slippery surface, he must make a Dexterity Check after every five segments of this sort of movement to stay on his feet, even if he is traveling in a straight line.

By moving at only half of his full normal movement rate, a character can turn without needing to make a Dexterity Check. Likewise, if he takes a full round to slow down or speed up (from full normal movement to a standstill, or vice versa) then no Dexterity Check is required.

JUMPING

Although thief-acrobats and barbarians are particularly skilled in jumping, any character is capable of making a broad jump or a high jump to get across or over something in his path. On the average, a character can cover four more feet of distance with a running broad jump than he can with a standing broad jump; however, a running broad jump requires the character to make a 20-foot run in a straight line toward the obstacle immediately before leaping. If this space does not exist or there is no time to back up and start the run, then a standing broad jump is the best he can do.

A high jump will cover half as much distance horizontally as the height of the jump. If the target is a flat surface higher than the character's current elevation, he can (if he succeeds in the leap) jump up to the surface and roll to absorb the impact of the jump. If the obstacle is a thin barrier and the surface on the other side is at the same elevation, the jumper must make a successful high jump and then a Dexterity Check. Failure on the check indicates that he has landed in a heap, possibly causing damage (1d3 for a jump of five feet or higher), and will need the next round to stand up.

Table 22: CHARACTERS' JUMPING ABILITY

Level of Character	Standing Broad Jump	Running Broad Jump	High Jump
1-6	1d4+1	1d4+5	1d3
7-9	1d4+2	1d4+6	1d4
10-12	1d6+2	1d6+5	1d3+1
13-15	1d6+3	1d6+6	1d4+1
16-18	1d6+4	1d6+9	1d5
19-22	1d6+5	1d6+12	1d5+1
23+	1d6+6	1d6+15	1d6+1

The die-roll ranges on this table represent the distance or height, in feet, that a jumping character can clear depending on his level. The die is rolled for each jump attempt. For instance, a 4th-level character can make a 3-foot high jump if a roll of 1d3 results in a 3. But if he attempts the same jump later and the die result is 1 or 2, he has failed to clear the height. Note the list of modifiers on the next page, which are applied to the die-roll result whenever the given conditions apply.



Modifiers to Jumping Ability

Moderately encumbered: −1 foot
Heavily encumbered: −2 feet (cannot high jump)
Severely encumbered: cannot jump at all
Halfling: −1 foot on broad jumps only
Gnome or dwarf: −2 feet on broad jumps, −1 foot on high jump

The modifiers given above are cumulative, but in no case can a broad jump be reduced to less than 2 feet or a high jump reduced to less than 1 foot for a character who is otherwise able to make the jump.

OVERLAND MOVEMENT IN REDUCED VISIBILITY

All movement rates previously described in this section assume that the character is traveling in daylight, under conditions that do not impair visibility. The following table shows the maximum safe speed for a character who is moving on foot or riding or driving an animal in less than ideal conditions of visibility.

Table 23: MOVEMENT IN REDUCED VISIBILITY

	Clear	Moderate Fog	Heavy Fog or Snow	Heavy Snow w/ Wind	Blowing Sand or Dust
Daylight	1/1	5/6	3/4	2/3	1/2
Moonlight	2/3	1/2	1/3	1/4	1/6
Darkness	1/2	1/3	1/4	1/6	1/8

The entries on this table represent the maximum safe movement speed under the given conditions, expressed as a fraction of the character's or animal's current normal movement rate. All other factors affecting movement (encumbrance, terrain, climbing, etc.) are applied to determine current normal movement rate, and then that number is multiplied by the appropriate entry from this table. (The entry of "1/1" for "Daylight/Clear" means that movement is not further reduced under these conditions.)

When a character is on foot and moving at the maximum safe speed during daylight, his short-range vision will extend far enough to enable him to avoid hazards that he approaches. He will not walk into a tree, stumble over an exposed root, or fall victim to any other similar physical hazard that would be easily visible under clear daylight conditions. Moving at the maximum safe speed will *not* necessarily keep him safe from hazards at night, whether he is in moonlight or darkness. A prime example of this kind of hazard is a pit or the edge of a cliff being approached at night; unless a character tests the surface (or lack thereof) beneath his foot before putting his full weight on his next step, or unless he is probing the ground in front of him with a pole or similar object, he can still fall into a pit or stroll off a cliff in the darkness even if he was moving at the safe speed.

A character who has infravision can detect certain kinds of hazards under conditions of moonlight or darkness, provided that the hazard is heat-detectable. A warm-blooded creature lying in wait behind a shrub would usually be detectable; the edge of a cliff would not usually be detectable, assuming that there is not a noticeable difference in heat between the cliff and the air surrounding it.

If a character attempts to move, or force an animal to move, faster than the maximum safe speed in any conditions of limited visibility, he must make a successful Dexterity Check whenever he or the animal encounters an obstacle. Failure on this check indicates either that he or the animal has blundered into the obsta-

cle, or that the animal has stopped short, quite possibly causing the character to be thrown from the saddle, dislodged from his seat atop a wagon, or thrown forward into or over the front of a chariot. In any event, a character or an animal under the character's control cannot exceed the maximum safe speed by more than twice the figure given, or cannot move faster than full normal movement rate, whichever is less.

Example: A character with a normal movement rate of 12″ is plodding along under the worst possible conditions: a sandstorm in the darkness. Instead of being able to move 120 feet per round (in small scale) or 12 miles in eight hours (in large scale), he is limited to one-eighth of that speed if he wants to move with the greatest degree of safety. Thus, he can travel 15 feet per round or 1½ miles in eight hours under these conditions. If he desires, he can accelerate to twice that speed — but he then must make a Dexterity Check to avoid a painful encounter with the cactus that lies a few paces ahead directly in his path.

For more information on the effects of environmental conditions on visibility, see the section on Vision and Visibility.

SWIMMING

Only characters with proficiency in swimming (see the section on Wilderness Proficiencies) have the ability to propel themselves through the water without the aid of magic or some sort of flotation device. However, nonproficient characters do not simply sink like a stone if they find themselves immersed in a deep body of water. This section of rules covers swimming (for those who can swim) and treading water (for swimmers and non-swimmers).

The skill of swimming is composed of three sub-skills: *endurance* (how long a character can keep swimming), *speed* (how fast he can move through the water), and *diving* (how rapidly he can move downward through the water). The physical attributes of a swimmer may have an effect on how well he can perform these functions, but the most important factor — and one that applies to any swimmer — is his degree of encumbrance.

Table 24: EFFECTS OF ENCUMBRANCE ON SWIMMING

Enc.	Endurance	Speed	Diving	Surfacing
None	×2	×2	×1	×2
Light	×1	×1	×1	×1
Moderate	×½	×½	×2	×½
Heavy	×¼	×¼	×3	×¼
Severe	—	—	×3	—

The entries on this table represent the increase or decrease in a character's ability to perform the listed functions under certain degrees of encumbrance. An entry of "—" means that it is impossible for the character to perform the function; in other words, a severely encumbered character cannot swim — he will sink in any body of water deeper than his height, and will not be able to surface under his own power unless he gets rid of at least some of his encumbrance before he drowns.

Endurance

A character's base swimming endurance, in number of turns, is equal to his total of experience levels (counting all classes for a multiclassed character or a character with two classes) plus his constitution score. This is the length of time he can continue to swim before being forced to stop. When a swimmer reaches his endurance limit, he must stop and rest by getting out of the water or, if he is in calm water, by finding a place where he can stand in water that is not over his head. He regains three turns of endurance for every turn spent resting. The same rate applies if a swimmer stops before using up all of his endurance.

A character can swim at high speed, doubling his normal movement rate, but by doing so he reduces his endurance to 1/10 of its normal amount (rounded up). After using up some or all of his endurance on a high-speed swim, the character must get out of the water to rest, and any normal endurance points that were lost because of swimming at high speed are only regained on a one-for-one basis — one turn of endurance for one turn of rest.

Example: A 6th-level thief with a constitution of 12 has a swimming endurance of 18 turns when lightly encumbered. He plunges into the water and takes off at normal speed for 8 turns, leaving him with 10 turns of endurance left. At this point he decides to swim at high speed, and can maintain this speed for 1 more turn (1/10 of 10). Now he must rest; he climbs out of the water and sprawls out on shore. After 3 turns of rest he has regained the 8 turns' worth of endurance he lost while swimming at normal speed. In order to regain the other 10 and get back to full endurance, he must rest for another 10 turns (1 turn for every endurance point used up swimming at high speed). If he re-enters the water any sooner, his endurance will be less than its maximum and his ability to swim farther will be hampered accordingly.

Speed

The base swimming movement rate for humans is 4″ (40 feet per round); for other player-character races and land-based humanoids, it is 3″. (Of course, a specific swimming rate listed in the statistics for any monster or humanoid supersedes the rate given here.) This rate represents the character's swimming speed on the surface of the water; for a swimmer moving beneath the surface of the water, the rate is reduced to 2/3 of the given amount (rounded up). The base rate may be modified by one or more of the following factors:

	Modifier
Strength 16 or 17	+1″
Strength 18	+2″
Strength 18/01 or higher	+3″
Swimming with light current	+1″ to +3″
Swimming against light current	−1″ to −3″
Swimming with strong current	+4″ to +6″
Swimming against strong current	−4″ to −6″

A modified movement rate of 0″ means that the character cannot move forward in or through the body of water in question, and must exert himself (using up endurance) simply to maintain his present location. A modified rate of less than 0″ means that the character is at the mercy of the current, and even if he tries to swim against it he will be propelled in the opposite direction at a rate of 1″ to 3″, depending on the strength of the current.

The strength of the current is determinable only by the Dungeon Master, depending on the characteristics of the body of water in question. The speed of the current in a gently flowing river is probably no more than 1″ or 2″, while the current in a rushing mountain stream is certainly in the 5″ to 6″ range.

As described above in the text on endurance, a character may elect to swim at high speed, which doubles his movement rate at the expense of a severe penalty in endurance. (It is not possible to swim at high speed beneath the surface; this option applies only to characters swimming on the surface.) However, this increase in speed is halved in any water conditions where the character would have a movement rate of 0″ or less at normal speed. For instance, a character with a base movement rate of 4″ trying to swim against a current of 4″ has an effective movement rate of 0″; the best he can do under normal exertion is to stay in one place. If he decides to swim at high speed, he can move forward at a rate of 2″ (half of the normal bonus) under these conditions.

Other Effects of Moving Water

A shallow river or stream in which the water is moving rapidly can harm characters by buffeting them against rocks and other protrusions in the water. As outlined in the *Dungeoneer's Survival Guide*, the Dungeon Master should attach a rating of from 1 to 10 to a shallow, rapidly coursing stream or river, with 1 being the most hazardous. This number represents the amount of time, in rounds, that a swimmer can traverse the water before needing to make a Proficiency Check; in a stream with a rating of 1, a check must be made every round, and in a stream with a rating of 5, a check must be made on the first round, the sixth round, and every fifth round thereafter. Failure on this check indicates that the swimmer has been thrown against the rocks, suffering 1d6 points of damage. A character without swimming proficiency is virtually helpless in similar circumstances, and will suffer 1d3 points of damage every round that he remains in the water.

Any character can halt his movement through rough water by grabbing onto a handy protrusion (a big rock, an overhanging tree limb, etc.), assuming that such protrusions are available and within reach. This tactic succeeds if the character makes a successful Dexterity Check; a new attempt can be made every round if desired. After catching onto something, the character must make a successful Strength Check once every two rounds to remain attached; failure indicates that he has lost his grip and is again being swept downstream.

Very often, a stretch of rough water culminates in a waterfall. If a character is carried over a waterfall that is 40 feet or more in height, he will suffer falling damage equal to one-half of the amount that would be taken in a normal free fall. However, a saving throw versus breath weapon is allowed. If this saving throw succeeds and the fall covers a distance of at least 40 feet but not more than 100 feet, the character takes no damage; if the save succeeds and the fall is greater than 100 feet, the character takes one-tenth of normal falling damage (rounded up). No falling damage is suffered by a character who is carried over a waterfall that is less than 40 feet high; in such a case, the fall is treated as a normal dive (see the following text). Of course, these guidelines assume that the base of the waterfall does not contain rocks or other obstructions. If a plunge over a waterfall sends a character crashing into rocks, falling damage is assessed as for a fall through the air.

Diving and Surfacing

The basic movement rate for a character attempting to swim downward through the water is 2″, or 20 feet per round. This figure is doubled for moderately encumbered characters and tripled for heavily or severely encumbered characters. In addition, the depth attainable on the first round of a dive can be increased if the character leaps into the water from a point above the surface of the water, as follows:

Height of Leap	Extra Depth
At least 5 feet	1″
At least 15 feet	2″
At least 25 feet	3″
At least 35 feet	4″
At least 40 feet*	5″

* — If a character leaps into the water from more than 40 feet above the surface, the extra depth attainable on the first round of the dive does not increase beyond 5″ regardless of the height involved. In addition, a character making a dive from 40 feet or any greater height may suffer falling damage as described above in the text about being carried over a waterfall.



Note that the diving bonuses for leaping into the water are not cumulative with the depth increases for moderately, heavily, and severely encumbered characters. The extra depth is added to the dive after encumbrance is taken into account; thus, a moderately encumbered character diving from 15 feet will travel 6″ down into the water — 4″ for the normal rate doubled, plus 2″ for the height of the leap.

The base surfacing rate, like the diving rate, is 2″ (doubled for a character who is not encumbered, reduced for a character who is moderately or heavily encumbered). To be able to travel upward at this rate, the swimmer must be actively working to get himself to the surface. Otherwise, the natural buoyancy of a character's body will bring him to the surface at ½″, or 5 feet per round (modified for encumbrance), if he is inert.

It is possible for a character to purposely encumber himself with items that can be easily gotten rid of, so that he can make a deep dive and then return quickly to the surface after divesting himself of the extra weight.

Treading Water

A character with swimming proficiency who is afloat in calm water can remain in one place, by treading water, for a number of turns equal to twice his endurance score. In other words, he uses up one endurance point for every two turns spent treading water.

A character without proficiency in swimming can safely tread water for a number of rounds equal to his strength score. This time limit is modified for encumbrance in the same way that a swimmer's endurance is modified. When the time limit expires, and at the expiration of every round thereafter, the character must make a Strength Check to remain afloat. Every check after the first one is made with a cumulative +1 modifier to the die roll. For instance, a character with a strength of 6 who is not encumbered can tread water for at least 12 rounds. At the end of the 12th round, he must make a Strength Check (unmodified) to stay above the water for another turn. At the end of the 13th round, the check is made with a +1 modifier to the die roll; at the end of the 14th round, the modifier is +2, and so on.

A character who is treading water in a current has no control over his movement through the water; he will be carried in the direction of the current at a rate equal to the speed of the current (modified for the character's encumbrance, just as for swimming movement). A character with swimming proficiency can prevent himself from moving with the current and maintain the same position in the water, but then he is effectively swimming, not treading water, and endurance is assessed accordingly. A character without swimming proficiency cannot prevent himself from being carried along by the current; if he attempts to do so, he will begin to sink immediately.

Holding One's Breath

The base amount of time that a character can hold his breath underwater is a number of rounds equal to ⅓ of his constitution score (rounded up). This assumes that the character has a chance to take a deep breath before submerging and does not perform any strenuous physical activity while he is underwater. Normal movement (underwater swimming, diving, or surfacing) is allowed; so are activities such as opening a locked chest, searching for a secret passage, or casting a spell (if being underwater does not prohibit the casting to begin with).

If the character did not have a chance to fill his lungs with air before going under, the time he can hold his breath is cut in half (rounded up). If he engages in strenuous activity (such as combat), the time is also cut in half. These penalties are cumulative with each other, so that a character who is abruptly dumped into the water and then forced to fight can only hold his breath for one-fourth as long as he could under more favorable circumstances. Any character is able to hold his breath for at least one round, regardless of the effect of these penalties.

When the time limit for holding one's breath expires, the character does not automatically expire as well. He can stay alive as long as he makes a successful Constitution Check once per round; each check after the first is made with a cumulative +2 modifier to the die roll. For example, a character with a constitution of 12 can hold his breath underwater for 4 rounds under the most favorable circumstances. After 4 rounds, he has run out of air but can still survive. If he makes a Constitution Check at the end of the 5th round, he is alive and can still be pulled to the surface. At the end of the 6th round, the check is made with a +2 modifier to the die roll; at the end of the 7th round, the modifier is +4, and so on.

A character who has not run out of air can get to the surface either by swimming (if he has proficiency) or by remaining still and allowing his body's natural buoyancy to carry him upward (the only way that a non-swimmer can surface). Such a character is in control of his faculties and is able (for instance) to divest himself of extra weight to bring himself to the surface more quickly. When a character runs out of air, he is unconscious and cannot move under his own power. To survive, he must be pulled or otherwise moved up to the surface before he fails a Constitution Check.

Holding One's Breath When Not Underwater

If a character wants to hold his breath when he is not underwater, the formula given above is used, but one round is added to the time limit. The penalties for being unprepared and for engaging in strenuous activity are applied after the one round of time is added, not before.

Note that a character cannot escape the effects of a poisonous gas or some other noxious substance (such as the odor of a troglodyte) unless he holds his breath before he is affected. A small amount of poisonous gas is just as harmful as an extended dose, so a character who holds his breath after ingesting some of the vapors isn't doing himself any favors.



MOVEMENT IN WATERBORNE VEHICLES

Small-scale and large-scale movement of waterborne vehicles is treated in detail in the *Dungeon Masters Guide* (pages 53, 54, and 58) and the *Dungeoneer's Survival Guide* (pages 43-48). The information here is derived from those sources, and in some cases has been expanded or modified to take into consideration special aspects of the wilderness environment.

How to Use the Waterborne Vehicle Characteristics Table

Length and *width* are given as ranges of numbers, expressed in feet.

Capacity represents the number of adult human-sized characters the craft can comfortably (or customarily does) carry, plus an amount of encumbrance value, expressed in gold pieces, that can be cargo or (if space permits) extra passengers. The second figure is for a vessel of average dimensions, and can be adjusted slightly up or down for larger or smaller craft. These figures assume that passengers are distributed evenly in or on the vessel; obviously, a rowboat that is loaded too heavily on one side or the other will capsize fairly easily, even if it is not carrying its limit.

Hull Value gives the range within which the hull value of the craft will fall. The Dungeon Master may either assign a value based on what he knows about the construction of the craft, or he may randomly generate a number within the appropriate range. This hull value number is used to determine how much damage a vessel can take before it is unable to stay above the water, as described in the *Dungeon Masters Guide*.

Draught is the number of feet of water the vessel needs in order to be able to operate. If a craft is operated in water that is the same depth as its draught figure, there may be a chance (at the Dungeon Master's discretion) for it to suffer hull damage, particularly if the vehicle is one of the less sturdy types — a kayak or a coracle, for instance.

The preceding table, and the text that follows, do not take into consideration the heavier types of waterborne craft, since these rules are limited only to vessels that are normally found on inland waterways (primarily lakes and rivers). Galleys, merchant ships, and warships are seagoing vessels, and as such are not included in the scope of these rules.

Modifications to Movement

The movement figures given on the table above are only base numbers, and are greatly subject to change depending on the characteristics of the body of water being traversed, the direction and strength of the wind, and the number and physical condition of the characters providing the propulsion. In addition, all of the given movement rates and the modifiers in this section of text assume the presence on board of at least one character with proficiency in boating. If such a character is not present, see the text on the next page for additional factors that apply.

If the water is moving, a vessel will drift with the current at that speed. If the craft is being sailed or rowed at the same time that it is moving downstream, the movement rate for normal sail or normal oar should be added to the speed of the current to determine the vessel's actual movement rate. Of course, the converse applies if the craft is being moved against the current — the speed of the water is deducted from the given movement rate, and it may be necessary to move the craft at maximum sail or maximum oar to make any headway against the current.

The movement rates for normal sail assume that the craft is being moved in the direction of the wind, and that the wind is blowing between 20 and 30 miles per hour. Subtract 1" (one mile per half-day or 10 feet per round) for each 10 miles per hour of wind speed less than 20, and add 2" for each 10 miles per hour greater than 30. For the possible adverse effects of very strong winds upon waterborne vessels, see the text below on capsized vessels. A vessel cannot be successfully sailed if the wind is less than 5 miles per hour.

The rate for maximum sail applies if a vessel is moving at right

ed of four numbers, representing large-
umber of miles per half-day, or eight
travel under (in this order) normal sail,
r (or paddle), and maximum oar. The fig-
e relatively low because this accelerated
naintained for short periods of time (see
n in mileage over an extended period of

ains four entries, representing the num-
t the craft can be propelled in a small-
on (combat, tight maneuvering, etc.)
um sail, normal oar, and maximum oar.

n gold pieces, of possible encumbrance
question. A vessel that is relatively short
others of its type will have a smaller en-
e whose dimensions reach or approach
is mainly used for determining whether
s can portage a canoe, rowboat, etc.,
n one body of water to another.

numbers showing how long, in rounds,
oving from a standstill to normal speed
imum speed (the second number).

IE VEHICLE CHARACTERISTICS

th	Width	Capacity	Large Move	Small Move	Enc. Value	Startup	Hull Value	Draught
2	2-3	1 + 1000	18/24/12/14	160/200/120/180	600-800	1-2	1-2	1/4
5	2-3	2 + 2500	20/30/10/12	160/200/120/180	700-900	1-2	1-2	1/4
2	2-4	2 + 2000	16/24/12/14	120/180/ 90/120	700-1000	1-3	1-3	1/2
5	3-5	2 + 2000	12/18/ 6/8	45/ 60/ 30/ 45	900-1200	1-3	1-2	1/2
0	2-3	2 + 4000	20/30/10/12	120/180/ 90/120	1000-1200	1-3	2-3	1/3
0	3-4	4 + 4000	16/24/ 8/10	45/ 90/ 45/ 60	1200-1600	2-5	2-4	3/4
0	8-12	4 + 6000	16/24/ 8/ 9	45/ 60/ 30/ 45	4000-6000	2-6	1-6	3/4
5	12-20	6 + 7500	8/16/ 4/ 5	30/ 60/ 20/ 30	10000 +	5-10	2-8	1

sume that cargo and pas
the vessel; obviously, a r
side or the other will caps
its limit.

Large Move is compos
scale movement: the n
hours, that the craft can
maximum sail, normal oa
ures for maximum oar ar
movement can only be n
below), and thus the gai
time is relatively small.

Small Move also conta
ber of feet per round tha
scale movement situati
under normal sail, maxim

Enc. Value is a range, i
values for the vehicle in
and narrow compared to
cumbrance value than or
the maximum. The figure
a character or characte
over short distances fro

Startup consists of two
it takes to get the craft m
(the first number) or max

Table 25: WATERBORN

Vehicle	Leng
Kayak	8-1
Small canoe	10-1
Small rowboat	8-1
Coracle	10-1
Large canoe	15-2
Large rowboat	15-2
Small barge	15-2
Large barge	25-4

angles to the wind, with modifiers as above for wind speeds of less than 20 or greater than 30 miles per hour.

A vessel being sailed into the wind has its normal sail rate reduced by 3″ for each 10 miles per hour of wind speed, to a minimum of 1″ (1 mile per eight hours or 10 feet per round) in any case.

Traveling at the maximum oar rate is considered extremely strenuous activity for any character engaged in propelling the craft: such a character must rest (or simply row at the normal rate) for one turn after two turns such effort, or he runs the risk of becoming fatigued and subsequently exhausted. An oarsman or paddler who becomes fatigued can only propel his craft at half normal speed until his condition is alleviated. If he is forced to continue rowing at normal speed (for instance, if other rowers are not fatigued and insist on keeping up a normal pace), he will automatically become exhausted after one turn of such activity.

It is possible for a craft to be rowed or paddled by fewer than the number of characters listed under the vessel's capacity figure, but if the number of oarsmen is less than the given number, the vessel can only be moved at a proportionate fraction of its movement rate. For instance, if three people row a large rowboat, the vessel can only travel 6 miles in eight hours at the normal oar rate, or 45 feet per round in short-range movement under the maximum oar rate.

Capsizing and Damage to Craft

To some degree, waterborne vehicles and their passengers are at the mercy of the elements. Most vessels have a chance of capsizing (turning over, and perhaps sinking) if the wind is strong or the water is rough, and violent weather can cause damage to masts and sails if the vessel is rigged for sailing.

Table 26: CHANCE OF CAPSIZING

	Wind/Water Conditions			
	Mild	Moderate	Dangerous	Severe
Kayak	25%	40%	60%	80%
Small canoe	20%	35%	50%	75%
Small rowboat	5%	15%	30%	50%
Coracle	10%	20%	30%	50%
Large canoe	10%	20%	30%	40%
Large rowboat	0%	10%	25%	40%
Small barge	0%	5%	10%	20%
Large barge	0%	0%	5%	10%

The chance of capsizing is checked whenever a character enters or leaves a boat, when someone moves abruptly from one spot to another in or on the craft, and at any other time when the Dungeon Master deems such a check appropriate. The rates given on the table are for vessels with no sails, or those on which the sails are furled (rolled up and tied to the mast). If the vessel is being operated under sail, the chance of capsizing is 20% greater in all cases where the base chance is greater than 0%.

Mild conditions prevail when the wind velocity is light (15 miles per hour or less) and the surface of the water is calm or moving only slightly (current of 3″ or less).

Moderate conditions exist when the wind is blowing at 16 to 30 miles per hour or the water is running fairly fast (current faster than 3″, up to 6″).

Dangerous conditions occur when the wind is blowing at 31 to 50 miles per hour or the water is running very fast (current faster than 6″, up to 9″).

Severe conditions exist when the wind is blowing at more than 50 miles per hour or the current is 9″ or greater.

As with the movement figures given above, all of these figures assume the presence on board of at least one character with proficiency in boating/sailing.

Strong winds can damage sails, rigging, or the mast on a vessel so equipped (assuming, of course, that the mast is raised and has not been taken down). Damage can occur whenever the wind velocity is 40 miles per hour or greater, on a percentage chance equal to the velocity of the wind. This chance is modified downward by 30% if the mast is raised but the sail is furled (not in use). If the mast is not securely rigged, or if it is made of relatively weak material, the Dungeon Master should adjust the chance of damage upward to account for these deficiencies. This check should be made once per hour or as often as the Dungeon Master deems appropriate; again, checks could conceivably be made more frequently if the mast is poorly rigged or made of substandard material.

The Boating Proficiency

More specifically, this section of text deals primarily with the effects of *not* having a character with boating proficiency aboard. In a vessel containing no proficient characters, or one in which at least one non-proficient character is doing some of the work of rowing or sailing, the following penalties apply:

The movement rates of a kayak, a small canoe, and a coracle are reduced to 1/2 of normal; the movement rates of a small rowboat, a large canoe, a large rowboat, and a small barge are reduced to 2/3 of normal; and the movement rate of a large barge is reduced to 3/4 of normal. This reduction is applied before any other alterations (for wind speed and current speed) are taken into account.

The chance of capsizing is increased by 25% in any situation where the chance is normally greater than 0%, to a maximum of 100%.

If more than one character aboard a vessel has proficiency in boating/sailing, these benefits apply:

The chance of capsizing is reduced by 20% for each proficient character after the first one.

The chance of damage to the mast or sails is reduced by 20%, assuming the proficient characters have some means of making the rigging secure or bracing the mast so that it will better withstand the stress.

If all of the characters helping to row or sail a vessel have proficiency in boating, the movement penalties given above do not apply, and movement rates are as given on the table at the beginning of this section. Two characters are required to sail a large rowboat, a small barge, or a large barge; all other vessels can be sailed by one character.

Portaging

It is not unusual for areas of the wilderness to be dotted with small lakes or streams separated from one another by short expanses of land. Characters may find it desirable or necessary to portage their vessels (carry them overland) from one body of water to another rather than leave them behind.

As with all encumbrance values, the ones given above for watercraft account for the bulkiness of the vessel as well as its actual weight. If a character is able to support the listed amount without becoming severely encumbered, and if the vessel is smaller than a large rowboat, he can portage the vessel by him-

self. Severely encumbered characters cannot portage, or help to portage, a vessel. A large rowboat or a small barge requires at least two characters to share its encumbrance, and a large barge must be portaged by at least four characters. No vessel can be portaged by more than twice the minimum number needed to carry it. In other words, a third character is of no use in an attempt to portage a small canoe; despite his presence, the canoe must be able to be carried by the other two characters, or it cannot be portaged.

Any character portaging or helping to portage a vessel can move no faster than 3″ (3 miles in eight hours, or 30 feet per round), regardless of terrain or his overall encumbrance status.

Use of a Capsized Vessel

Because of the natural buoyancy of the materials from which they are made, most vessels can remain "afloat" just beneath the surface of the water even after they are capsized or after they have suffered hull damage. However, this is true only of vessels that are carrying no passengers and not more than 10% of their listed maximum cargo capacity. For example, if characters in a small rowboat that is foundering can get out of it and toss overboard all but 200 gp worth of their cargo or gear, the craft will sink to slightly beneath the surface of the water and remain there. It is then possible for characters to cling to the sides of the craft and use it as a flotation device, as long as their weight is evenly distributed. A capsized craft will support a number of characters equal to twice its normal capacity; that is, up to eight characters can cluster around the sides of a large rowboat and use it to keep from going under themselves. If this weight limit is exceeded, or if the weight is not evenly distributed, the craft will sink too far below the surface to be usable in this fashion.



FLYING MOUNTS

Using a flying mount changes the way a character looks at things, in more ways than one. Terrain becomes scenery. Standing water is just that — it stands there, and you cross it without getting wet. The concept of "long distance" takes on a whole new meaning — you can cover dozens of miles in a day, and your new boots will be just as new at sunset as they were at sunrise.

Those are some of the good things. But, as all adventurers know, every gold piece has two sides. For a character astride a flying mount, there is no place to hide from a flock of arrows, a barrage of hailstones, or a bolt of lightning. If the beast gets upset and flies off the handle, so to speak, all you can do is go along for the ride. Falling out of the saddle produces a lot more than momentary discomfort when the saddle is several hundred feet above the ground.

Despite the disquieting aspects of doing so, many characters will prefer to ride flying mounts on a cross-country journey, when they can obtain them. And, indeed, a large variety of eligible creatures exist in most campaigns — but creatures that have been *trained* for use as mounts may not be at all easy to locate, and they will not come cheap. A creature that has not been trained and is not cooperative can still be ridden, but (in the absence of any magical assistance) the rider will be completely at the mercy of the beast; the creature will go where it wants to go and will not voluntarily allow the rider to remain on its back.

Table 27: CHARACTERISTICS OF FLYING MOUNTS

Category A: Dragons and Dragonlike Creatures

	Normal Load	Maximum Load	Move Rate	MC	Stamina
Black Dragon	9000	18000	24/12	E	24/6
Blue Dragon	15000	30000	24/12	E	27/6
Brass Dragon	9000	18000	24/12	E	24/6
Bronze Dragon	15000	30000	24/12	E	27/6
Celestial Dragon	5000	10000	48/24	E	12/6
Cloud Dragon*	18000	36000	39/18	E	30/6
Coiled Dragon	3000	4500	12/6	E	9/3
Copper Dragon	12000	24000	24/12	E	24/6
Dracolisk	3000	5000	15/6	E	2/1
Dragonne	1500	—	9/0	E	2/1
Dragonnel	6000	10000	18/9	D	12/3
Earth Dragon	2000	3000	24/12	E	9/3
Gold Dragon	21000	42000	30/15	E	30/6
Green Dragon	12000	18000	24/12	E	24/6
Mist Dragon*	18000	36000	33/15	E	30/6
Red Dragon	18000	36000	24/12	E	30/6
Silver Dragon	18000	36000	24/12	E	30/6
Spirit Dragon	4000	6500	12/6	E	9/3
White Dragon	6000	12000	30/15	E	18/6
Wyvern	10000	20000	24/12	E	18/6

* — Can only be ridden when in solid form.

Category B: Birds and Birdlike Creatures

	Normal Load	Maximum Load	Move Rate	MC	Stamina
Boobrie	1000	1500	15/9	E	3/3
Eagle, Giant	1000	1500	48/18	E	9/3
Pteranodon	1500	—	15/0	D	2/1
Pterosaur, Giant	2000	—	12/0	E	3/1
Roc	50000	100000	30/15	E	30/6
Vulture, Giant	1000	1500	24/12	E	3/2

Category C: Winged Mammalian Creatures

	Normal Load	Maximum Load	Move Rate	MC	Stamina
Chimera	4500	—	18/0	E	12/3
Griffon	5500	8000	30/15	D	18/6
Gorgimera	5000	—	15/0	E	9/3
Hippogriff	4000	6000	36/18	D	15/3
Manticore	3000	—	18/0	E	6/3
Opinicus	1000	1500	30/15	C	3/1
Pegasus	4000	6500	48/24	D	12/3

Category D: Other Fantastic Creatures

	Normal Load	Maximum Load	Move Rate	MC	Stamina
Aarakocra	1500	—	36/0	D	3/2
Androsphinx	7500	9500	30/15	E	18/6
Criosphinx	7000	9000	24/12	E	15/6
Dragon Horse	3000	5000	48/24	C	12/3
Gynosphinx	5000	8000	24/12	E	15/6
Hieracosphinx	7000	8500	36/18	E	18/6
Mantis, Giant	2000	3000	12/6	E	6/3
Yeth Hound	2000	3000	27/12	C	9/3

Normal load is the amount of encumbrance value, in gold pieces, that a creature can carry and still be able to fly at its full normal movement rate.

Maximum load is the greatest amount of encumbrance value that a creature can carry while aloft. Any mount that is asked to carry more than this amount will be unable or unwilling to leave the ground, or (if it's already in the air) will immediately plummet toward the nearest landing spot. An entry of "—" indicates that the creature's normal load is also its maximum load.

Move rate gives two values in most cases. The number to the left of the slash is the creature's full normal flying movement rate in miles per half-day. The number to the right of the slash is the creature's reduced movement rate, which goes into effect whenever it is burdened with more than a normal load of encumbrance. An entry of "0" to the right of the slash indicates that the creature has only one movement rate, which always applies as long as it is able and willing to fly.

MC is the creature's maneuverability class when it is carrying a rider or any amount of equipment. This is always one class lower (B to C, C to D, etc.) than the creature's natural maneuverability class, except for beasts that have a natural maneuverability class of E (which cannot be reduced any further).

Stamina consists of two values. The number to the left of the slash is the number of consecutive turns that the creature can safely remain aloft while carrying a normal load. If a mount is carrying more than a normal load, its safe flying time is reduced by one turn or one-third of its normal stamina rating, whichever is greater. (Obviously, this does not apply to creatures that do not have a maximum load rating; they cannot fly at all if their normal load amount is exceeded.) The number to the right of the slash is the number of turns that the creature must rest between flights to retain its full strength and carrying capacity. For details on what happens when a flying mount is kept aloft longer than its safe flying time, see the section on Fatigue and Exhaustion.

The mounts listed on the preceding table include flying creatures from the *Monster Manual*, FIEND FOLIO® Tome, and *Mon-*

ster Manual II that meet these requirements: (1) native to, or normally found on, the Prime Material Plane; (2) normally found in a wilderness environment (as opposed to a subterranean one); and (3) size M or L with a physical form that enables the creature to carry passengers or objects through the air. It is possible — within the scope of the game, virtually *anything* is possible — for a character to acquire the possession or the services of a creature not listed that is able and willing to serve as a mode of aerial transportation. In such a case, the Dungeon Master should assign statistics to the creature that reflect its capabilities, using the creature's game description and the figures on this table as guidelines.

When a character is using any type of flying mount, the Dungeon Master should refer to that creature's description (in the appropriate book) to ascertain general facts about the creature's demeanor and behavior, and take the circumstances into account as well. Some creatures, in the right circumstances, might freely offer their services (or at least agree to serve as carriers if they are asked). For other creatures, there may never be any "right circumstances": Just because the table contains an entry for "Gold Dragon," that doesn't mean that the one who lives in the mountains nearby will swoop down, let some characters climb onto its back, and carry them over the peaks — certainly not without a *lot* of compensation, or unless taking them for a ride will benefit the dragon at least as much as it benefits the characters.

If a beast is not *charmed* or otherwise influenced and is being forced to serve as a mount against its will, it may refuse to carry anything more than the rider who is coercing it; it may fly more slowly than its full normal movement rate (except when the instinct for self-preservation takes over); it may insist on being allowed to rest more frequently; or it may be uncooperative or less useful in some other fashion. For a character to receive the full benefit of a flying mount in terms of carrying capacity, movement rate, maneuverability, and stamina, the creature should be willing to serve — even if that willingness is temporary and artificially induced. Of course, this is true of any animal, whether it can fly or not, but willingness is an especially important quality in a mount that does its work several dozen or several hundred feet above ground level.

A flying mount is no different from a horse, a mule, or a camel in one important respect: It must be well fed to perform at its best. Most flying mounts need to consume at least triple rations of food and water each day (compared to what a human needs), and the larger ones have correspondingly larger appetites — perhaps as much as fifty rations per day for one of the biggest dragon types. Some flying creatures have unusual dietary needs (such as the manticore's instinctive preference for human flesh), which can make them untenable or even dangerous to employ. Any mount with a very large or very specialized appetite will probably have to be allowed to hunt and forage on its own to satisfy its needs. Of course, the mount may have to be accompanied (*i.e.*, ridden) while it hunts to make sure it doesn't fly the coop, and this may expose the rider(s) to danger from falling or the threat of damage from combat when the mount attacks its prey.

The figures for carrying capacity in the preceding table assume that the animal is outfitted with the equivalent of a saddle, saddlebags, and other devices and containers that will comfortably hold the load it is being asked to carry (and which, of course, all contribute to the encumbrance value of its load). Although the Dungeon Master is free to rule as he pleases on this subject, a flying mount will rarely be able or willing to carry equipment or cargo that is not contained in something; you can't simply tie a treasure chest on the back of a dragon and expect it to carry the chest without (at least) a reduction in its movement rate. Ideally, the load being carried by a creature should be distributed evenly in containers on both sides of its body so that the mount can retain its balance and its full movement ability when aloft. If a character fails to do this, the Dungeon Master should compensate by increasing the encumbrance value of the item(s) being carried. As a general rule, the encumbrance value of a load carried by a flying mount increases according to the proportion of weight carried on the side of its body that is more heavily loaded: the encumbrance value of the entire load is doubled if the weight carried on one side is twice as great as the weight on the other side, and so forth.

To Fall or Not to Fall

A character always has a chance of falling from the back of an airborne mount unless he is securely fastened to the creature. This chance is increased if he is sitting in a saddle (or some other kind of seat) without being actually attached to the creature, and it is further increased for a character who is riding without a saddle or some means of retaining his hold on the mount.

The base chance of a character falling from his mount is 0%. This assumes that the mount is giving its rider(s) a smooth and level flight at its full normal movement rate. The base chance is modified by any of the following factors that apply:

- −200% Rider's entire body (upper and lower) securely strapped onto mount.
- −150% Rider's lower body only securely strapped onto mount.
- −50% Rider has proficiency in airborne riding (in the appropriate category).
- −10% Rider using saddle.
- −10% Saddle equipped with stirrups.
- −02% per each point of rider's dexterity above 12, and rider's strength above 12 (considering 18 as maximum strength).
- +50% Rider not strapped onto mount and not holding on (hands are free or carrying something).
- +20% Mount is carrying more than its normal load limit.
- +20% Mount is moving faster than full normal movement rate (diving, dodging, performing combat maneuvers, etc.)
- +20% Mount's demeanor is unwilling or rebellious, and the creature is not *charmed*, subdued, or similarly influenced.
- +20% Inclement weather (sandstorm, heavy precipitation, or worse).
- +10% Mount is not flying level (making sharp turns, loops, etc.).
- +02% per each point of rider's dexterity below 12, and rider's strength below 12.
- +01% per mph of wind velocity greater than 30.

A character's chance of falling is checked at least once every three turns while he and the mount are airborne, beginning the count anew each time the mount lands and takes off. Again, this assumes that the flight is smooth and normal in all respects. If the weather is bad, or the mount is very uncooperative, or if it is abruptly changing direction and speed (such as in a a combat or evasion situation), a check may be called for much more frequently — perhaps as often as once per round while the unusual conditions persist.

Proficiency in Airborne Riding

The section on Wilderness Proficiencies describes special feats that a character with proficiency in airborne riding can perform. If a nonproficient character attempts any of these feats, he will automatically fail and suffer the appropriate consequences.

When a player chooses proficiency in airborne riding for his character, he must specify the category of mount (from the preceding table) to which the skill pertains. A character cannot be proficient in riding both a dragon and a griffon, for instance, without using two proficiency slots.

As noted earlier, a character with proficiency in airborne riding also enjoys a −50% modifier to his chance of falling. This effectively negates the +50% modifier for riding without holding on, so that under normal conditions a proficient character can ride safely with both hands free. (See airborne riding skill number 3 in the section on Wilderness Proficiencies.)

This proficiency does not impart any special ability to control or cajole an unwilling or uncooperative mount. What it does impart is the ability to ride with a greater degree of safety from falling and the ability to perform certain special feats under ideal (*i.e.*, not perilous) conditions.



FOOD AND WATER

A fighter cannot die as the direct result of having no weapon; a cleric can survive without his holy symbol; and no magic-user ever expired because he dropped his spell book into a bottomless pit. But no character can live for more than a fairly short time without food and water.

Fortunately, food is easy to come by in most types of climate and terrain. Virtually any normal animal is edible (although some of them are not particularly tasty, to put it mildly), and most normal plants can be ingested and digested without harm — but poisonous types do exist, and care should always be taken to prevent illness or death from eating greenery that isn't good for you.

In contrast, the availability of drinkable water varies greatly depending upon the terrain and climate. In some places, water can be located only after spending a lot of time and effort — if it can be found at all. In other areas, water is so abundant that characters tend to start thinking of it as a nuisance rather than a necessity.

In these rules, "food" is considered to be any solid or semi-solid substance that can be taken into the mouth and swallowed without harmful effects, and which provides nourishment to the body. A poison plant is not food; neither, obviously, is a handful of sand. Different substances do, in fact, have different properties as far as nutrition is concerned, but the rules about going without food include no distinctions regarding relative food value; to a character in dire straits, a handful of leaves is effectively just as beneficial as a handful of meat to keep him from starving.

"Water" is any liquid that can be swallowed without harmful effects. Any drinkable liquid that is not pure water (milk, wine, broth, etc.) has water as its main ingredient and provides the same benefit to a character in need of liquid nourishment.

Going Without Food

If a character has an adequate supply of drinking water, he will suffer no ill effects from going without solid nourishment for a number of days, referred to hereafter as his *tolerance level*. This number varies for different characters as follows:

Table 28: TOLERANCE LEVELS FOR LACK OF FOOD

Combined Strength and Constitution	Tolerance Level
15 or less	4 days
16 to 19	5 days
20 to 24	6 days
25 to 30	7 days
31 to 35	8 days
36 or more	10 days

When a character exceeds his tolerance level, he must make a successful Strength Check or Constitution Check (using whichever score is higher) once every 12 hours to remain unaffected by the lack of nourishment. Every check after the first one is made with a cumulative +1 modifier on the die roll — +1 on the second check, +2 on the third check, and so on. If a character fails one of these checks, he is *weakened*, and all subsequent checks are made with a cumulative +2 modifier on the die roll. If a character fails a second check, he is *distressed*, and if he fails a third check he becomes *incapacitated* and is in danger of starving to death — perhaps within a matter of hours.

Example: A character with a strength of 12 and a constitution of 14 can go for seven days without eating a meal, as long as he takes an adequate amount of liquid nourishment in the meantime. At the midpoint of the eighth day, he must make a Constitution Check to remain unaffected. By the midpoint of the ninth day, his Constitution Check is made with a +2 modifier to the die roll. If he fails this check (with a roll of 13 or higher), he becomes weakened, and his next Constitution Check at the end of the ninth day is made with a +4 modifier. If he fails this check (with a roll of 11 or higher), he is distressed, and if he fails any subsequent check he becomes incapacitated from lack of food.

A *weakened* character suffers a −1 penalty on all attack rolls and on any saving throws related to dodging or reaction during the first day (or part of a day) that he is in that condition. For as long as he remains weakened, the penalty worsens by −1 per day. If such a character begins to eat at least one full meal per day, his condition improves by two steps per day (a −3 penalty becomes −1 in a single day) until he is recovered.

A *distressed* character continues to incur the penalties for being weakened, and those penalties will continue to worsen if the character does not eat. In addition, he can perform strenuous activity for no more than two turns before needing to make a Constitution Check, and if he fails this check, he becomes automatically exhausted (instead of merely fatigued). If a distressed character receives nourishment *and* makes a successful Constitution Check after the meal, he becomes weakened and then continues to recover thereafter in the same way that a weakened character does.

An *incapacitated* character is, in effect, permanently exhausted. He retains any accumulated penalties from being weakened (or has them worsened to −4 if they were not that low already). He is incapable of performing any voluntary physical activity, and cannot recover from his condition until and unless he takes solid nourishment for at least two consecutive days. If he eats for two days (at least two full meals, spaced one day apart) and immediately thereafter makes a successful Constitution Check or Strength Check (whichever score is higher), he is considered weakened and continues to recover afterward in the same way that a weakened character does. If this check is failed and he continues to eat at least one full meal a day, subsequent daily checks are made at a cumulative −4 modifier to the die roll until one of them succeeds.

An incapacitated character who does not eat within 12 hours of acquiring this condition will begin to lose hit points at the rate of 1d6 per hour thereafter, and will die if his hit-point total reaches zero. He takes an additional −1 penalty on attack rolls and saving throws for each hour that he loses hit points, above and beyond the penalties he had already incurred from lack of food. If he begins to take nourishment while he is still alive, hit points lost from lack of food are regained at the rate of 1d4 per hour and the


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combat and saving-throw penalty mentioned above is lessened by 1 for each hour thereafter until it reaches its normal level (as for a weakened character).

Going Without Water

As a general rule, no character can go without liquid nourishment for more than three days before he begins to suffer adverse effects. This tolerance level is determined by any of the following conditions that apply:

+2 days if food with a high water content is eaten. Standard rations (but not iron rations) have a high water content; so do green plants, raw meat, fruits, and vegetables. Examples of food without high water content are tree bark (yes, it's edible), dried or cooked meat, and bread.

+1 day if the character's body weight is more than 200 pounds, if the character weighs more than the average for his race, or if the character is of average weight and less than average height. (See the Height and Weight Tables on page 102 of the *Dungeon Masters Guide*.)

+1 day if the character is female.

+1 day if the character does not engage in strenuous activity during the entire period in which water is not being consumed. A very short burst of activity (running for a few rounds, making a *bend bars* attempt, etc.) once per day is allowable, but if a character engages in as much as one turn of strenuous activity during a day, this benefit is lost.

−1 day if the effective temperature reaches or exceeds 90 degrees even once during the period in which water is not being consumed. This can happen through exposure to magical heat or fire as well as through natural conditions.

−1 day if the character does not eat at least one meal per day during the period in which water is not being consumed. Food without a high water content is not ideal sustenance at a time like this, but it's better than nothing.

−1 day if the character's strength score or constitution score is less than 8. Those who do not possess at least average strength and hardiness will succumb more quickly to a lack of water.

All of these modifers are cumulative, but in no case can a succession of negative modifiers reduce a character's tolerance level to less than one day.

When a character's tolerance level is exceeded, he becomes *weakened* from lack of water and may later become *distressed* and *incapacitated* if he continues to go without water. These conditions, and the transition from one to another, are as described above in the section on Going Without Food.

If a character goes without food *and* water, his tolerance level for lack of water is used to determine when he becomes *weakened*, and after that time he will become immediately *incapacitated* if he fails another Constitution Check or Strength Check. If a character deprived of all nourishment becomes *incapacitated*, he will lose hit points at the rate of 1d8 per hour beginning 12 hours after the onset of that condition. Additional combat and saving-throw penalties also apply, as described in the preceding text on Going Without Food.

Effects on Animals

Of course, animals in the care of an adventuring party must be fed and watered regularly if they are to survive and do their jobs properly. (For details on how much food and water various animals need to remain in good condition, and their tolerance levels, see the section on Mounts and Beasts of Burden.)

If an animal's tolerance level for lack of food or water is exceeded, it becomes *weakened* with effects as follows: Movement and carrying capacity are both reduced to one-half of normal levels, and if the animal is forced to work hard (move faster than a canter, carry an encumbering load over rugged or very rugged terrain, etc.) for longer than three turns in any single day, it will immediately become *incapacitated* at the end of the third turn of such activity. In any event, regardless of how little activity an animal is forced to undertake, it will become incapacitated if it goes without food or water for a number of days equal to 1½ times its tolerance level (rounded down).

An incapacitated animal can still move under its own power, but it will die if it is forced to expend any appreciable amount of energy (moving any faster than a walk, supporting an encumbering load even while standing still, etc.) for as little as one turn. Even if an incapacitated animal is completely unencumbered and stationary, it will die after being in this condition for one day.

Fortunately, animals can recover rather quickly from food or water deprivation. If a beast is given a full meal or a full ration of water after becoming weakened, it will return to full strength and be ready to travel again after 13-24 hours of rest (1d12 + 12). If it is moved before this time expires, the animal will remain weakened even though it has taken nourishment. If an animal is given a full ration of nourishment after becoming incapacitated, it will be merely weakened if it is allowed to rest for 13-24 hours afterward, and then that condition can be treated as described above.

Minimum Daily Requirement of Food

A human, dwarf, half-orc, or half-elf character needs to consume from one to two pounds of solid nourishment every day in order to maintain full strength and vitality. An elf needs three-fourths of a human-sized ration, while a gnome or a halfling can get along on half the amount of food that a human needs.

The variability in this weight requirement accounts for the fact that some foodstuffs have more mass than others, and some edible substances are relatively more nourishing than others. As an illustration of this point, consider a prominent example from the game rules: A pack of standard rations, designed to feed one human for one week, has an encumbrance value of 200 gp. Assume that the actual weight of the package is 14 pounds (140 gp), and the other 60 gp of its encumbrance value accounts for its bulkiness. Thus, the minimum daily requirement of standard rations is two pounds. Compare this with a pack of iron rations, having an encumbrance value of 75 gp. Of this amount, perhaps as little as 5 gp accounts for the bulk of the package (since the food is more concentrated and occupies much less space). The other 70 gp, or 7 pounds, is the actual weight of the package, and therefore the minimum daily requirement of iron rations is one pound.

In general, meat and other foodstuffs containing animal protein are more nourishing than fruits, vegetables, and greenery, so that one pound of meat will provide the same degree of sustenance as two pounds of vegetables. When determining whether characters are maintaining a proper intake of food, the Dungeon Master should consider what they consume as well as how much they eat.

A character should eat at least twice a day — one meal after a night's rest and before undertaking any strenuous activity, and another meal at the end of a day of work and/or travel. For any character who misses a meal, the DM may see fit to assign a small but appropriate penalty (−1 "to hit," +1 modifier on Strength Checks or Constitution Checks) to apply from the time the meal should have been eaten until the next time the character takes nourishment. A character with below-average strength or constitution is especially susceptible to this temporary weakness caused by failing to maintain a consistent intake of food.

Of course, it is possible to consume more than the minimum daily requirement of food, either all in one meal or in more than one meal spaced throughout the day. However, overeating does not offer any significant benefits in game terms; a character's physical condition does not improve, nor can he go for a longer time before eating again, just because he has stuffed himself.

It is also possible to conserve food by not always eating the minimum daily requirement. A character can "cheat" by as much as half of the recommended amount (eating only one-half pound of meat or one pound of vegetables or greenery per day) without immediately suffering adverse effects. However, he can only remain on this restricted diet and still perform normal activities for a number of days equal to 1½ times his tolerance level (rounded down). After that much time has passed, the character will become *weakened* and will remain in that condition as long as he stays on half rations. All it takes to offset this condition is the consumption of a full ration during any single day, after which the character is back at full strength. A character who does not engage in any significant physical activity (strenuous or otherwise) can subsist on half rations indefinitely.

Minimum Daily Requirement of Water

The amount of water a character needs is highly variable, depending mainly on where he is and what he does. The following figures are minimum daily requirements, in pints, for a human male of average size and weight.

Table 29: WATER REQUIREMENTS FOR CHARACTERS

	Effective Temperature			
Activity	**Below 50**	**50-70**	**71-90**	**Above 90**
Inactive	5	6	7	8
Light	6	7	8	10
Moderate	8	9	10	12
Heavy	9	10	12	16

Modifiers

Elves need one-fourth less (rounded up to nearest half-pint).

Dwarves, gnomes, and halflings need one-third less (rounded up to nearest pint or half-pint).

Food with high water content accounts for one-fourth to one-third of a character's daily requirement of water.

A character has remained *inactive* during any day when he has spent one hour or less performing significant physical acvitity. Riding a mount at its normal movement rate, preparing a meal, or engaging in any other sedentary pursuit are allowed. Moving on foot (even at a slow pace), engaging in combat, or performing any strength-related task are not.

A character has engaged in *light* activity on any day during which he has spent more than one hour on something other than non-sedentary pursuits.

A character has engaged in *moderate* activity on any day during which he has spent more than two hours on something other than non-sedentary pursuits.

A character has engaged in *heavy* activity on any day during which he has spent more than four hours on something other than non-sedentary pursuits.

For the purpose of determining how many days' worth of water is provided by a *create water* spell or similar magic, one cubic foot of water contains seven gallons, and there are eight pints in a gallon. Of course, in order to be able to make full use of magically created water, characters must have a way of containing it and transporting it (assuming they are traveling). Water has an encumbrance value of 50 gp per gallon, plus an extra 50 gp for every three gallons being transported in a single container. A typical waterskin holds one gallon, but larger containers can be obtained or fashioned if so desired.

In most cases, the minimum daily requirement for water means just that: A character will become *weakened* from dehydration if he consumes less than a full ration of water for a number of consecutive days equal to his tolerance level. (For purposes of simplicity — and to keep characters always cognizant of the need for a supply of water — not having enough is just as bad as having none at all.) Naturally, the Dungeon Master is free to take circumstances into account and may relax this stipulation to some degree if the situation warrants such action.

FOOD GATHERING

Foraging

It is exceedingly simple for any character to step off the beaten path or walk a short distance from the campsite and find plant life that is probably edible, as long as he is located in a type of terrain where vegetation grows in some abundance. At the other extreme, it can be practically impossible for a character to find edible plants if there just isn't any greenery to be seen.

Table 30: FORAGING SUCCESS

		Winter	Spring	Summer	Autumn
Arctic	D	0/0	5/75	10/75	0/0
	H	5/75	10/60	10/60	5/50
	M	0/0	0/0	5/50	0/0
	P	5/50	5/50	10/50	5/50
	Se	10/75	10/50	15/50	10/75
Subarctic	D	0/0	5/50	15/50	5/75
	F	70/40	85/40	100/50	75/40
	H	20/50	30/50	40/40	25/50
	M	10/50	15/50	20/40	15/50
	P	20/40	30/40	50/40	30/50
	Se	25/60	35/50	50/40	35/50
	Sw	15/60	20/60	30/60	20/50
Temperate	D	10/70	5/50	5/70	5/50
	F	80/40	90/40	100/40	90/40
	H	65/50	75/40	90/35	80/50
	M	20/40	30/40	40/40	30/50
	P	50/40	60/40	75/30	60/50
	Se	50/50	65/40	80/40	65/50
	Sw	30/60	35/50	40/50	35/60
Subtropical	D	5/75	5/80	0/0	5/75
	F	90/30	100/30	100/30	100/30
	H	80/30	90/30	100/25	95/25
	M	40/40	55/30	75/30	60/40
	P	80/30	90/30	100/30	100/35
	Se	80/40	90/40	100/40	95/40
	Sw	40/60	50/50	50/50	50/60
Tropical	D	5/75	5/80	0/0	5/75
	F	100/30	100/30	100/40	100/30
	H	90/30	100/40	100/40	95/35
	M	85/30	90/30	90/40	90/35
	P	100/30	100/45	100/50	100/40
	Se	90/40	95/50	100/50	95/50
	Sw	50/60	60/60	70/50	60/60

Each entry on this table consists of two numbers. The number

to the left of the slash is the percentage chance that a normal character who forages for two turns will find one full day's ration of plant life (two pounds of fruit, vegetables, and/or greenery). The number to the right of the slash is the percentage chance that the material gathered is actually inedible; it will not help, and might harm, a character who consumes it.

A character with proficiency in foraging has an advantage on two counts. His chance of locating potentially edible plants is no greater than any other character's (if they aren't there, they aren't there) — but if he does find plants, he will locate two full rations in two turns of foraging, or one full ration in one turn. And, the chance of his "take" being inedible is 20% lower than that of a normal character.

It is fruitless for a character to spend more than four turns (two foraging checks for a normal character, four checks for one with proficiency) attempting to find food; if he hasn't located any by then, no amount of further searching will produce better results. If every character in the group searches for as long as possible and no food or an insufficient amount of food is located, the group must travel for at least one mile before undertaking any more foraging attempts.

Inedible Plants

If the vegetation gathered by a character turns out to be inedible, the Dungeon Master should roll 1d8 to determine the exact nature of the material:

Die Roll	Result
1	Plants are poisonous; anyone who eats a half-ration or more will suffer painful cramps beginning 1d10 rounds thereafter and lasting for 2d10 turns. He will lose 1d4 hit points per turn for as long as the cramps persist. These lost hit points will be regained at the rate of 1d4 per hour if the victim rests and drinks at least one pint of water per hour while he is resting. Duration and damage are both halved for a character who makes a saving throw versus poison. A *slow poison* spell will act the same as a successful saving throw, or will provide cumulative benefit (one-fourth duration and damage) for a character who made his saving throw. A *neutralize poison* spell will halt the cramps and negate any damage that would have been suffered subsequently, but will not offset any damage taken before the spell was applied.
2-4	Plants are not naturally poisonous, but are tainted or spoiled (water-damaged, overripe, etc.) so that they provide no food value and affect the consumer as if they were half-strength poisonous plants. Cramps begin within 1d10 rounds and last for 1d10 turns, with the victim losing 1d2 hit points per turn while the cramps persist. These hit points can be regained in the same way, and at the same rate, as for a character who has eaten poisonous plants. A saving throw versus poison reduces duration and damage by half; a *neutralize poison* or *cure disease* spell halts duration and damage as soon as the spell is cast.
5-8	Plants are not harmful, but provide no food value aside from the water they might contain. Although a character can fill his stomach on plants of this sort and feel as though he has nourished himself, the effect on his system will be as though he had not eaten any food.

When Not to Use The Table

As is often the case with random-determination systems, the Foraging Success Table cannot account for — and may actually contradict — the prevailing circumstances at any point during an adventure. If characters set up camp in the middle of a grove of apple trees or on the edge of a cornfield, for instance, then anyone who goes out after food obviously has a 100% chance of coming back with his arms full, regardless of what the table might indicate. Likewise, the chance of gathered food being inedible might be substantially reduced or eliminated. If the apples are ripe and characters specify that they are gathering all of them from the trees instead of picking some of them up off the ground, then there is little or no chance that the apples will be anything but tasty and nourishing food — unless, of course, the characters have just happened to stumble upon a little-known variety of apple whose juice contains a delayed-action acid . . .

The point is that the table should not be allowed to unswervingly dictate what does or does not happen. Common sense and reasonable judgment (of which any Dungeon Master has an abundant supply) should always take precedence over a dice roll.



Hunting

The general system for hunting in the wilderness is quite similar to the system for foraging, because the circumstances are much the same: In some places and at certain times of the year, characters almost cannot help encountering wild game that might end up as the evening meal. In other places, the characters themselves may turn out to be the only live animals within a radius of several miles or more.

Table 31: HUNTING SUCCESS

		Winter	Spring	Summer	Autumn
Arctic	D	5	5	10	5
	H	5	5	10	10
	M	5	5	5	5
	P	5	10	10	5
	Se	5	10	10	5
Subarctic	D	5	10	10	5
	F	5	10	10	5
	H	5	10	15	15
	M	5	5	10	5
	P	5	10	15	15
	Se	5	15	20	20
	Sw	5	10	15	10
Temperate	D	10	5	5	10
	F	30	50	50	50
	H	25	40	40	40
	M	15	30	30	30
	P	25	40	50	50
	Se	20	40	50	50
	Sw	20	35	50	50
Subtropical	D	10	5	5	5
	F	50	50	50	50
	H	50	50	50	50
	M	35	35	35	35
	P	50	50	50	50
	Se	50	50	50	50
	Sw	40	50	50	50
Tropical	D	5	5	5	5
	F	50	50	50	50
	H	50	50	50	50
	M	40	40	40	40
	P	50	50	50	50
	Se	50	50	50	50
	Sw	50	50	50	50

Each entry on this table represents the percentage chance that a normal character (one without proficiency in hunting) will, of his own volition, encounter some kind of wild game during four turns of solitary hunting. This chance is reduced by 5%, cumulatively, for each member of the hunting party beyond the first; for instance, three characters hunting together in a tropical forest have a 35% chance of scaring up some game in four turns of hunting.

The table entries assume that hunting is being done either in the very early morning or the very late evening, since those are the times of day when animals are most active and when light conditions enable characters to see what they're shooting or swinging at. If hunting is attempted at any time from mid-morning to mid-evening, the chance of encountering game is reduced by 10%. Hunting at night is effectively impossible unless characters are using infravisual or ultravisual capability, in which case the chance of encountering game is as given on the table.

The only characters who can hunt successfully are those who are carrying (and have proficiency in the use of) missile weapons with the capability of causing an average of 3 points of damage to a size L creature. A bow and arrow can be used, since the arrow's damage range is 1-6 points (average of 3½); on the other hand, a thrown dagger or hurled club is not a useful weapon for hunting. Hand-held weapons may be useful to finish off a kill, but missile weapons are necessary to at least wound the target first.

To determine the size of the animal(s) encountered (and also the distance at which the game is spotted), the Dungeon Master rolls 1d6:

Die Roll	Game Encountered and Distance
1	Size S, 2d6 creatures at 20-40 yards
2	Size S, 1d6 creatures at 20-40 yards
3	Size M, 1d10 creatures at 20-40 yards
4	Size M, 1d6 creatures at 40-60 yards
5	Size M, 1d3 creatures at 40-60 yards
6	Size L, 1d3 creatures at 60-80 yards

If no member of the hunting group has a missile weapon that can strike a target within the indicated range, the encounter is negated (the animals fled before the characters could get close enough) and the group may spend another four turns in another hunting attempt.

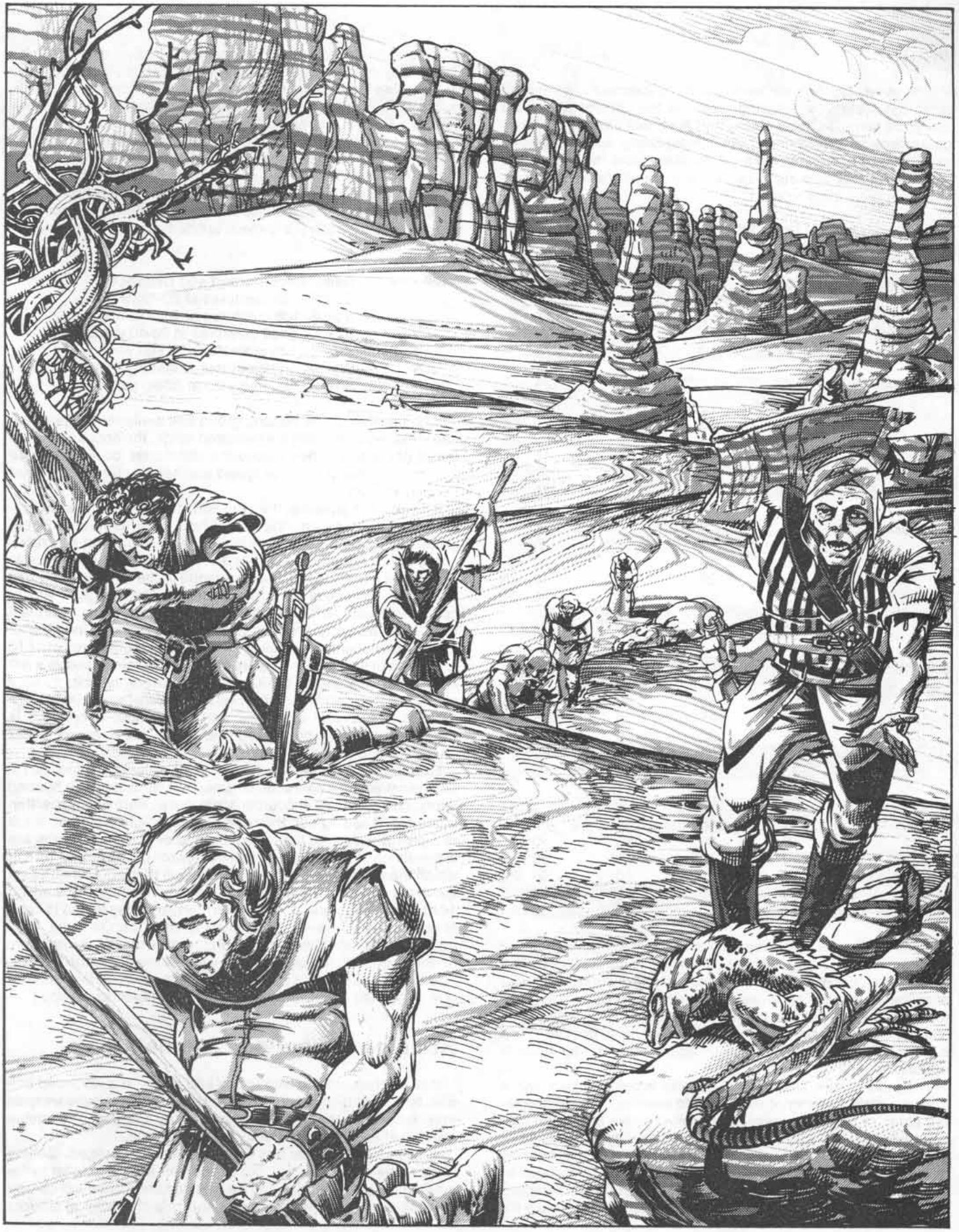
If an attack is possible, then the 1d6 roll made on the above table also serves as an indicator of how many creatures in the group can ultimately be hit or killed. Using this number as a reference, the Dungeon Master rolls 1d10. If the result of this roll is greater than the 1d6 roll, then someone in the hunting party has scored a hit on one of the target creatures. The Dungeon Master continues to roll 1d10 until the hunting party runs out of projectiles, until the party chooses to stop, until the total number of creatures encountered is killed or wounded, or until a roll of 1d10 is equal to or less than the 1d6 result that was being used as a reference. It takes one hit to kill a size S creature, two hits to kill a size M creature, and four hits to kill a size L creature. Hits are applied to one animal at a time until it is killed. A creature is wounded, and may be stalked and killed, if it does not suffer enough hits to cause its death.

Example: The percentile dice roll on the Hunting Success Table indicates that a character or group of characters on a hunting expedition will in fact encounter some game. Sure enough, within four turns of setting out, they come upon tonight's supper. A roll of 5 on 1d6 indicates that a small group of size M creatures are within range of the group's weapons (the roll of 1d3 comes up a 3, which means that pickings are as good as they could be). Using the result of 5 as a reference, the Dungeon Master begins rolling 1d10. The characters have lots of arrows, and they intend to keep firing as long as there's something to shoot at. On three 1d10 rolls in succession, the Dungeon Master gets results of 6 or more; on the fourth roll, the result is a 3, which means that the hunt resulted in three hits — killing one animal and wounding another one. (The third creature was lucky and managed to escape.)

Stalking a Wounded Animal

If characters elect to try to track and finish off a wounded animal, they must dispose of it either by the use of a missile weapon from no farther than 20 feet away, or by the use of a melee weapon at hand-to-hand (hand-to-claw?) range.

A size L creature that has been wounded is enraged. Getting close to the animal is easy, but as soon as each character in the hunting party has established his position the animal will charge one character — either the closest one, or a character at random



if all are equidistant. The animal has a 50% chance of causing 1d8 points of damage to the character it charges, and the success or failure of this attack is determined before any of the hunters has a chance to retaliate. After the charge, each character has a chance to rush the animal (or fire a missile). Any character who chooses to attack must make a successful "to hit" roll against armor class 5 in order to score a hit on the animal. If the characters do not score enough hits to kill the animal, the charge-and-counterattack sequence is repeated (assuming the characters want to continue the hunt).

A size M creature that has been wounded is panicked. If characters attempt to close ranks with it, the animal will move at an 18" rate in a random direction (roll 1d4: 1 = toward the hunters; 2-3 = perpendicular to the hunters, in one direction or the other; 4 = directly away from the hunters). If characters can get within 20 feet or closer, and if one character makes a successful "to hit" roll against armor class 5, the animal is killed. If no character scores a hit on the first available opportunity (during the round in which one or more hunters comes close enough to make the attempt), the animal manages to escape.

The Hunting Proficiency

A character with proficiency in hunting can be of substantial help to an adventuring party. The presence of such a character in a hunting group does not increase the chance of encountering game, nor does it affect what size of prey is encountered. However . . .

A character with hunting proficiency can kill a size M creature with one hit instead of two, and has a 50% chance of being able to kill a wounded size M creature from a distance instead of needing to close with it. (Only one such attempt is permitted; if it fails, the creature has escaped.)

A character with hunting proficiency can kill a size L creature with two hits instead of four, and is able to kill a wounded size L creature with a single hit instead of needing to score two or three hits, as might be the case for a group without such a character. (Multiple attempts are permitted if the animal is not dispatched on the first attempt.)

To accomplish either of these feats, the character with hunting proficiency must make a successful Proficiency Check when game is encountered (before the 1d6 roll to determine size and number of prey) and he must be using a missile weapon of the appropriate sort.

A character or group of characters can undertake hunting expeditions as often as desired; animals, unlike plants, do not remain rooted to one spot and can be encountered by a hunting group even if the characters have been searching the same area for hours.

Fishing

When all is said and done, fishing success depends primarily on where the fishing attempt is made. If the fish in a body of water are abundant and hungry, even a totally unskilled fisherman can drop a hook and line or a net into the water and come up with something. And if there simply are no fish in the area, even the most knowledgeable angler will come back empty-handed.

Table 32: FISHING SUCCESS

	Time of Day		
Type of Area	**Daytime**	**Night**	**Dawn/Dusk**
Poor	1d4 − 2	1d4	1d4 + 2
Fair	1d6 − 3	1d6 − 1	1d6 + 2
Good	1d6 − 2	1d6 + 2	1d8 + 2

Each entry on the table represents a number generated by a die roll, and in most cases a modifier that is applied to that roll. The resulting number represents how many fish are caught in one hour by one character with a baited hook and line. The use of a net will increase the take to 50% more than the modified die roll. If a negative modifier brings the die-roll result to zero or lower, no fish are caught regardless of the gear being used.

A character with fishing proficiency receives a +2 modifier to his die roll in any fair or good area. (If the area is a poor spot for fishing to begin with, his prowess will not help him.)

More than one character can fish the same area at the same time, but each extra member of the fishing group has his die roll modified by −1 cumulatively: −1 for the second character, −2 for the third one, and so on. (A separate roll of 1d6 is made for each fisherman.)

It is possible for one or more characters to fish the same spot for more than one hour, but each character must take a further −2 modifier to his die roll for each hour beyond the first one spent in the same spot. As long as at least one member of the fishing group catches at least one fish in any given hour, the spot may still yield more fish and characters can stay longer in hopes of increasing their catch. But as soon as each fisherman gets a result of zero or lower in the same hour, the spot is "fished out" and will not yield any more fish for at least one day.

Example: Character A has proficiency in fishing; characters B and C do not. All three sit down at a good spot at night and try their luck with hooks and lines. During the first hour, character A will catch 1d6 + 4 fish (counting his proficiency bonus); character B will bring in 1d6 + 1 (counting the penalty for being the first extra member of the group); and character C will catch 1d6 (because he is the second extra member). If they keep fishing for a second hour, each one takes a −2 modifier to his die roll: 1d6 + 2 for character A, 1d6 − 1 for B, and 1d6 − 2 for C. During the third hour, their die rolls decrease by another −2: 1d6 for A, 1d6 − 3 for B, and 1d6 − 4 for C. If they continue to fish for a fourth hour, there is a chance that the spot will have become fished out since all three characters are now capable of getting results of zero or lower.

The determination of whether a fishing spot is poor, fair, or good is basically up to the Dungeon Master, but some guidelines may be helpful. A cool, fast-running mountain stream is a good spot for trout; a shallow and muddy pond or lake is a good spot for carp or pike; a clear, deep lake is a good spot for bass. Thus, all of these bodies of water will be good (or at least fair) spots for fishing. In general, fishing is better if it is done from a boat moored in the middle of a body of water than if it is done from shore. A swamp or bog is generally a poor place for fishing; so is a stagnant, shallow creek. In hot or sunny weather, fish will congregate in places where they can be shaded by trees or overhanging ter-

rain; such a spot will be fair or good, while an unshaded spot nearby on the same body of water will be a poor one.

Consuming and Carrying Food

One fish will provide half of a character's minimum daily ration of food; one size S animal is a full ration; one size M animal is enough to feed three characters for one day; and one size L animal is six rations' worth of food. (These figures, especially for the larger animals, assume that the characters do not have the knowledge or the desire to skin and butcher their kills with expertise. In reality, the carcass of a size L animal could well contain enough meat for at least twenty full rations — but characters can only get this much out of it if someone spends a full day butchering, slicing, and packaging the carcass. This is a lot of trouble to go to, especially for a character who probably has much more pressing demands on his time.) Of course, a character can consume more food than he actually needs, but these rules do not account for gluttony or indigestion; perhaps the Dungeon Master has some ideas along those lines.

If the adventuring party contains a druid, that character will strongly disapprove if hunters or fishermen intentionally kill more food than they can conceivably eat in one sitting. Of course, an overkill cannot always be helped; if one character goes out hunting and kills one size L animal to feed himself and two others, he should not be held responsible for the leftovers.

Excess food certainly need not be left behind when characters break camp — they can carry it along, and thereby carry themselves through another meal, or two, or more. The only two significant factors to consider when transporting fresh meat or recently picked plants are encumbrance (which the Dungeon Master must rule on) and the possibility of spoilage.

Table 33: CHANCE OF FOOD SPOILAGE

	Effective Temperature				
Type of Food	**Below 30**	**31-50**	**51-70**	**71-90**	**Above 90**
Green plants	—/—	6/20	4/30	2/40	1/50
Fruits or vegetables	—/—	5/30	3/40	2/50	1/60
Cooked meat	—/—	3/20	2/50	1/60	1/80
Raw meat	—/—	2/50	1/70	1/80	1/90

Each entry on the table consists of two numbers. The number to the left of the slash is the maximum number of days that the food can be kept before a check for spoilage is required. The number to the right of the slash is the percentage chance on each subsequent day that the food will be spoiled and and not safely edible thereafter. An entry of "—" indicates that spoilage will not occur as long as the effective temperature remains within this range; food that is kept continually frozen will be good to eat no matter how long it is carried or stored.

When determining effective temperature for this purpose, the Dungeon Master should use the warmest temperature that applies, as long as the effective temperature on any given day was in this category for at least one hour. Once a temperature category is used for one spoilage check, this same category (or a warmer one, if the temperature rises even more) should be used for all subsequent checks. If frozen food is thawed, it is subject to spoilage beginning on the day that it was thawed (counting that day as day 1) even if it is promptly re-frozen after being exposed to the higher temperature.

If the food fails one spoilage check, it is *tainted* — not as good as fresh food, but not spoiled to such a degree that the spoilage will always be noticed by someone intending to eat it. If a character intends to eat something that has failed one spoilage check, the Dungeon Master should make a Wisdom Check for that character in secret. Success on this check indicates that the character has noticed something about the appearance, texture, or odor of the food and thereby has become aware of the spoilage before eating the food. He may choose to eat it anyway, taking a chance that he will not be adversely affected (see below), but at least he will know what he's getting into — or, more precisely, what is getting into him.

Any food that fails a second spoilage check is obviously *spoiled* and will be perceived as such by anyone who intends to eat it. Again, it may still be consumed — spoiled food, in some circumstances, might be better than none at all — but the character's chance of becoming ill is much greater than if the food was only tainted.

Effects of Eating Tainted or Spoiled Food

A character who consumes any quantity of tainted food must make a successful Constitution Check with a +4 modifier to the die roll to avoid suffering. Failure on this check means that the character is beset by nausea and stomach cramps within 11-20 minutes (1d10 + 10) minutes after eating the food. He must take a −1 penalty on all attack rolls and on any saving throw related to dodging or maneuvering ability for the next 12 hours. At the end of this time, he must make a Constitution Check (with no modifier) to recover from the malady. Subsequent checks are allowed at the rate of one per hour until one of them succeeds and the character is recovered from his illness. Tainted food still provides a normal amount of food value; that is, a full ration still counts as a full ration for purposes of satisfying a character's minimum daily requirement.

A character who consumes any quantity of spoiled food must make a Constitution Check with a +10 modifier to the die roll to avoid the illness described above. If he is stricken, the penalties will last for at least 24 hours instead of 12. If eating the spoiled food does not cause illness, there is a 50% chance that the food still provides the value of a full ration (or a half-ration, if only that much was eaten); otherwise, the food is so spoiled that it does not serve as nourishment, and the effect on the character will be as if he had not eaten at all.

FINDING WATER

It is practically impossible for characters to start out on a journey of several days (not to mention several weeks) in duration carrying as much water as they will need for the trip. They must be able to find sources of drinking water along the way. This is not a problem if the terrain contains bodies of fresh water, if characters can collect the water from a rainstorm or snowstorm, or if they have access to magic that produces or purifies water.

However, sources of water are not always easy to find. On a trek across the desert, a foray into a craggy mountain range, or a sloppy journey through a swamp, characters who don't have skill and luck on their side could go for days without locating drinkable liquid to replenish their waterskins.

Table 34: CHANCE OF FINDING WATER

		Winter	Spring	Summer	Autumn
Arctic	D	5/50	5/50	5/50	5/50
	H	10/50	10/50	10/50	10/50
	M	5/30	5/30	5/30	5/30
	P	10/50	10/50	10/50	10/50
Subarctic	D	5/60	10/60	10/60	5/60
	F	10/40	20/40	20/50	10/40
	H	5/40	10/40	15/50	10/40
	M	5/30	20/30	15/30	10/30
	P	10/50	20/50	20/50	15/50
	Sw	40/60	60/60	50/60	50/60
Temperate	D	5/70	5/70	5/70	5/80
	F	30/30	40/30	30/30	30/30
	H	30/40	40/40	40/50	30/40
	M	20/30	20/30	15/30	20/30
	P	20/50	40/50	40/50	30/50
	Sw	60/70	70/70	80/80	60/70
Subtropical	D	5/70	5/70	5/80	5/80
	F	60/40	70/50	70/60	60/50
	H	30/40	50/40	50/40	40/40
	M	40/30	60/40	50/50	40/40
	P	20/50	40/40	30/40	20/50
	Sw	70/70	80/70	90/80	70/80
Tropical	D	5/70	10/70	5/80	5/80
	F	80/50	80/60	80/70	80/60
	H	15/40	20/40	30/50	15/40
	M	40/30	70/30	60/40	70/40
	P	20/50	50/50	60/60	50/50
	Sw	70/70	90/75	90/80	80/80

Each entry on the table consists of two numbers. The number to the left of the slash gives the percentage chance that a character searching for a source of water will find one in the immediate area. The number to the right of the slash gives the percentage chance that the water is tainted in some way — it may still be drinkable, and might not even taste bad, but if it is ingested without being purified the drinker will suffer some adverse effects.

A single character or a group of characters traveling together can make two water-finding checks per day. If searches are conducted more often than this, the extra searches will automatically fail. However, the above table should not be used in any circumstances where water is obviously and readily available. These circumstances are briefly outlined below:

Snow or ice cover: If the ground is covered with snow or ice (as is normally the case in arctic regions, and usually true at least during the cold seasons in subarctic and temperate climates), then water is there for the taking as long as characters are willing and able to melt the snow or ice. The figures on the table assume that no snow or ice cover exists. If the actual temperature is 30 degrees or lower, any water found in an area with no snow or ice cover will be in the form of ice, which must be melted or at least broken into mouth-sized chunks to be ingested. Ice is no more free of foreign substances (principally bacteria) than the water from which it was formed; thus, the percentage chance of finding tainted ice should be taken from the table as if water had been found. In contrast, freshly fallen snow is the purest form of water available in nature. Characters can drink melted snow to satisfy their need for water, as long as enough snow is available; a mere dusting of the white stuff does not provide a lot of liquid.

Nearby body of fresh water: If characters are located along the bank of a river or the shore of a lake, they obviously have access to all the water they will need. The Dungeon Master should still refer to the table to determine the chance that the water is impure, unless he knows that the water is pure and drinkable; some rivers and lakes in the campaign world may have a reputation for being sources of good, fresh water. In other cases, the water may be pure in one location and not so good in another spot some distance away on the same body of water. For instance, if characters begin a journey at the headwaters of a river they may find the water there to be perfectly good. However, when they fill their waterskins again after a couple of days of traveling downstream, the water may not be so good any more. In general, river water is more likely to be pure closer to the source of the river than it is downstream, by which time the water may have flowed over some mineral deposits or picked up bacteria that make it less desirable for drinking. Lake water is more likely to be pure at the spot where a river flows into the lake than along the shoreline opposite the river, where the water may have stagnated and become a breeding ground for many kinds of organic and inorganic impurities. Fast-flowing water is generally more pure than standing water; ground water (found by digging beneath the surface of the land) is usually more pure than water found above the ground. The Dungeon Master should take these general rules into account when determining whether river water or lake water is harmful to those who drink it.

Seacoast location: The poet who wrote "Water, water everywhere, and not a drop to drink" knew what he was talking about. It is not healthy to drink sea water — assuming that, in the campaign world as in our world, it contains salt. A character will actually become dehydrated from ingesting sea water in large quantities or over a long period of time, because the salt he consumes increases his body's need for water. Nevertheless, fresh water may be able to be procured at a spot fairly close to the seashore if characters can dig down through the ground to the level where the water table is located (see below). The water thus discovered is relatively salt-free, since the loose soil has filtered out most of the salt. However, the deeper one digs, the saltier the water becomes; if characters try to get too much water out of a single hole by digging too deep, the water they recover from the bottom of the hole may be just as undrinkable as water taken directly from the sea. In any seacoast area, the chance of finding drinkable water by digging down to the water table is 100%, providing that the hole is dug above the high tide line and is no more than two feet deep.

Where Water Is Found

The chance of finding water in a particular terrain/climate combination, as given on the preceding table, is based on the likelihood that characters will come across a sizable quantity of standing water that is not large enough to qualify as a lake or pond: perhaps an uncharted pool, or a small depression or basin in the terrain that holds water from a recent rainstorm that has not yet evaporated or been absorbed into the ground. If no rain has fallen in the area for several days, the Dungeon Master may wish to reduce the chance of finding a source of standing water in certain types of terrain: a flat plain may be completely dried out after a few days without precipitation, while a swampy area will have standing water practically all the time regardless of how long it has been since the last rain.

A second way of getting water directly from the ground involves knowledge of the water table (not to be confused with the Chance of Finding Water Table given above). In simple terms, the water table is the level beneath the ground at which water lies after

soaking into the terrain. In an area of low elevation, the water table may be only a foot or two beneath the ground; in a swamp, where the elevation is usually close to sea level, the water table may actually be higher than the terrain. In an area of relatively high elevation that contains no large body of fresh water, the water table may be dozens or even hundreds of feet beneath the surface. In the almost moisture-free environment of a desert, the location of the water table can vary greatly (see the following section). Of course, the water table is nonexistent where the terrain is not absorbent, such as in a rocky mountain range with little or no loose soil or on frozen ground (but see the discussion of permafrost below).

If characters do not succeed in locating a source of standing water and they are on terrain where underground water may exist, the Dungeon Master may wish to allow them a chance to find water by digging down a certain distance. Whether underground water exists, and how far beneath the surface it lies, are factors that must be determined by the Dungeon Master depending on the terrain and elevation. (Deserts, however, are an exception to this; see below.)

Vegetation is another natural source of water, particularly in perenially hot climates (subtropical and tropical), where many plants have adapted so that they can actually store fresh water inside their stems or branches as a safeguard against a dry spell. Most people are familiar with the cactus plant's ability to store water inside itself — a property that has kept many desert travelers from dying of thirst. Other plants not necessarily found in the desert have the same property, and may help to keep adventurers fortified if they are found on plains or in hilly areas during a drought. The Dungeon Master must decide whether water- bearing plants are readily available, and if so, how much water they can provide.

Water in the Desert

When people think of going without water, a desert environment naturally comes to mind. It is indeed true that deserts are the most arid types of terrain; they receive pitifully little rainfall, and the water that does come down is quickly lost to evaporation (in hot climates) or absorption, where the ground is sandy or composed of loose soil and small rocks.

But some of the water that gets into the ground stays there, and can be recovered with effort, perhaps some skill, and more than a little bit of luck. At any given location in the desert, there is a 40% chance that water lies 5-15 feet (2d6 + 3) beneath the surface — and a 60% chance that characters will find no water no matter how deep they dig. If the party includes a character with proficiency in desert survival, the chance of him finding water is 80% instead of 40% — but, as with any other attempt at finding water, only two tries can be made in any 24-hour period. (See the section on Wilderness Proficiencies for more information about the desert survival proficiency.)

Permafrost

Permafrost is a condition found in subarctic climates during the warm season, whenever the actual temperature is generally above freezing at least during daylight hours. The soil thaws out to a depth of several inches below the surface, enabling small vegetation to take root and thrive on the water that is released when the soil is warmed to an above-freezing temperature. Beneath this thin layer of arable soil is permafrost — permanently frozen subsoil.

Obviously, permafrost is a dependable source of water; all characters have to do is remove the upper layer of soil, chop out the iced-up soil beneath it, and expose the soil to heat. When the ice melts, the soil and most large particles of sediment will settle to the bottom of the container, and the water can be poured off.

Purifying Water

If characters have reason to suspect that the water they have scavenged is tainted (and this possibility almost always exists), they can greatly reduce the chance of harm to themselves by purifying the water before drinking it.

Assuming that no magical means of purification is available, the best way to remove impurities from water is by boiling it. If the water is boiled sufficiently long, there is only a 10% chance that it will remain tainted. The length of time that the water must be boiled is 2-5 rounds (1d4 + 1) at an elevation of close to sea level, plus an extra 1d2 minutes for every 1,000 feet of elevation above sea level. If it is taken off the fire before the required time has expired, the boiling will have done no good.

Why would someone stop boiling water before the maximum possible time for purification had expired? Because boiling reduces the volume of water remaining to be drunk. At relatively low elevation (5,000 feet or less), 5% of the water's volume will be lost to evaporation for every minute that it is boiled. At higher elevation, the loss is only 3% per minute. If characters are faced with a choice between not having enough water and risking the ill effects of drinking unpurified water, they may often decide to go for quantity over quality.

Effects of Drinking Tainted Water

In essence, the effects of drinking tainted water are the same as the effects of eating tainted or spoiled food (see the text at the end of the preceding section on Food Gathering). If the water is only mildly tainted, a character who drinks it will suffer just as if he had eaten tainted food, except that the effects have a minimum duration of 6 hours instead of 12. If the water is severely tainted, a drinker will be affected as if he has eaten spoiled food, except that the minimum duration is 18 hours instead of 24.

The Dungeon Master must decide whether a certain supply of bad water is mildly tainted or severely tainted. In general, severely tainted water is relatively more likely to be encountered in areas of low elevation (such as swamps) and in perenially warm or hot climates, where bacteria prosper because of the temperature. Extreme heat (boiling) kills bacteria, but extreme cold does not necessarily have the same effect; water that is melted from ice in the subarctic is almost as likely to contain organic impurities as water dipped out of a lake in a temperate climate.

The taste and appearance of water are not always indicators of its purity or lack thereof. Characters should not necessarily refrain from drinking murky or strangely colored water out of fear that it is tainted (or worse) — the brown water that makes their noses wrinkle may actually be less harmful to them than the fresh, clear liquid they've been saving for a special occasion.

Some of the water in the wilderness may carry bacteria that can produce illness in the drinker, above and beyond the effects of drinking tainted water. Some naturally occurring water may actually be poisonous. Whether these types of bad water occur, and what their effects are upon a drinker, are matters left to the Dungeon Master. Even in the absence of magical aids (such as *detect poison*), caution and common sense can go a long way toward enabling characters to steer clear of very bad water. If the area surrounding a waterhole is devoid of vegetation, and especially if the area contains skeletal remains, characters should consider those signs as strong evidence for finding a different water source — a dead giveaway, so to speak.

CAMPING AND CAMPFIRES

It is an obvious, but important, fact of life in the wilderness that comfortable, manmade structures do not conveniently appear whenever characters are in need of shelter and warmth. If adventurers are moving through well-mapped territory, they may be able to plan their route and time their journey so that they arrive at places of natural shelter (assuming such places are marked on the map) when it comes time to stop for the night. Even if they are moving through an unfamiliar area, they may occasionally get lucky and find a small cave on the face of a rocky slope, a thick grove of trees at the edge of a grassy plain, or a large pile of dead wood and tangled vegetation in the middle of a swamp.

But more often than not, characters can only be guaranteed of having shelter if they are able to fashion some kind of structure from available natural materials, or if they take the necessary gear and materials along on their journey.

Natural Shelters

The terrain and the time of year are the major factors in determining the chance for a character or group of characters to be able to locate a natural shelter or construct something out of natural materials that will provide protection from the elements. In an evergreen forest, it's fairly easy to scrounge up long, straight pieces of wood and boughs to make a windbreak; on a flat plain or in a mountainous area at high elevation, it is practically impossible to find such materials, and characters must hope to run across some natural feature (a shallow gully, a small cave beneath an outcropping of rock) if they need to get out of the wind and keep dry.

Table 35: CHANCE OF FINDING NATURAL SHELTER

	Winter	Spring	Summer	Autumn
Desert	20	20	20	20
Forest	90	100	100	100
Hills	40	60	70	60
Mountains	40	40	40	40
Plains	30	40	40	30
Swamp	40	50	50	40

The table gives percentage chances for characters to find a natural shelter or easily obtain materials that can be used to construct a temporary shelter. The Dungeon Master should check whenever characters indicate that they are looking for shelter. If a check fails and characters keep moving, further checks may be made at intervals of three turns until shelter is found or until characters decide to stop moving and make camp in an unsheltered area.

Desert terrain has no vegetation that characters can use (or hide behind), but they will occasionally run across irregularities in the surface — large rocks, small crevasses, a steeply sloping sand dune — that provide shelter on at least one side.

Forest areas are replete with natural shelter. An especially dense patch of trees or large plants can give characters some protection from wind and precipitation simply by its presence. However, pack animals may not be willing or able to enter an area of closely packed vegetation unless there is a path into it or through it that they can negotiate. In a forest of normal or even light density, boughs or branches can be cut from trees and laid across a grid of poles to give characters a roof over their heads and (if it is properly positioned) protection from the full force of wind and precipitation. It takes 3-8 turns (1d6+2) for a single character to obtain the materials for a simple shelter of this type, minus 2 turns (to a minimum of 3) for each additional character assisting in the work. It takes another 6 turns for a character to lash together the poles and bind the "shingles" to the grid, minus 1 turn for each additional character assisting (to a maximum of two helpers). This construction time is halved if a character with proficiency in rope use is among those doing the work.

Hills, by their nature, are full of irregular terrain that can serve as a simple windbreak. During the spring, summer, and autumn, thick and sturdy vegetation is also fairly abundant, so that characters can fashion a windbreak out of greenery just as if they were in a forest.

Mountains, for this purpose, are considered to be rough, rocky areas with little or no vegetation. If vegetation does exist in a mountainous area, treat it as either hills or forest for determining the chance of finding shelter. The entries for "Mountains" on the above table represent the chance that characters will come across some natural feature (a cave, alcove, "chimney" between two rock faces, etc.) that is large enough to contain them and located where the wind cannot get inside it.

Plains are generally flat, but not necessarily featureless. Even a small gully, two or three feet deep, can enable a character to get out of the wind — but, of course, he can still be drenched or covered with snow (and if it's raining very heavily, a gully is the worst possible place to use for shelter). Also, if a plain has some vegetation more substantial than grasses and knee-high scrub brush, characters may be able to scavenge enough branches and greenery for a windbreak. Unless the area is one with relatively lush vegetation, it will take 7-12 turns (compared to 3-8 turns in a forest; see above) for a single character to obtain enough materials for a simple shelter.

Swamp areas usually have some vegetation that can be scavenged, and it is not too unlikely that characters will come across a pile of debris, a fallen tree, or some other similar feature of the terrain that can serve as a shelter or the foundation for one.

For purposes of determining how much protection a natural shelter offers, refer to the Portable Shelter Characteristics Table (in the following section) and use the following guidelines: A natural shelter constructed from many small pieces of vegetation is usually a *poor* shelter, at best *adequate*. One made from relatively few pieces of large, sturdy vegetation is *adequate* or perhaps *good*. The side of a large rock facing away from the wind offers good protection from the wind, but only adequate or poor protection from precipitation. A cave in the face of a mountain

slope is a *superior* shelter in all respects (assuming, of course, that the opening faces away from the wind). The Dungeon Master's judgment will prevail in any circumstances not covered by these guidelines.

Portable Shelters

Most of the time, characters who are properly mindful of the need for good shelter in the wilderness will carry the appropriate materials with them. If even a single mount or size M pack animal is in the group, it can easily transport all the gear needed for many types of shelters with plenty of carrying capacity left over. In the absence of an animal to do the work, a single character of average strength can usually haul on his back enough shelter materials to keep himself and a small group of companions comfortable during their rest stops.

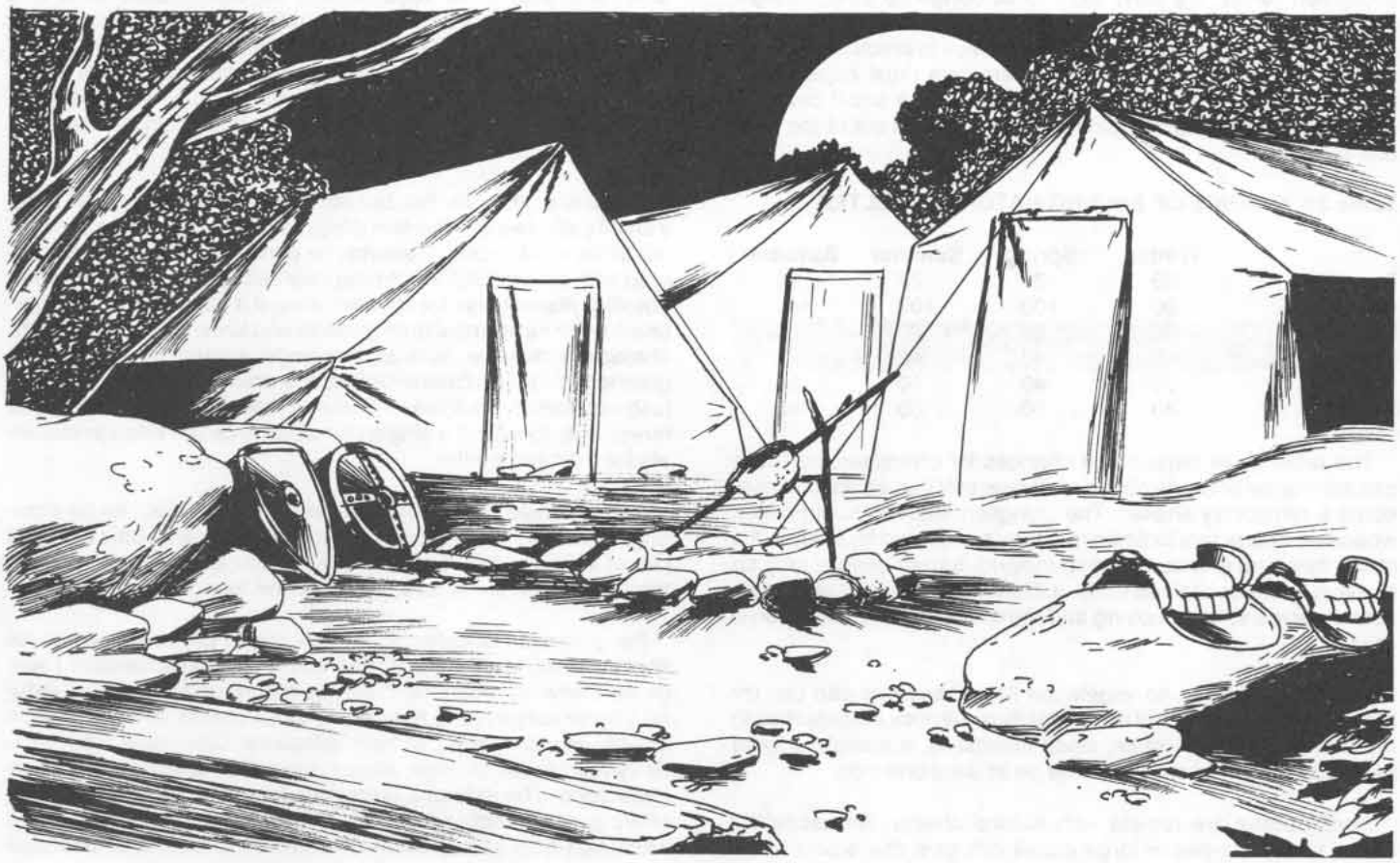
In its simplest form, a portable shelter consists of a single wooden pole of 6-10 feet in length plus a fairly large expanse of heavy, waterproofed cloth or some similarly pliable material. (The Dungeon Master may decide that a pole used for the framework of a portable shelter does not need to be a single piece, but may instead be a two- or three-piece apparatus, with the parts held together by lashings or pegs when they are assembled. Obviously, this will make the poles easier to transport.) To pitch a simple tent, a character anchors the pole at an angle of 30 to 45 degrees by bracing one end on the ground and the other end a few feet in the air and then drapes the covering material over the pole. The edges of the covering material should touch the ground or come close enough to the ground that they can be tied down with ropes and stakes. Of course, the tent should be pitched so that the opening in front faces opposite the direction the wind is coming from. This kind of simple shelter provides enough space for one human or a pair of smaller characters, and in a pinch two men can use it with no appreciable loss of protection or comfort.

More elaborate and larger shelters are possible to obtain or manufacture, and will be necessary if the weather is especially vicious or if all of the characters in a decent-sized group intend to huddle inside the same tent. For game purposes, portable shelters come in a variety of categories related to the quality of protection they provide and the number of man-sized characters they can comfortably contain.

Table 36: PORTABLE SHELTER CHARACTERISTICS

	Enc. Value	Cost	Setup Time	Moisture Res.	Wind Res.	Life Span
Poor						
Small	350	10	1d2+1	Light	20	40
Medium	450	20	1d2+2	Light	20	40
Large	600	30	1d2+3	Light	20	40
Adequate						
Small	500	30	1d3+1	Moderate	30	80
Medium	600	50	1d3+2	Moderate	30	80
Large	750	75	1d3+3	Moderate	30	80
Good						
Small	600	75	1d3+1	Heavy	40	120
Medium	800	120	1d3+2	Heavy	40	120
Large	1000	180	1d4+2	Heavy	40	120
Superior						
Small	750	200	1d4+1	Downpour	50	180
Medium	1000	300	1d4+2	Downpour	50	180
Large	1500	400	1d4+3	Downpour	50	180

A *poor* shelter is one of the simplest sort, as described in the text preceding the table. The gear consists of a single pole and a



single piece of covering material in the appropriate size and shape. However, this "single piece" is actually made up of several pieces of material (cloth, animal skins, etc.) that have been loosely stitched together with rawhide or cord that is nor particularly strong or durable. Wind can easily find its way in through the seams in the covering, and, although the individual pieces of material making up the covering are waterproof, the covering does not completely keep out rain or snow because of its loose construction. The edges of the covering must be anchored with rocks or other weights at hand, or perhaps handmade stakes whittled from branches; no special anchoring equipment is provided with the shelter. The "kit" also does not include rope, which is usually necessary to lash the pole to its support and to keep the cover in place when it is draped over the pole. Characters probably will not want to purchase a shelter of this quality, unless it's all that's available. If a character without special skill in a pertinent area attempts to manufacture a portable shelter, this is what he will end up with.

An *adequate* shelter is noticeably improved in appearance and performance over a poor one. The gear includes at least two poles (one for a "backbone," or ridgepole, and one for a cross-brace), covering material of the right size and shape, and a collection of wooden or metal stakes that are driven through the edges of the covering and into the ground to hold it in place. (As with a poor shelter, characters must provide their own rope.) The covering is made of multiple sections of cloth, skin, etc., just as for a poor shelter; however, the edges of the pieces are more closely matched and the stitching is tighter and stronger. The covering does not let in wind or precipitation as easily as that of a poor shelter.

A *good* shelter is quite satisfactory in any conditions except extremely inclement weather. The gear includes at least four poles (a ridgepole, a cross-brace, and two side poles for added strength and stability), appropriate covering material, and stakes such as those provided with an adequate shelter. The package also contains cord or rope cut to lengths ideally suited for lashing down the poles and the cover. There are two major differences in the covering material that set it apart from an adequate shelter: The pieces it is made from are not only stitched tightly together, they are overlapped (similar to the way shingles are laid) so that no seams are directly exposed on the outer surface. Also, the edges of the covering contain reinforced holes through which a stake can be driven or a rope strung, making it possible to anchor the edges without damaging the covering material in the process.

A *superior* shelter is just that: the next best thing to finding a miner's shack or a log cabin along the way. The gear includes at least six poles — enough to actually make a simple but strong frame for the cover — plus the appropriate number of stakes (and a few extra, to allow for loss or breakage), specially cut cord and rope for lashing the poles and anchoring the cover, and a specially tailored piece of covering material. The covering material is extremely well waterproofed and is made out of as few separate pieces as possible. Where two pieces must be joined (to form a sharp angle between ceiling panel and wall panel, for instance), the seam is reinforced with another thickness of covering material. The result is a true structure that can keep out all but the strongest wind and heaviest precipitation — perhaps even better than the miner's shack can.

A *small* shelter will hold one human-sized character or two smaller characters (dwarves, gnomes, or halflings) comfortably, plus all their personal gear (backpacks, sacks, etc.). It can be used to shelter up to twice as many occupants in close quarters.

A *medium* shelter will easily accommodate two human-sized characters (or the equivalent in smaller characters), or up to twice as many in close quarters.

A *large* shelter is designed to hold four human-sized characters, and can sleep five or six men if the group can store some of its gear outside the shelter. It will hold seven or eight men in close quarters, but no more than eight can sleep inside it without some of the occupants being literally on top of others — very close quarters indeed.

The figures for *Encumbrance Value* and *Cost* are in gold pieces.

Setup Time is a variable number of turns representing how long it takes for a single character to break out the gear, set up the pole(s), drape the covering material, and anchor the edges of the cover. In the case of a poor or adequate shelter, this assumes that characters have rope (and, for a poor shelter, some objects with which to anchor the cover). A second character can assist, reducing the time by 1 turn. If a character with proficiency in rope use does the job, with or without help, he can set up the shelter in half the time (rounded up) indicated by the die roll. In any case, it takes at least 1 turn to set up a small shelter, 2 turns for a medium one, and 3 turns for a large one.

Taking down the shelter and re-packing it can be done in 1 turn less than it took to put it up (regardless of how many characters assist). A character with proficiency in rope use can dismantle and properly pack a shelter in half the time that it takes a nonproficient character. In any case, it takes at least five rounds to dismantle and pack a small shelter, 1 turn for a medium one, and 2 turns for a large one.

Moisture Resistance refers to the greatest intensity of precipitation that a shelter can keep out. If the rain or snow is heavier than the indicated value, some of it gets through the shelter and falls down on the occupants as though they were in a storm of one step lighter in intensity. For instance, a poor shelter will protect those inside from a light rainfall or snowfall. But if the precipitation is of moderate intensity, those inside will be doused as if they were in the open during a light storm (and so on up the scale of intensity). A superior shelter will protect those inside from even a downpour, as long as the wind is not too strong (see Wind Resistance, below) and as long as the force of the storm does not separate the shelter from its moorings.

Wind Resistance is a number representing the greatest velocity of wind that the shelter can withstand without "leaking." For every 10 mph of actual wind velocity greater than the indicated number, those inside the tent will feel a wind of 5 mph (and the effective temperature inside the shelter will change accordingly). If the wind velocity exceeds twice the indicated number, there is a 25% chance for each 10 mph of additional velocity (checked each hour) that the shelter will be damaged by the wind, and useless until it is repaired. For example: A poor shelter provides complete protection from the wind at speeds of up to 20 mph. If the wind is blowing at 30 mph, those inside the shelter will feel a breeze of 5 mph. At 40 mph, the breeze inside is 10 mph. At 50 mph, the breeze inside is 15 mph and there is a 25% chance per hour that the shelter will suffer wind damage. At 60 mph, the "breeze" inside has reached a hefty 20 mph, and the chance of wind damage is 50% per hour.

Life Span may be thought of as a shelter's "hit points," reflecting the fact that nothing lasts forever. A new or freshly repaired shelter has the indicated number of "life span points," which are deducted at the following rates: 1 point for each three times it is

put up; 1 point for each time it is exposed to wind speeds above its Wind Resistance figure that do not do actual damage; 2 points for each time it is exposed to precipitation equal in intensity to its Moisture Resistance value; and 4 points for each time it is exposed to precipitation greater in intensity than its Moisture Resistance value. When a superior, good, or adequate shelter loses enough points to bring it down to the maximum value of the next lower category, it is treated as a shelter of that category from then on (until it deteriorates completely or is repaired). When a poor shelter loses half of its maximum points (from 40 to 20) it is useless as a shelter until it is repaired. Repair costs and the availability of such services are in the province of the Dungeon Master, but it seems likely that hauling a dilapidated poor shelter into town and paying to have it fixed would be spending more effort and time than the endeavor is worth. Cut up the cover (which is probably pretty badly cut up already) and make it into sacks or saddle blankets — it'll serve you better and last longer.

The life span of a shelter does not take into account the many hazards and mishaps that can make a shelter old before its time. Wind damage is mentioned above. A hailstorm may (at the Dungeon Master's discretion) punch a few holes in a shelter's covering or weaken the seams so that it loses some of its protective benefit. If you grab a handy tent pole and crack it by flailing on the wild bear that's terrorizing your camp, don't expect it to hold the weight of the shelter covering after that — certainly not in a stiff wind. Any number of unfortunate things can happen to the sticks of wood and pieces of covering that stand between adventurers and the outside world, but barring such occurrences most shelters will serve well for an adventure, or two, or longer.

REST AND COMFORT

Adventurers are a hardy lot — they have to be, or they don't remain *live* adventurers for very long. But even the toughest barbarian needs to rest frequently in order to remain in top condition. And it is not only the *quantity* of rest that is important — the *quality* of the rest makes a difference, too.

How Much Sleep?

To remain in the best possible physical and mental condition, a character should spend no more than 16 hours per day in active adventuring pursuits — traveling, fighting, etc. (This "active time" includes rest stops taken to avoid fatigue, which do not count as actual rest for the purpose of these rules.) The remainder of each day is the time that should be set aside for making camp, eating, and sleeping. Setting up a shelter, hunting and foraging, and cooking or preparing the nighttime meal should all be able to be done in three hours at most, with perhaps a little time left over for boasting around the campfire. And then it's time for sleep.

A character needs five hours of sleep every 24 hours to avoid the risk of ill effects from lack of rest. If he is not properly rested, the ill effects may not show up right away, and might not manifest themselves at all if he is lucky. On the other hand, his lack of rest might come back to haunt him at a very inopportune time.

Table 37: EFFECTS OF LACK OF SLEEP

Average Rest Per Day	Effects
Less than 5	Dexterity Checks at +1
Less than 4	Dexterity Checks at +2 Strength Checks at +1 −1 "to hit"
Less than 3	Dexterity Checks at +3 Strength Checks at +2 Wisdom Checks at +1 −1 "to hit" Climbing Rating −10% Movement Rate −25%
Less than 2	Dexterity Checks at +4 Strength Checks at +3 Wisdom Checks at +2 Constitution Checks at +1 −2 "to hit" Climbing Rating −20% Movement Rate −33% Weight Allowance −50 × Strength
Less than 1	Dexterity Checks at +5 Strength Checks at +4 Wisdom Checks at +3 Constitution Checks at +2 −3 "to hit" Climbing Rating −30% Movement Rate −50% Weight Allowance −100 × Strength

The effects on the preceding table do not set in until a character has gone for two days without getting at least five hours of sleep during one of those days. He can stay up all night and function normally throughout the next day, but if he doesn't get at least five hours of sleep on the following night then the effects will begin at sunrise or when he awakens.

Average Rest Per Day is calculated on a day-by-day basis whenever a character goes for two or more consecutive days without getting at least five hours of sleep during one of those days. As soon as he gets five hours of sleep in a single day, any and all effects are negated; the character is physically and mentally replenished by the simple act of getting one good night's sleep, even if he has been deprived of sufficient sleep for several days in a row.

"Dexterity Checks at +1" and similar entries mean that the given modifier is applied to the die roll whenever an Ability Check or a Proficiency Check related to the indicated ability is called for.

The "Movement Rate" entries are expressed as a reduction of the character's normal large-scale movement rate. This reduction is taken after all other adjustments (for terrain, encumbrance, etc.) are accounted for. The penalty does not apply in combat situations or at other times when movement is considered as feet per round instead of miles per half-day. For instance, a character with a normal movement rate of 12″ can travel only 6 miles per half-day on foot if he is operating with less than 1 hour of sleep. However, if he is ambushed along the way, he can still move at 12″ while the combat episode is being resolved.

The "Weight Allowance" entries mean that a character's carrying capacity is reduced by the indicated amount (50 or 100 times his strength score, in gold pieces) and his encumbrance status may also change because of his diminished ability to carry equipment.

Examples:

A character gets four hours of sleep one night and four hours the next. Beginning on the following morning, he has a slightly smaller chance of succeeding on a Dexterity Check or a Proficiency Check related to dexterity. If he continues to get only four hours of sleep a night, this condition will persist. It will disappear as soon as he gets at least five hours of sleep in a single day.

A character with a strength of 10 goes without sleep for a full day, and suffers no ill effects the following day. But he is unable to get a full night's sleep the following night and has to settle for three hours of slumber. When he awakens, the effects of his lack of rest (less than 2 hours per day for the preceding two days) begin. Before he went to sleep, he took off the gear he was wearing and carrying, which amounted to 1050 gold pieces of encumbrance value. Now, when he tries to put it all back on, he discovers that he cannot walk with such a heavy load. (His carrying capacity has decreased by 50 × 10, or 500, gold pieces, so he cannot carry more than 1000 gp of encumbrance and even if he does so, he will be severely encumbered instead of heavily encumbered.) If he makes it through the day under these burdensome conditions, he can fully refresh himself by getting five hours of sleep that night. He can also replenish himself by immediately lying down and snoozing for another two hours, which would give him a total of five hours of sleep during the present day.

Good Sleep vs. Bad Sleep

The phrase "a good night's rest" speaks to the quality of the *rest*, not the *night*. For a character to fully benefit from his sleeping time, he must be able to rest in comfort — which isn't always easy to achieve in the wilderness.

If a character is trying to sleep when any of the following conditions exist, the amount of "good rest" he gets is reduced accordingly:

−1 hour	Character not prone or in relaxed position
−1 hour	Lying on bare ground (no bedding or padding)*
−1 hour	Personal temperature below 0 degrees
−2 hours	Personal temperature above 90 degrees
−2 hours	Wind of 20 mph or greater with no shelter*
−3 hours	Light or moderate precipitation with no shelter*
−3 hours	Character wearing any metal armor except plate
−4 hours	Character wearing any kind of plate armor

* — These penalties do not apply to a character wearing plate armor.

The Dungeon Master should add up all of the penalties that apply and reduce the hours of sleep the character gets by the indicated amount. If the total penalty exceeds the amount of time the character spends trying to sleep, then resting didn't do him any good; either he simply failed to get to sleep, or his sleep was so disrupted and restless that he wasn't refreshed at all.

It is impossible for a character to sleep in extreme weather conditions such as a lightning storm, a hailstorm, or a sandstorm unless he is inside a shelter, and even then the commotion caused by the storm may keep him awake. The Dungeon Master may wish to expand the above list of penalties to account for other circumstances where it is difficult or impossible to get good-quality rest.

One way to compensate for "bad rest" is to spend a longer time sleeping. For instance, if a character wearing plate armor beds down for a typical night's sleep of five hours, he will only get the equivalent of one hour of actual rest. But if he sleeps for nine hours (and everybody else in the group doessn't mind waiting for him to wake up), he will be just as refreshed the next day as if he had taken off his armor before sleeping for five hours.

Sometimes the best way to sleep is uncomfortably. If characters have good reason to think that they might be set upon by a band of ruffians during the night, then sleeping in full armor is probably more prudent than taking it off. Because the penalties for lack of sleep do not go into effect until after the second night of deprivation, all a character needs to do is be sure he gets enough sleep on one night out of every two.

In cases where a few minutes are important, the Dungeon Master should use the following guidelines for how long it takes a character to get into and out of his armor. Considering only the actual armor class of the type of armor being worn, subtract the armor class from 9 to determine how long it takes to put on the armor: Leather armor (AC 8) can be donned in one round, while banded mail (AC 4) requires five rounds. For any plate armor (bronze plate mail, plate mail, field plate armor, or full plate armor), add 2 rounds to the calculated figure, and add an extra 5 rounds for field plate or full plate if the wearer is putting it on without help. A character putting on full plate armor (AC 0) needs 11 rounds to do it with the help of a comrade, or 16 rounds to do it singlehandedly. Taking off armor can be done in half the time required to put it on — from ½ round for a character to get out of his leather gear, up to 8 rounds for someone to get out of a suit of full plate armor without help.

FIRE: FRIEND AND FOE

While a campfire is not an integral part of a campsite, characters usually will want to build a small fire when they stop for the night. Although a fire is needed for cooking, that function is incidental for the purpose of these rules; technically, practically any food that characters can obtain by hunting or foraging is just as edible, and at least as nutritious, if it is eaten raw. (However, some plants are poisonous *unless* they are cooked, so characters who do not habitually cook their food may eventually regret their indiscretion.)

The primary function of a campfire, of course, is to provide warmth — warmth that can sometimes make the difference between life and death. Depending on the size of the party and the amount of warmth needed or desired, a campfire can be built in one of three sizes.

Table 38: CAMPFIRE CHARACTERISTICS

Size	Fuel	Start	Refuel	Wind Res.	Cap.	Vis.
Small	6	2d20	3	20	6	240
Medium	12	2d20+5	6	30	10	360
Large	18	2d20+10	9	40	15	540

	Warmth Provided at Given Distance								
	1	3	5	10	20	30	40	50	60
Small	80	60	40	30	20	10	0	0	0
Medium	—	80	60	40	30	20	10	0	0
Large	—	—	80	60	40	30	20	10	0

Fuel gives a value, in turns, for how long it takes a single character to gather enough wood or other combustible material to keep a fire of a certain size burning for eight hours. This assumes, of course, that firewood is available in the environment;

see the text below for how the availability of fuel varies depending on the climate, type of terrain, and time of year.

Start gives the number of rounds it takes for a character without proficiency in fire-building to ignite the fuel and stoke the blaze until it reaches the indicated size. This assumes that the character has the tools for fire-starting (flint and steel, and a tinderbox), the fuel is dry and easy to ignite, and the fire is exposed to a breeze of no more than 15 mph. If the wind velocity is greater than 15 mph or the fuel is wet, the time needed to start the fire is 3d20 instead of 2d20 (plus the extra time for a medium or large fire). A character without proficiency in fire-building cannot start a fire without the aid of tools, and no character can start a fire in a wind of more than 30 mph without magical assistance. For more information on the fire-building proficiency, see the section on Wilderness Proficiencies.

Refuel, expressed in turns, refers to how often a fire's fuel must be replenished in order for it to remain at a certain size. If a fire is not refueled at least this often, it will shrink to a fire of the next lower size. A small fire will not go out if it is not refueled within three turns, but it will get so small that it provides no warmth.

Wind Res. stands for wind resistance. This quality pertains only to unprotected fires or those that are built in front of shelters that do not keep out all the wind that blows against them. In a wind greater than the indicated velocity, the fire will falter and flicker, providing no warmth. In addition, there is a chance that the wind will spread the fire to nearby combustible materials and may start a larger, uncontrollable fire.

Cap., or capacity, gives the number of human-sized characters or creatures that can bed down at a distance of 10 feet from the fire and receive the full benefit of its warmth throughout a night of sleeping. A fire's capacity doubles for each additional 10 feet of distance. For instance, six men can bed down in a rough circle 10 feet away from a small fire, and the same fire will warm 12 men equally if they all position themselves 20 feet away. If characters cluster around a fire at a distance of less than 10 feet, the fire's capacity diminishes by one-third at five feet, by one-half at three feet, and by two-thirds at one foot away. Four characters can bed down within five feet of a small fire, three characters can cluster within three feet of the fire, and two characters can be within one foot of a small fire at the same time.

Vis., or visibility, gives a number, in yards, indicating the distance at which a fire of the given size is visible in moonlight or darkness. In twilight conditions, this figure is reduced by one-third; in daylight, by one-half. In all cases, the viewer's line of sight must be relatively unobstructed: The flame of a large fire will be easily visible at night from 540 yards away on a flat, featureless plain. Likewise, the glow of the fire will be seen from an equal distance even if it is being viewed through a moderately dense forest. It will not be visible from a very long distance away if the viewer and the fire are on opposite sides of a steep hill. In twilight or daylight conditions, the flame of a fire may not be visible from the indicated distance — but the smoke given off by the fire will reveal its presence nonetheless. For information on how well a campfire illuminates the surrounding area (from the perspective of those within its radius of illumination), see the section on Vision and Visibility.

Warmth Provided at Given Distance shows how much a fire increases the effective temperature of the surrounding air at various distances from the fire (expressed in feet). The minimum safe distance for a certain fire is the distance at which the air temperature is raised by 80 degrees; a character or creature who gets closer to a fire than the safe distance and does not move away promptly (within five segments) may suffer damage as a result. An entry of "—" on the table indicates such a case; an unprotected character cannot remain closer than three feet from a medium fire or five feet from a large fire without being burned.

The warming capabilities described on the table assume that the fire is not exposed to a wind velocity of more than 10 mph. If the wind blowing on the fire is greater than 10 mph, the warmth it provides on the side facing the wind is reduced by 5 degrees for every 10 mph or fraction thereof of additional velocity. On the side facing away from the wind, the safe distance is increased by 10 feet or one increment on the table (whichever is less) for every 10 mph or fraction thereof of wind velocity greater than 10 mph.

Example: A medium fire is blazing away in a north wind that is blowing at 30 mph. A character bedded down on the north side of the fire 20 feet away benefits from only a 20-degree increase in warmth (instead of 30, which is the amount of warmth the fire provides in calmer wind), and someone on the south side of the fire must be at least 10 feet away from it to avoid the possibility of suffering damage from the heat (instead of 3 feet, which is the safe distance for a medium fire in calmer wind).

Table 39: AVAILABILITY OF FUEL

	Winter	Spring	Summer	Autumn
Desert	20	20	20	20
Forest	70	100	100	100
Hills	40	70	70	60
Mountains	20	30	40	40
Plains	50	70	80	70
Swamp	40	30	30	40

The above table gives the percentage chance that characters will be able to gather fuel (wood) for a fire from their immediate surroundings, assuming that the given terrain is in a temperate climate. Modifiers for other climates are as follows:

	Arctic	Subarctic	Subtropical	Tropical
Desert	−20	−10	−10	−20
Forest	−100	−30	+30	+30
Hills	−30	−20	+10	+20
Mountains	−40	−30	+20	+30
Plains	−60	−40	+20	+20
Swamp	−40	−20	+10	+20

If a check for availability of fuel indicates that none can be scavenged from the immediate area, and characters keep moving in hopes of finding a better spot to make camp, the Dungeon Master should allow further checks every two turns.

Precautions and Perils

In the outdoors, there is no such thing as a safe fire. If a campfire is left untended for more than a few minutes or not properly extinguished when it's time to move on, it can spread and grow with amazing speed into a conflagration that may be impossible to bring back under control.

The cardinal rules of fire safety are the same in the game universe as they are in the real world. In summary, the rules are:

1. *Do not build a fire on top of combustible material.* Always find a large patch of bare ground, or clear an area of all living and dead vegetation, before building a fire on that spot. It will take from 1 to 3 turns for a single character to clear an area (Dungeon Master's discretion), depending on the size of the fire to be built and the current wind velocity; in a reasonably strong wind, sparks and ash from a fire can be carried as far as 100 feet away.



2. *Do not build a larger fire than you need.* If a small fire will serve your purpose, don't heap fuel on it until it grows to medium or large size. It's usually better to build two small fires instead of one medium fire; smaller fires are easier to control and can be extinguished more quickly (see below).

3. *Never leave a fire untended.* The primary duty of a sentry is to be alert for threats to the safety of the group, and the threat of a fire getting out of control is always present unless the characters on sentry duty are on the lookout for sparks and bits of glowing ash. A campfire will throw off sparks and ash once every 1d3 turns, and those bits of flame will be carried in the direction of the wind for 10-30 feet (10 feet for a small fire, 20 feet for a medium one, 30 feet for a large one), plus one foot for every 1 mph of wind velocity. If the sparks and ash land on combustible material, there is a 1 in 6 chance that the material will catch on fire. If this "wild fire" is not extinguished promptly, it may grow into a large blaze that could end up charring the terrain for several miles around. How quickly and how far a fire spreads is determined by the Dungeon Master depending on the circumstances. If the wind velocity is very strong and the combustible material is very dry, a fire with plenty of fuel can reach uncontrollable proportions in a matter of minutes. If the wind is calm and the combustible material is very sparse or very wet, the fire may go out by itself. In an average case (light to moderate breeze, fairly combustible material), a tiny flame will grow into a small fire in 1 turn, into a medium fire in 2 turns, and into a large fire in 4 turns. If the fire is not extinguished within 6 turns (one hour) after it started, it will have grown to uncontrollable size, either because of the height of the blaze (a flaming grove of trees) or because of the area it covers (a grass fire sweeping across the plains). See the following text on Uncontrollable Fires for information on the effects of a very large blaze.

4. *Always put out what you started.* The fire that kept you cozy all night might be nothing more than a pile of glowing embers at sunrise — but it's still a fire, and it still can spread if characters leave the campsite before extinguishing it. A single character can extinguish a small fire built on bare ground in 5 rounds by stirring and separating the ashes, stamping on the larger pieces that are still burning, and covering the remains with dirt. A medium fire can be extinguished in this way in 1 turn, and a large fire can be put out in 2 turns. This time is cut in half if a second character assists, or if a sufficient amount of water is sprinkled or poured on the embers — 1 gallon for a small fire, 2 gallons for a medium fire, or 4 gallons for a large one. If the fire had to be built on top of combustible material, the time needed to extinguish it is twice as long as given above, because the material beneath the fire must also be separated and stirred. Even if all proper precautions are taken, there is a 1 in 10 chance that a fire built on top of combustible material will not be completely extinguished. If a campfire is left alive, it will flare up in 2d4 turns after characters leave the area and may then spread to the surrounding terrain as described above.

Uncontrollable Fires

A fire that gets out of control will spread and grow as long as it remains in contact with fuel, or until some outside force (a rainstorm, creation of water by magical means, etc.) acts upon it to slow it or put it out. Such a fire will fan out from the place where it started, at first burning in a rough circle and then gradually "stringing out" until it becomes a line or wall of fire advancing in the direction of the wind. Animals — and characters, if they are wise — will flee from the path of the fire, either by running ahead

of the flames or (if the creature is at least semi-intelligent) by trying to skirt one end or the other of the advancing wall.

An uncontrollable fire will advance at a speed equal to one-half of the wind velocity, or at a speed of 5 mph in any case. In calm air or a light breeze, a man or animal moving at a trot can stay safely ahead of the flames; however, most creatures threatened by a fire will probably move faster than that for as long as they are able.

One way to halt the advance of an out-of-control fire without using water is to build a firebreak — an area of ground in the path of the fire that has been churned up and cleared to remove most or all of the combustible material. Spells such as *dig* and *move earth* are helpful in this effort. A party containing a fighter with 18 strength and a *spade of colossal excavation* may also be able to kill a fire in this fashion. Even if a very extensive fire cannot be entirely extinguished by a single firebreak, the firebreak can be used to cut the blaze in half, so that characters can deal with two smaller fires instead of one large one. If characters do not have the means to extinguish an uncontrollable blaze, they may be able to at least save themselves by clearing an area and remaining in that spot while the fire burns around them and then moves on farther downwind. However, the characters may still suffer damage from heat or flames (see below) if they do not clear a large enough space and the fire gets too close to them.

Damage from Fire

In reality, no unprotected character can be immersed in or closely surrounded by flames for very long without dying. In the realm of heroic fantasy, direct exposure to fire is not always lethal — but it's still not something to be taken lightly.

As a general rule, a character who is engulfed in flames will suffer 10-15 points of damage (1d6+9) per round. This damage is cut in half (rounded up) if the victim makes a successful Constitution Check with a +4 modifier to the die roll. If a character suffers damage of this sort equal to one-third of his full normal hit-point total, he has been rendered unconscious from the trauma of the burns, and is no longer allowed Constitution Checks to offset part of the damage.

The preceding rule applies only when the victim is fully within a fire, or when most of the surface of his body (clothing and gear) is actually aflame. A character who comes into brief contact with a fire (for instance, when he leaps through a wall of fire) suffers 1d8 points of damage, and every major piece of clothing or equipment he is carrying must save versus normal fire to avoid being ignited. For every major item that catches fire, the character will suffer an additional 1d3 points of damage per round until the flame is extinguished or the item is discarded. A character whose gear catches fire can avoid damage by making a successful Wisdom Check, indicating that the character has remained calm, hit the ground, and rolled in order to put out the flames. An unsuccessful Wisdom Check indicates that the character has panicked; he will run at top speed in a random direction (away from the fire, if possible) and will take 1d4 points of damage per round until another character catches him and helps to put out the flames.

A character need not be in direct contact with fire in order to be hurt by it; at short distances, extreme heat can be almost as damaging as actual fire. A character who is closer than 5 feet to a large fire (such as a forest fire or a grass fire) or closer than 3 feet to a medium fire will suffer damage as if he was exposed to a temperature of 120 degrees or higher. (See the Temperature Damage to Characters Table in the section on Effects of the Environment.) However, in this case the damage adjustments for level of activity do not apply; someone who is inactive will take just as much damage from the fire's heat as someone who is engaged in strenuous activity. If the distance between the character and the fire is greater than the amounts given above, the character is relatively safe but may still suffer damage from exposure to extremely high temperatures (as shown on the Temperature Damage to Characters Table).

Obviously, there are a large number of possible situations not covered by these rules for damage from fire. Using what is given here as a guideline, the Dungeon Master must make reasonable rulings on the amount of damage and the chance of avoiding damage that are appropriate in a particular situation. In any event, fire is something that characters should respect, if not fear: "Playing with fire" can have disastrous consequences if its destructive power is allowed to spread.

MEDICINE AND FIRST AID

In most areas of the wilderness, nature has provided the means for characters to help themselves if they become injured or ill — but in order to take advantage of these benefits, characters must know what they are searching for and be able to correctly identify it when they find it.

Wherever vegetation is found, characters may be able to locate plants that have medicinal purposes. Appendix J in the *Dungeon Masters Guide* (pages 220-221) gives a long list of such plants and the beneficial powers that they are known or reputed to have. It is beyond the scope of these rules to specify which plants are found in which areas, or exactly what effects the plants have when they are used; such decisions must be left in the domain of the Dungeon Master. What these rules do provide is the following table, which gives guidelines for the chance that medicinal plants exist in a particular terrain and climate combination.

Table 40: AVAILABILITY OF MEDICINAL PLANTS

		Winter	Spring	Summer	Autumn
Arctic	D	0/0	5/10	10/10	0/0
	H	5/10	10/10	10/10	5/10
	M	0/0	0/0	5/20	0/0
	P	5/20	5/20	10/20	5/20
	Se	10/10	10/20	15/20	10/10
Subarctic	D	0/0	5/10	15/10	5/10
	F	70/30	85/30	100/20	75/30
	H	20/20	30/20	40/30	25/20
	M	10/20	15/20	20/30	15/20
	P	20/20	30/30	50/30	30/20
	Se	25/10	35/20	50/30	35/20
	Sw	15/10	20/10	30/10	20/20
Temperate	D	10/10	5/10	5/10	5/20
	F	80/30	90/30	100/30	90/30
	H	65/20	75/30	90/40	80/20
	M	20/20	30/30	40/30	30/20
	P	50/20	60/30	75/40	60/20
	Se	50/20	65/30	80/30	65/20
	Sw	30/10	35/20	40/20	35/10
Subtropical	D	5/10	5/10	0/0	5/10
	F	90/40	100/40	100/40	100/40
	H	80/40	90/40	100/50	95/50
	M	40/30	55/40	75/40	60/30
	P	80/40	90/40	100/40	100/40
	Se	80/30	90/30	100/30	95/30
	Sw	40/10	50/20	50/20	50/10
Tropical	D	5/10	5/10	0/0	5/10
	F	100/40	100/40	100/30	100/40
	H	90/30	100/30	100/30	95/30
	M	85/40	90/40	90/30	90/40
	P	100/40	100/40	100/40	100/30
	Se	90/30	95/40	100/40	95/30
	Sw	50/10	60/10	70/20	60/10

Each entry on the table consists of two numbers. The number to the left of the slash is the percentage chance that the area in question contains vegetation, which might include plants that have a medicinal purpose. The number to the right of the slash is the percentage chance that a character, in one turn of gathering, will locate a patch of one particular medicinal plant. If the number rolled on this second check is one-half or less of the number to the right of the slash, then the character has been able to successfully locate and identify the type of plant he was searching for. If the number rolled on the second check is in the upper half of the possible range, then the plant that was discovered is not of the type desired, but the character who found it will incorrectly assume that it is. A character with proficiency in plant lore has a significantly greater chance of finding a medicinal plant in an area where vegetation is present, and if he does locate such a plant it will always be of the type he was searching for. (See below, and also refer to the section on Wilderness Proficiencies.)

When searching for a medicinal plant, a character need not (and should not) restrict his search to one specific kind of vegetation. Instead, he searches for any plant that performs a certain function — a plant that helps stop bleeding; a plant that cures a stomach ailment; a plant that helps counteract poisoning; and so forth.

Example: A party is moving through a region of tropical hills in the winter, and one of its members is in dire need of medicine to bring down his fever. Another member decides to search for a plant that will help his stricken comrade. The chance of finding vegetation in the immediate area is 90%, and one roll of percentile dice by the Dungeon Master indicates that vegetation does exist, so the search can proceed. After the character spends one turn searching, the Dungeon Master makes a second roll. This result is 15, indicating that not only was the searcher able to find a beneficial plant, but it is of the type he wanted (and the character will know this). If the result of the second roll is 16-30, the searcher was able to find a medicinal plant, and he believes it to be of the desired type, but actually it has some other function. If the plant is ingested by the feverish character, it will have no effect on his ailment and might even make his condition worse in some respect. If the result of the second roll is greater than 30, no plants of medicinal nature were found on the search.

A character can search for medicinal plants continually (one search per turn) as long as he keeps moving and thus does not search the same area more than once. (Repeated searches of the same area by the same character will automatically fail.) As with all other types of searching activities, the character must concentrate on what he is doing and his movement rate is slowed accordingly. The Dungeon Master may attach other penalties or provisions to a searching character, such as a greater chance of being surprised and a slower reaction time (saving throw penalty) in a situation requiring dodging or quick movement.

Despite what is stated in the preceding paragraph, the Dungeon Master should not permit players (and their characters) to take unfair advantage of the opportunity to discover medicinal plants. If a character insists on searching for beneficial plants constantly in an obvious attempt to turn himself into a walking storehouse of medicine, the Dungeon Master is free to disregard any dice rolls indicating success and simply rule

that no medicinal plants are found during a long period of searching. On the other hand, if the need for medicine is genuine but the odds of finding the right plant are small, a character who persists in his search should not be penalized.

Proficiency in Plant Lore

If characters are venturing into the wilderness without ready access to healing and curing magic, or want to safeguard themselves against the possibility of losing that aid along the way, their chances of survival will be increased if the party contains someone with proficiency in plant lore. Such a character cannot locate vegetation where it does not exist, but if there is greenery to search through, then a proficient character has a greater chance of finding the type of plant desired. See the section on Wilderness Proficiencies for details on the benefits that such a character brings to the party.

INJURIES AND TREATMENT

With certain exceptions, the rules of the game do not account for specific injuries or the effect of wounds on particular parts of the body. Lost hit points are simply lost hit points; in practically every case when a character is injured, the exact nature of his injury is not specified and does not need to be.

However . . . there are occasions when logic and circumstances strongly indicate that an injured character has a specific problem. If this is the case, then prompt action on the part of an injured character or a comrade can sometimes reduce the adverse effect of a wound or other type of injury.

Some special methods of treatment are discussed in the description of the healing proficiency (see the section on Wilderness Proficiencies). These methods include: restoring lost hit points by promptly tending to a wound; caring for an injured comrade to improve his recuperative powers; and aiding a character who has been poisoned or has come down with a disease. Besides these special skills, available only to a character with proficiency in healing, there are some general first-aid skills that are common knowledge among most adventurers and which can be used by anyone who takes the time to perform them, assuming that the necessary materials are available. Most of these general skills are only useful if the Dungeon Master rules — with proper reason, of course — that a character has suffered a specific type of injury. Below is a list (far from exhaustive) of specific injuries and the proper treatments that can reduce the effect of the injury or improve the victim's ability to recuperate.



Broken bone (arm or leg): Putting a splint on the injury will keep the ends of the broken bone properly aligned and make healing possible. A character who suffers a broken bone in an extremity will not be able to regain any hit points lost due to the injury until he is fitted with a splint, and if he attempts to use the injured extremity even while it is splinted he will immediately suffer an extra 1d6 points of damage; in addition, he will neutralize any healing of the broken bone that had taken place up to that time. For purposes of administering this rule, assume that for a character with several injuries, the broken bone is the last injury for which hit points are regained. Most other types of injuries (burns, wounds, etc.) will heal before a broken bone is mended.

Minor burn: The best treatment for a burn is to deprive the affected area of air by immediately immersing it in water for at least two turns or by wrapping it tightly with a clean cloth. If these measures are taken, the burn will heal at the normal rate (1 hit point per day). If the burn is not protected from the air, the victim must take a −1 penalty on all attack rolls and saving throws because of distraction due to the pain of the injury, and the burn will heal only half as fast as normal.

Major burn: If more than half of a character's body has been burned, he must be treated as described above and in addition he must be allowed to rest until he has regained at least half of the hit points lost due to the burn. If he moves under his own power or performs any other voluntary physical activity before he is well on the way to recovery, he will forfeit all the hit points he had regained up to that point and will suffer an additional 1d4 points of damage for each round of activity. Also, the victim's "pain penalty" is −3 instead of −1, applied on all attack rolls and saving throws. A character suffering from major burns will usually still be able to ride a mount or be carried by a comrade or on a stretcher, so the party is not necessarily immobilized during his recovery period.

Major wound: If a character is hit by an opponent wielding an edged melee weapon and the unmodified damage roll is 6 or higher, the Dungeon Master may rule (at his discretion, or on a 25% chance) that the weapon blow struck an artery, causing severe bleeding. A character who suffers this type of major wound will lose an additional 2-4 (1d3 + 1) hit points per round thereafter until the wound is tended to. Either a comrade or the victim himself (if the wound is in an accessible place) can stem the bleeding by applying pressure directly to the wound for 2-7 consecutive rounds (1d6 + 1). While the pressure is being applied, the victim will lose 1 hit point per round until the required amount of time has passed (at which point the bleeding has been stopped). Although the bleeding can be halted by wrapping the wound tightly, the victim will not be able to recover hit points lost from this injury unless this procedure is performed by a character with proficiency in healing. If the pressure is released before the necessary time has gone by, the benefit of the first aid is negated; bleeding will begin again, and pressure must be applied for another 2-7 rounds (the Dungeon Master can either use the original result, or roll again for an added amount of randomness) before the bleeding is stopped.

Minor wound: It is assumed that any character who suffers a wound that breaks the skin will at least bandage the wound, or have it bandaged by a comrade, at the first available opportunity.

Any wound that does not cause severe bleeding (see above) will not get worse, in terms of lost hit points, if it is not tended to. However, a character who totally disregards his injuries by not even bothering to have them covered should be penalized by having a greater chance of contracting a disease due to infection. Perhaps he won't get sick — but if he does, he and his comrades will soon learn to appreciate the good sense of caring for injuries when they occur.

Skin ailments: This category of injury includes rashes and insect bites. Neither type of injury is important, and neither one should be dealt with in game terms, unless the Dungeon Master rules that the ailment has a noticeable effect on the victim. The itching or pain that results from such an ailment may impair a character's ability to perform a delicate task, such as a thief attempting to disarm a trap or a spell-caster concentrating during the casting of a spell. The Dungeon Master should attach a penalty to the chance of success that is appropriate for the situation. For instance, a thief's chance to remove a trap should be reduced by one-quarter or one-third of the usual percentage, depending on the severity of the affliction; the chance of a spell being ruined during casting should be set at from 2% to 10% for each segment of the spell's casting time. A magic-user casting *feather fall* (casting time 1/10 segment) will be able to get the spell off even if he is itching like crazy, but he is better off not trying to cast *find familiar* (casting time at least 1 hour) until the itching or pain has subsided. A minor skin disorder will clear up by itself in 1d3 days if it is not aggravated, and the healing time can be reduced by the application of an appropriate medicinal plant such as chaulmoogra oil or plantain (see *Dungeon Masters Guide*, Appendix J).

Other types of injuries — sprains, concussions, internal injuries, pulled muscles, torn ligaments, and so forth — are not considered here for two primary reasons. First, adventurers (who are generally presumed to be in good shape and possessed of good sense) do not suffer these sorts of injuries very often, and so any rules concerning their likelihood and their treatment would probably have little usefulness. Second, there is a tremendous amount of variability in the intensity of these sorts of injuries and their effect on the victim. If it is important to the participants in a campaign to have rules on how to handle a minor sprain versus a severe sprain or a pulled leg muscle versus a pulled shoulder muscle, it should be a fairly simple matter for the Dungeon Master to develop rules for how such injuries affect a character and how the injury is best treated to enable the victim to heal as quickly as possible.

First Aid Equipment

Unless characters expect to go through an adventure unscathed (and what adventurer in his right mind expects that?), it is a good idea for the party to include in its gear some of the necessary materials for administering aid to those who are injured in the line of duty. Brief descriptions of some of the essentials are given below.

Bandages: At least one person's backpack should contain several swatches of clean fabric for covering and binding wounds and burns. In a pinch, some article of clothing can be torn into strips and used for bandages, but an adventurer's clothing is usually not clean (so that there is a possibility of infection even if the wound is bandaged) — and what will you wear after you use the shirt off your back to cover and protect your wounds?

Splints: If characters know they are going to be traveling through a wooded area during at least part of their journey through the wilderness, it may not be necessary to set out with splints among their gear. But if they have to climb a mountain or cross a desert, it is wise to pack at least a couple of straight, short (2-3 feet long) pieces of wood or some other rigid material that can be bound along the sides of a broken limb to keep the bones properly aligned. A large piece of thick leather or untanned hide (perhaps acquired along the way) can be used as a splint, as long as it is large enough and rigid enough to keep the limb and the joints on both sides of the limb immobilized, in the same manner that a plaster cast is used in present-day medicine.

Stretcher: Although a stretcher can be fashioned from its component parts before it is needed and then transported as part of a party's gear, most groups of adventurers will prefer to carry the parts separately and assemble a stretcher if and when it is needed. The necessary parts are a pair of poles at least as long as the injured character's height, one or more pieces of sturdy cloth or leather large enough to offer a surface upon which the victim can recline, and some means (rope or cord of sufficient length) of binding the poles to the edges of the cloth or leather. Two comrades can carry an injured character on a stretcher, as long as each of them is able to support half of the victim's weight without being too encumbered to move.

Litter: This piece of equipment is essentially the same as a stretcher, except that extra rope or cord is required to bind the victim to the frame. One character (or one mount or beast of burden) can transport a character who is bound into a litter, as long as the carrier is able to support half of the victim's weight without being too encumbered to move. It is usually not wise to try to transport a character in a litter over rugged or very rugged terrain (see the section on Encumbrance and Movement), because one end of the litter is always on the ground and the injured character can be jostled as the litter skids and bumps along the ground. If it is important for the victim to be kept more or less motionless because of the nature of his injuries, the Dungeon Master may decide that a trip over rugged or very rugged terrain will actually cause the character to suffer further damage as a result of the rough handling.

VISION AND VISIBILITY

The power of sight is something that characters often take for granted — until they lose it. In the wilderness, the ability to see a great distance and know what you're seeing can make the difference between being able to move fast or slowly; between surprising and being surprised; and, sometimes, between life and death.

A character or creature can have as many as three types of visual senses — normal vision, infravision, and ultravision. Each one has advantages in some situations and disadvantages at other times.

Normal Vision

Normal vision is what humans and most other creatures and character races use most of the time. It is the ability to see images, colors, and other visual phenomena within the range of the so-called "visible spectrum," between the infrared and ultraviolet ranges of the full spectrum of light waves. In clear air during daylight, the effective range of normal vision is 500 yards. This means that a character with an *unobstructed* view can see a size M creature or object at this distance well enough to recognize its basic form. A creature or object of size S is visible from 250 yards away, and one of size L is visible from a distance of at least 1000 yards — or perhaps a much greater distance for exceptionally large creatures or objects (such as a dragon or a tall building).

"Unobstructed" is an important word here, because practically anything in the line of sight can be an obstruction. When the viewer and the target are both on the ground and at the same elevation, ideal viewing conditions are rare. If a six-foot-tall orc is standing in the middle of a flat and totally featureless plain, its form will be visible to a character 500 yards away. If the field is covered with a three-foot height of grass and foliage, the orc's image is smaller because only half of its body is visible, and thus it can only be viewed from 250 yards distant (as if it was a size S creature).

An unobstructed view often occurs when the viewer and the target are at drastically different elevations. A character standing on the peak of a lone mountain rising high above the plain around it can see for miles in any direction. However, his effective range of normal vision is unchanged; he must still be within 500 yards of a size M object or creature in order to be able to distinguish its basic form and possibly identify it.

Of course, the converse is true as well: The character standing on the peak is himself visible and recognizable to any other viewers within 500 yards. Obviously, long-range visibility can be a blessing and a curse at the same time, depending on one's point of view.



Table 41: OUTDOOR RANGE OF NORMAL VISION

	Daylight	Twilight	Moonlight	Darkness
Clear	500	300	50	25
Overcast	400	250	50	25
Moderate fog	150	100	25	15
Heavy fog, rain, or snow	50	30	15	10
Heavy snow with wind	35	25	10	5
Blowing sand/dust	20	20	10	5

Entries on this table are expressed in yards. The given range is the distance at which a viewer can discern a size M object that stands out from the terrain and other surroundings adjacent to it; double this figure for a size L object and halve it for a size S object.

The ability to see something at the given range assumes that the viewer is concentrating on long-range vision and that the target, if one exists, is not concealed or attempting to keep itself from being seen. If the orc from the above example were to lie down in the middle of the flat, featureless plain, a character's chance of spotting it from a long distance would be greatly reduced. And if it lies down in three-foot-high grass, of course, it is effectively invisible until the viewer gets very close to its location.

In daylight or twilight, a character can employ long-range normal vision and short-range normal vision at the same time; that is, he can keep an eye out for obvious objects immediately in front of him and for objects in the distance simultaneously (in effect), simply by shifting his gaze every few seconds. In conditions of sufficient illumination, it is possible to move at full normal speed and remain cognizant of visible features at both short range and long range as long as the character keeps shifting his gaze. Many objects will become obvious at short range just because they *are* obvious. For instance, it is practically impossible for a character to casually stroll over the edge of a cliff in daylight or twilight even if his attention is fixed on an object on a distant mountain peak; his field of vision will take in the edge of the cliff before he gets to it — assuming that he isn't staring up into the air and walking toward the edge at the same time.

In moonlight or darkness, when illumination is scant or practically nonexistent, it is much more difficult for a character to keep moving and remain cognizant of short-range and long-range objects at the same time by shifting his gaze: In the space of a few seconds, a character could come upon the edge of a crevass or a pit that he didn't see the last time he looked at the area directly in front of him. A lone character on the move in moonlight or darkness is usually better off paying attention to what he's walking on instead of what he's walking toward, unless he is sure that the terrain immediately in front of him is not treacherous. If two or more characters are traveling together, they can best protect themselves by dividing "lookout duty"; one peers far ahead, while another pays close attention to the ground a few paces in front of them. Of course, the safest way to scan the distance in conditions of poor illumination is to first come to a stop and then peer ahead into the darkness — but even that will not make a character safe from a hazard that is nearby and moving toward him, silent and unseen. . . .

Infravision

Infravision, or "heat vision," is the ability to see the shapes of objects by sensing radiation in the infrared spectrum. All nonhuman player characters have infravision, most of them out to a range of 60 yards (outdoor scale). Halflings other than pureblooded Stouts have an infravisual range of 30 yards; drow, duergar, and deep gnomes have infravision out to 120 yards. In-



fravision is useless in daylight or when the viewer or the target is bathed in artificial illumination stronger than moonlight; in such cases, the normally visible light overrides the heat radiation, and the former is all that can be sensed.

A character using infravision sees heat as "light": Very cold objects are very dark, hot objects are very bright, and temperatures between the two extremes are seen as varying shades of gray. The "color" of objects being viewed with infravision is classified on a scale from 1 to 10, with 1 being pitch black and 10 being excruciatingly bright:

"Color"	Temperature
1	Below −50
2	−50 to −11
3	−10 to 15
4	16 to 32
5	33 to 50
6	51 to 70
7	71 to 90
8	91 to 110
9	111 to 130
10	Above 130

The first thing to consider when determining the effectiveness of infravision is the temperature of the air. This will dictate the overall level of brightness that a character using infravision will perceive. An object or creature with a surface temperature that is warmer or colder than the air around it will appear as a brighter or darker image against the backdrop of the atmosphere. Keeping the phrase "surface temperature" in mind, use the folowing examples as guidelines for what a character using infravision can or cannot perceive:

A human (body temperature approximately 98 degrees) wearing nothing thicker than normal clothing will appear brighter than his surroundings when the air temperature is 90 or lower. The same holds true for demi-humans and most size M humanoids, assuming that they have body temperatures roughly the same as a human's.

A human completely bundled in heavy clothing will have the same surface temperature as the surrounding air, and thus will not be detectable by infravision. However, if just a small part of the body (such as the face or hands) is uncovered or not fully protected, those areas will appear as small spots of brightness (or darkness, if the air temperature is very high).

In most cases, infravision will not detect the presence of an object or creature when the line of sight is obstructed; a man crouched behind a large rock is invisible to infravision, just as he would be to normal vision. However, an object or creature that gives off a great amount of heat or cold might be indirectly detectable because its presence actually changes the temperature of the surrounding air. A campfire built behind a large rock would warm the air around it, and the side of the rock facing the viewer would appear as a dark shape outlined against a lighter background.

As indicated by the above "color table," extreme heat or extreme cold will render infravision useless, assuming that everything in the range of vision is effectively at the same temperature. In a very cold climate (temperature lower than −50 degrees), everything will appear pitch black; in a very hot climate (temperature higher than 130), infravision will detect nothing but a blanket of almost blinding brightness. In fact, a character using infravision can be afflicted by "heat blindness" if he suddenly finds himself in close proximity to a large fire or a source of great heat. If a *wall of fire*, for instance, springs up a short distance in front of a character while he is employing infravision, the flash of brightness he perceives will "burn out" his infravision and render the power useless until *cure blindness* or similar healing magic is applied. In a less extreme case, the viewer might be only temporarily "blinded" to infrared rays, perhaps for a period of 5-10 turns (1d6+4) while his eyes recover from the shock.

Infravision will not detect the presence of cold-blooded creatures (reptiles, insects, and most other nonmammalian creatures) because the temperature of such a creature is, by definition, the same as that of the surrounding air. However, if magic is used to abruptly change the temperature of the surrounding air, a cold- blooded creature will stand out against the background for a short time thereafter because its body temperature does not change that quickly.

Ultravision

Ultravision, or "night vision," is the ability to see into the ultraviolet range of the spectrum and thereby distinguish objects from their surroundings even in darkness. In fact, the word "darkness" takes on a different meaning for someone using ultravision: He can distinguish colors, shapes, and the relative position of objects even in the absence of light in the normal visible spectrum. Only one character race, the deep gnome, has inborn ultravisual capabilities. Such a character has night vision to a range of 30 yards, meaning that objects within that range are visible to him just as if he was using normal vision during daylight. Other characters can acquire ultravision temporarily through magical means, such as a *lens of ultravision* and the *ultravision* spell, which can be cast by a magic-user or an illusionist. The exact capabilities bestowed by magical ultravision (range and amount of illumination perceived) vary depending on the means employed.

As with infravision, this power is useless when the viewer or the target is illuminated by any light source brighter than moonlight. A character who tries to use ultravision in daylight or in an area affected by artificial illumination will see nothing but blackness.

Ultravision works best during a moonless night under a clear sky. When any of the following conditions exist, the range of ultravision is affected accordingly:

Moonless night, partly cloudy: × 2/3
Moonless night, overcast: × 1/2
Moonlight, partly cloudy: × 1/3
Moonlight, overcast: × 1/4
Viewer standing under thick cover: × 1/4

The last of these modifiers is cumulative with any other modifier that applies; thus, someone in the middle of a thick forest on a moonlit, overcast night has ultravisual capabilities out to only 1/16 of the range he would have under ideal conditions.

Artificial Illumination

Some important statistical information about artificial light sources is given on page 102 of the *Players Handbook*. The details in this section supplement that information and provide more facts relevant to the outdoor environment.

The use of an artificial light source in moonlight or darkness will enable characters within the area of illumination to see with normal vision as if the natural light was twilight (or perhaps daylight, as in the case of a *continual light* spell). However, the specified radius of illumination of the light source takes precedence over the figures on the Range of Normal Vision Table (above). For instance, a character holding a torch on a clear night can only see his surroundings out to a radius of 40 feet (the torch's radius of il-

lumination), even though in actual twilight conditions under a clear sky he would be able to see 300 yards without the aid of a light source.

Torch: The radius of illumination and the burning time of a torch can both be affected by wind velocity. If the wind is blowing at less than 10 mph, the figures given in the *Players Handbook* apply. If the wind is between 11 and 25 mph, the flame of the torch will struggle and flicker, providing reliable illumination only out to 30 feet instead of 40, and the torch will burn out in 4 turns instead of 6. If the wind is between 26 and 40 mph, radius of illumination is not further reduced but the flame will only last for 2 turns at most, and there is a 25% chance (checked every five rounds) that the torch will be extinguished by the wind and must be reignited. In a wind of more than 40 mph, it is impossible to keep a torch burning for more than 1 round. It takes 1 round to light a torch, plus 1 round for every 10 mph of wind velocity; this time is cut in half for a character with proficiency in fire building. In moonlight or darkness, a lighted torch can be seen from as far away as 200 yards.

Lantern: A lantern or a bullseye lanthorn is generally much more reliable as a light source in the wilderness. The flame is protected, so it will not flicker or be extinguished by the wind, and the radius of illumination generally remains constant. In moonlight or darkness, the light from a regular lantern can be seen from 100 yards away. The beam of light from a bullseye lanthorn can be seen from 200 yards away if the viewer is looking directly back toward the source of the light, or from 100 yards away if the viewer's gaze is directed across the path of the beam.

Magic weapons: This kind of light source illuminates a smaller area than a torch or a lantern does, but it has the advantages of not needing fuel and not being affected by the wind. In moonlight or darkness, the glow of a magic weapon can be seen from a distance of ten times its radius of illumination: 100 feet for a magic dagger, 150 feet for a magic short sword, or 200 feet for a magic long sword.

Campfires: A *small* campfire provides illumination in an 80-foot radius; a *medium* campfire lights up an area 120 feet on all sides; and a *large* campfire has a radius of illumination of at least 150 feet (perhaps more, if the fire is especially large). For other information on fires, see the section on Camping and Campfires.

The use of any artificial light source (including magical *light*) in moonlight or darkness limits long-range visibility to varying degrees for all characters within the illuminated area. A character holding a lantern, for instance, will not be able to make out any details in the darkness immediately beyond the 30-foot radius that the lantern illuminates. However, someone standing at the fringe of the illuminated area can still see normally into the darkness ahead of him. If a group of characters is attempting to travel at night with the aid of artificial light, the Dungeon Master should take note of which characters are carrying light sources and where other characters are located with respect to the lightholder to determine what the group can and cannot see as they move along.



NATURAL HAZARDS IN THE WILDERNESS

VOLCANOES

Volcanic eruptions are perhaps the most visually spectacular, and certainly among the most dangerous, of all the natural hazards that can occur in the wilderness. A volcano can lie dormant for such a long time that it is all but forgotten about, even in local legends handed down from those who survived the last eruption generations ago. Then, in the space of days or even hours, it can come "alive" and mercilessly unleash all the fury it has been storing up. Other volcanoes are almost perpetually active; once every few weeks, they spit out a bit of ash and smoke — not enough to greatly affect the environment or those who live nearby, but enough to remind anyone within eyeshot that someday it may do more than merely huff and puff.

Three types of volcanic eruptions are described here for game purposes. Any single volcano will always erupt in only one of the three types; a volcano will not spout a lava eruption one time and an ash eruption the next. Each type is distinctly different, not only in what the eruption produces but in the effects it will have on anyone or anything in the vicinity.

Lava Eruptions

Volcanoes that exude red-hot, molten lava are colorful and look quite threatening, but actually have a relatively small potential to harm characters who are within sight range when it is erupting — unless, of course, they stay in one spot and allow the flowing lava to touch them.

In an eruption, lava is pushed up and out from a layer of molten rock beneath the mouth of the volcano. (The molten rock is properly called magma when it is inside the volcano, and lava after it is expelled.) The red-hot liquid can actually spray out of the center of the crater, if it is forced out by fairly high pressure from beneath and if the molten rock is relatively thick. Often the lava merely "gurgles" up, out, and down the sides of the volcano. The more fluid the magma beneath the surface, the less violent the explosion that occurs when it is propelled up to the surface. Sometimes, some of the lava will find its way out through fissures in the sides of the volcano if the mountain has such structural weaknesses. This helps to dissipate the force of the eruption out of the mouth of the crater, but does not eliminate the possibility; lava can come out of the top and sides of a volcano at the same time.

Lava can flow for miles before it cools and hardens; the distance it travels depends upon the slope of the volcano and the configuration of the surrounding terrain. The liquid will incinerate any combustible objects it comes into contact with, even after it has cooled so much that it is barely still flowing. And even after it has stopped flowing and *looks* cooled, the lava will retain enough heat for 2d3 weeks thereafter to seriously burn any character or creature who touches it.

A character who is capable of movement and in control of his faculties can almost certainly avoid coming into contact with flowing lava if he is standing even a short distance from the source of the flow. The stuff doesn't move very rapidly — a speed of 250 yards per hour is about average for a lava flow — and it doesn't usually come gushing forth in massive quantities at one time.

A greater danger to characters nearby comes from the expulsion of pyroclastic material — blobs of semi-hardened magma and chunks of rock that have been carried along in the upward flow of the liquid. These "bombs" and "blocks," as they are called, can be thrown high and far by the force of the eruption, and someone standing in the wrong place at the wrong time might be hit by one or more of these sizzling chunks.

For a random determination of what kind of lava eruption occurs, the Dungeon Master can roll 1d4 and refer to the indicated result from this list:

1-2 The eruption is fluid magma that will spew from the volcano for 2d6 days. The lava comes out very slowly, but it is very hot. Any character closer than 500 yards to a significant source of flowing lava will take at least 1d6 points of damage per turn from radiant heat, and possibly much more than that if he is considerably closer than 500 yards. The effective temperature of the air 1/4 mile from the site of the eruption will increase by 50 degrees and remain at that temperature for as long as the eruption continues. Of course, the temperature increase will be much more than 50 degrees in close proximity to the site. The increase will taper off by 10 degrees per 1/4 mile of additional distance from the site, until no heat difference is detectable from 1 1/2 miles away.

3 The eruption is thick magma that will spray into the air as well as flow out around the edges of the mouth of the volcano. The lava will continue coming out for 2d4 days, and during that time any character closer than 500 yards to a sizable quantity of it will suffer at least 1d4 points of damage per turn. The effective temperature of the air 1/4 mile from the site of the eruption will increase by 30 degrees; this increase diminishes by 10 degrees for every 1/4 mile farther away, so that at 1 mile away no heat difference is felt.

4 The eruption is thick magma plus pyroclastic material. In addition to the effects described in the preceding paragraph, the bombs and blocks produced by this eruption can hurt or kill any character who is too close to the mouth of the volcano. There is a 1% chance per hour that a character within 1,000 yards of the site of the eruption will be hit by one or more chunks of pyroclastic material, causing him to lose 2d6 hit points from burn damage and impact damage. For every 100 yards of distance less than 1000 yards, the chance of being hit increases by 5% per hour and the damage from a hit increases by 1d6.

Ash Eruptions

Volcanoes that have ash eruptions can and often do expel some lava at the same time, but the molten rock is overshadowed — quite literally — by huge clouds of thick, hot ash. Aside from the initial "blast" that begins the eruption, volcanoes of this sort are seldom violent; the danger they pose comes not from explosive force or heat, but from the enormous amount of ash, dust,



and minuscule lava particles (all referred to hereafter as "ash") that they expel and spread over the surrounding area.

An ash eruption usually begins fairly abruptly, as a great portion of the pent-up force inside the volcano expends itself by throwing a billowing mass of ash into the air. The original cloud can easily be 2,000 or 3,000 feet high directly above the mouth of the volcano, and so thick that one cannot see into it, much less through it. The lighter particles can be carried by the wind for dozens of miles before settling to the ground; even at that distance, the accumulation on solid surfaces can be as great as three or four inches over the course of an average-length eruption of moderate intensity. The ash blanket is much thicker, and much heavier, in areas closer to the eruption site where the greater mass of the material comes to earth.

The ash will choke and kill any green plant life that receives even a moderate dusting. Ironically, though, the chemical composition of volcanic ash makes it one of nature's best fertilizers: Within as little as a few months after an ash eruption, the slopes of a volcano will again be covered with plants that have thrived on the rich soil that killed their predecessors.

The eruption of Mount St. Helens in the northwestern United States during 1980 and 1981 (actually, there were six separate incidents over a 10-month period) was an ash eruption. In addition to the damage done by the ash and rock that was spewed from the volcano's mouth, the eruption had other effects that demonstrate how devastating an ash eruption can be. The superheated gas expelled from the summit of the volcano melted the surrounding snow cover, which led to mudslides that covered more than 100,000 acres of land in the vicinity. The initial blast on May 18, 1980, had a force equal to a 10-megaton hydrogen bomb; the concussive force knocked over trees as far as 4 miles away. During the entire time when the volcano remained active, the summit of the mountain was pulverized; the peak of Mount St. Helens was 9,677 feet above sea level before the eruption and only 8,364 feet when the last expulsion of ash subsided.

In game terms, an ash eruption will be one of three general types; for a random determination, the Dungeon Master should roll 1d6 and refer to the following list:

1-3 The eruption will be light to moderate in intensity but of extended duration; ash will be expelled for at least 12 hours each day for a period of 3-6 weeks (1d4 + 2). During the entire duration of the eruption, a significant amount of ash (at least 2 inches of total accumulation) will be carried 16-25 miles (1d10 + 15) away from the eruption site in the direction of the prevailing winds, and heavier amounts of ash (6 inches or more) will settle everywhere within a radius of 5-10 miles (1d6 + 4) of the site. A character within 2,000 yards of the eruption site will suffer 1d3 points of burn damage per turn from the hot particles that settle on his body (unless, of course, he is in a shelter or otherwise protected). In addition, such a character must make a saving throw versus breath weapon once per turn to avoid going into a choking fit (−4 on attack rolls, +4 to be hit). A character who fails two saving throws in succession is in danger of being asphyxiated or suffocated; he will take 1d4 points of damage per round, and will die unless he can receive aid within one turn.

4-5 The eruption will be heavy in intensity but of relatively short duration; ash will be expelled for 6-11 hours (1d6 + 5) each day for a period of 1d3 weeks. A significant amount of ash will accumulate 10-15 miles (1d6 + 9) away from the site in the direction of the wind, and a heavy accumulation (9 inches or more) will come down everywhere within a radius of 3-8 miles (1d6 + 2)

from the site. The danger zone for characters is 4,000 yards, with effects as described above upon those who are unprotected and within that area.

6 The eruption will be heavy (as described in the preceding paragraph), and in addition the first 3-8 days of the eruption will be marked by the expulsion of pyroclastic material. See the last paragraph of the above section on lava eruptions for the possible effects on characters who are in the area of falling bombs and blocks.

Explosive Eruptions

This type of eruption is impossible to characterize in general terms because it can take so many forms. The one thing that all explosive volcanoes have in common is *power*. When the eruption begins, the opening salvo can be strong enough to literally blow the top off the volcano. A volume of several million cubic feet of rock around the mouth of the crater cracks and crumbles, and the peak of the volcano collapses into the chamber of magma or ash (or both) that lies beneath the surface.

Any characters or creatures within sight range of an explosive eruption are in mortal danger from a variety of sources. A huge cloud of ash and pyroclastic material will spew forth and rain down on the surrounding countryside. A glowing avalanche of thick lava and heavy ash will flow out and down from the newly enlarged mouth of the volcano, threatening to incinerate and then inundate anything within a radius of 3-5 miles. Either the ash cloud or the glowing avalanche, or both, will exude superheated air and noxious gases with the effect of a double-strength *cloudkill* spell: Breathing the air for as little as one-half round will slay anything with fewer than 8+1 hit dice. Those with 8+1 to 10+1 hit dice must save versus poison at −4, and those with more than 10+1 hit dice must save versus poison normally to avoid death.

Fortunately, an explosive eruption gives those in the area sufficient warning before its fury is unleashed. The volcano will puff out small ash clouds, leak small amounts of lava, and perhaps send moderate tremors through the ground for 1d3 days before the eruption begins with full force. Anyone who remains in the vicinity despite these signals will get what he deserves.

EARTHQUAKES

When the earth moves, nothing can stand its ground. In other words, the only way to avoid an earthquake is to take to the air at just the right time. Fortunately, however, earthquakes don't occur very often; those that do occur are generally confined to small areas; and the vast majority of earthquakes strong enough to be noticeable are not strong enough to do any harm.

At the other extreme, a violent earthquake can crumble a cliffside, crack open a flat field, and move countless tons of rock and earth in the space of a few seconds. Any living thing in the immediate vicinity of a strong quake is in jeopardy — not so much from the tremor itself, but from what the quake does to the countryside.

If a strong earthquake occurs in a heavily populated area, the shock waves and their aftereffects can devastate entire cities. But since the scope of this book does not include cities, villages, and other places where large groups of people live, this discussion of earthquakes is limited to quakes that occur in wilderness areas that have no stable human or humanoid populations.

As stated above, most earthquakes occur only in specific areas. Those areas are generally located along fault lines, where two sections of bedrock come together and exert pressure against each other. (The Dungeon Master has information to help him determine where fault lines should be located; it is up to characters to find out for themselves where those places are.) A quake occurs when this continually building pressure becomes so intense that the strength of the rocks themselves cannot contain or absorb it. Something has to give, so one or both of the rock masses shifts along the fault line — and the energy released by this movement travels through the ground in the form of shock waves. Because they extend over a much larger area, these shock waves can do much more actual damage than the fault-line shift that started the quake. One earthquake can cause another one, if the tremors from the first one happen to set off activity along a second, nearby fault line. And a quake hardly ever ends with just one tremor. Aftershocks can occur sporadically for several days afterward as mountain-sized slabs continue to settle into what will be their final configuration — final, that is, until the next earthquake.

Types of Quakes

For game purposes, earthquakes are classified as light, moderate, or severe.

A *light* earthquake is perceived as a shivering or vibrating force that travels through the ground and anything in contact with it. The tremor lasts for a few seconds, often even less than that, and produces no effects that are directly hazardous to characters.

However, it could happen that a quake strikes at the precise time when a character is performing some task that requires concentration, delicate balance, or careful movements. A magic-user who is trying to prepare a spell will have his concentration disrupted, and the spell will be ruined. A thief engaged in the meticulous business of defusing or avoiding a trap will be jostled, and there is a 50% chance that this will cause him to fail even if an earlier dice roll indicated that he would succeed. Anyone attempting to walk a tightrope will have his chance of success cut in half, and will fall to the ground unless he manages to grab the tightrope by making a successful Dexterity Check. Any character involved in some other similar type of activity may likewise be affected; the Dungeon Master must exercise his judgment to determine when a light quake is more than just momentarily upsetting.

A *moderate* quake normally lasts for 10-15 seconds (d6+9), occasionally (20%) less than that, and sometimes (30%) more than that — up to 25 or 30 seconds. It has all the effects of a light quake, and in addition has the power to dislodge a character from a precarious position even if the position is not particularly unstable. For instance, a character who is straddling a limb or branch of a tree when a moderate quake hits will be toppled from his perch unless he makes both a Dexterity Check (reacting to his predicament in time) and a Strength Check (grabbing the limb and managing to hold on until the quake subsides). Someone climbing a severe or moderate slope must make a Climbing Check at a −50% penalty to his Climbing Rating to avoid losing his footing and tumbling down the slope. A character specialized in the use of a missile weapon takes a −2 penalty "to hit" if he gets a shot off during a moderate quake, unless the shot is at point blank range. A non-specialist using a missile weapon does so with a −3 penalty "to hit" at short range, a −5 penalty at medium range, and a −7 penalty to long range — in addition to the usual penalties for medium and long range. Any character attempting to engage in melee combat takes a −3 penalty on all attack rolls, and if he misses he will slip and fall as if he was trying to attack while standing on a slippery horizontal surface.

Besides the bothersome and potentially harmful effects of the tremor itself, a moderate quake can endanger characters in the area who are in a position to be hit or buried by sliding earth and



natural debris generated by the force of the quake. A character at the base of a cliff or a severe slope may find himself set upon by a rockfall or a mudslide, depending on the makeup of the terrain. (Of course, anyone climbing either of those surfaces is also subject to these perils.) A character standing under a tree has a 1 in 8 chance of being hit if the tree is uprooted and falls. It is rare, but possible, for a moderate quake to open a fissure in the ground, and an unfortunate character who is standing in that exact spot will take falling damage (and possibly abrasion damage as well, if he bounces off the sides of the crevass before hitting bottom). A *very* unfortunate character, if he isn't killed by the fall, will be suffocated or crushed if the two sides of the fissure happen to move toward each other after separating.

A *severe* earthquake has all the effects of a moderate quake, but all penalties and all chances of unfortunate occurrences are multiplied by two: The penalty to a character's Climbing Rating is −100% instead of −50%; the penalty to attack rolls in melee combat is −6 instead of −3; the chance of a rockfall occurring adjacent to a cliff face is twice as great; and so forth. A severe quake will last from 40-90 seconds (1d6+3), during which time the only sensible course of action is to hit the ground (but not from 50 feet in the air), cover your head, and pray to the deity of your choice.

TIDAL WAVES

The seacoast may be a nice place to go for a vacation, but it's no place to be when a wall of water slams into the shore. A tidal wave is created by some cataclysmic occurrence on the ocean floor, such as an earthquake or the eruption of an undersea volcano. The resulting shock wave does not dissipate relatively rapidly, as is the case when such a force moves through solid matter. Instead, the ocean water in the immediate vicinity absorbs the force, which is then passed on to the surrounding water with relatively little decrease in intensity. Unless and until something gets in its way, a tidal wave can travel for thousands of miles and still possess enormous force when it hits land. Imagine the "ripple effect" that occurs when you drop a pebble into a pond, multiply that by a few million times in terms of speed and volume of water affected, and you have a rough approximation of what a fairly docile tidal wave is like.

A character who is within sight of the shore and is looking out to sea will notice the oncoming wall of water, and recognize it for what it is, when it is one-half mile away from the shore. This much warning may provide time to take some precaution (aerial movement, magical protection, etc.) before the wave hits land — but time is at a premium: The velocity of the wave will be at least 150 miles per hour, which means that even in the best case less than 30 seconds will pass from the time it is sighted until the time it hits the shore. The wave will be at least 75 feet tall and 500 feet long when it hits, which translates to a volume of almost 30 million gallons for the smallest tidal wave possible.

A tidal wave may rush inland for several miles before its force is spent. (Its velocity will diminish rapidly after it hits land, but several million gallons of water moving at "only" 20 miles per hour can still wreak a lot of havoc.) How far inland it moves and how rapidly it dissipates are dependent upon the terrain along the coastline: If an ocean ends at the base of a cliff that rises 5,000 feet above the water, people standing a few hundred yards from the edge of the cliff might not even get wet — but if the terrain 20 miles inland is still only a few feet above sea level, people standing there have almost as much to fear as those who live on the coast itself.

A character directly in the path of a tidal wave will die — it's that simple. If he survives the buffeting he will take from being hit by the water, he will at least be knocked unconscious, and he will

drown shortly thereafter. If a character is hit by the wave after it has traveled some distance inland and lost a lot of its height and velocity, he can probably survive by "going with the flow" as long as he has proficiency in swimming. A character who cannot swim, or who cannot stay afloat, is in mortal danger even if he is hit by the wave at the very end of its inland incursion. The particular circumstances will dictate what happens in any situation, and it is up to the Dungeon Master to exercise his judgment when such judgment is called for.

FLOODS AND FLASH FLOODS

A flood is the result of the two most basic properties of water (or any other liquid): It flows from a place of higher elevation to a place of lower elevation, and it spreads out to cover the bottom and sides of whatever it is contained in. When a volume of water is too large to be held within a container, the overflow does just that — it flows over and upon the area adjacent to the container.

A flood can occur after a period of heavy rain in a low-lying area or an area that is lower in elevation than the land around it. In temperate or colder climates during late winter and early spring, a flood can also result when the temperature is unusually high for several days in a row. The heat wave causes the snow cover to melt rapidly, producing water at a rate faster than the ground's ability to absorb it. Floods of this sort can produce enormous amounts of overflowing water, as the accumulated solid precipitation of the winter months is abruptly converted to liquid — and the flood is intensified if the ground under the snow cover is frozen or partially frozen, since this further reduces its ability to soak up the water.

Usually, flooding will only occur in an area adjacent to a river or a lake that is fed by rivers. The excess rainfall or melted snow flows from higher elevation to lower elevation, eventually finding its way into a river or lake (which is as low as it can go). But that container isn't large enough to hold the extra volume, so the water ends up spilling out over the river bank or lake shore and inundating an area of land that is not normally underwater.

A flash flood occurs for the same reasons that a regular flood does, but its nature and its effects are quite different. A flash flood is a fleeting (and fleet) phenomenon; a mass of water in a flash flood may pass through an area in minutes, in contrast to a regular flood that builds slowly and usually inundates an area for several days before beginning to recede.

Flash floods occur most often in mountainous or hilly terrain after a heavy rain, in locations where a natural body of water (a river or a lake) is not present. The rainfall runs down slopes and accumulates in low spots, then continues to seek even lower elevation. As the water moves lower and lower on its journey down a mountain or hillside, it increases volume and picks up speed. A flash flood that began as a trickle at an elevation of 10,000 feet can be a rushing torrent by the time it descends to 5,000 feet — thousands of gallons of water moving forward and down at a speed of 30 to 50 miles per hour. When a tidal wave (see the preceding section) rushes inland, it produces effects very similar to those of a flash flood.

The only way to avoid a flood is to move away from the affected area before it becomes inundated. It's not difficult to avoid a normal flood, since the water level in the flooded area doesn't increase abruptly. But it's a bad idea to travel through or make camp in a mountain pass or a gully if a storm is brewing or if it has rained within the last two or three hours; a flash flood can come rushing through such an area with very little warning to characters or creatures in its path.

Common sense and circumstances will dictate what happens to a character caught in a flash flood. If he has proficiency in swimming, he can probably avoid drowning, but he may still suffer damage from being slammed against rocks, trees, etc., by the onrushing water. A character without proficiency in swimming can survive by treading water or holding his breath, but will need to find a place of refuge before he tires. If the path of the water carries a character past outcroppings and other protrusions, he may be able to grab something and hold on until the flood moves past that location. If such protrusions are available, a successful Strength Check indicates that the character has managed to latch on to something. Failure on this check indicates that the character has been battered against the protrusion he was trying to grab, and he will suffer 1d3 to 1d6 points of damage (depending on the velocity of the water and the nature of the protrusion). If this initial Strength Check succeeds, the character must make another Strength Check every two rounds for as long as the water continues to rush past; failure indicates that the force of the water has pulled his grasp loose, and he will again be carried downstream until the velocity of the flood abates or until he is able to grab another protrusion. With reference to any particular point along its path, a flash flood will last for 10-15 rounds (d6 + 9). After the flood passes, any level area it has moved through will still be covered to some depth by gently flowing water for the next 3d8 hours.

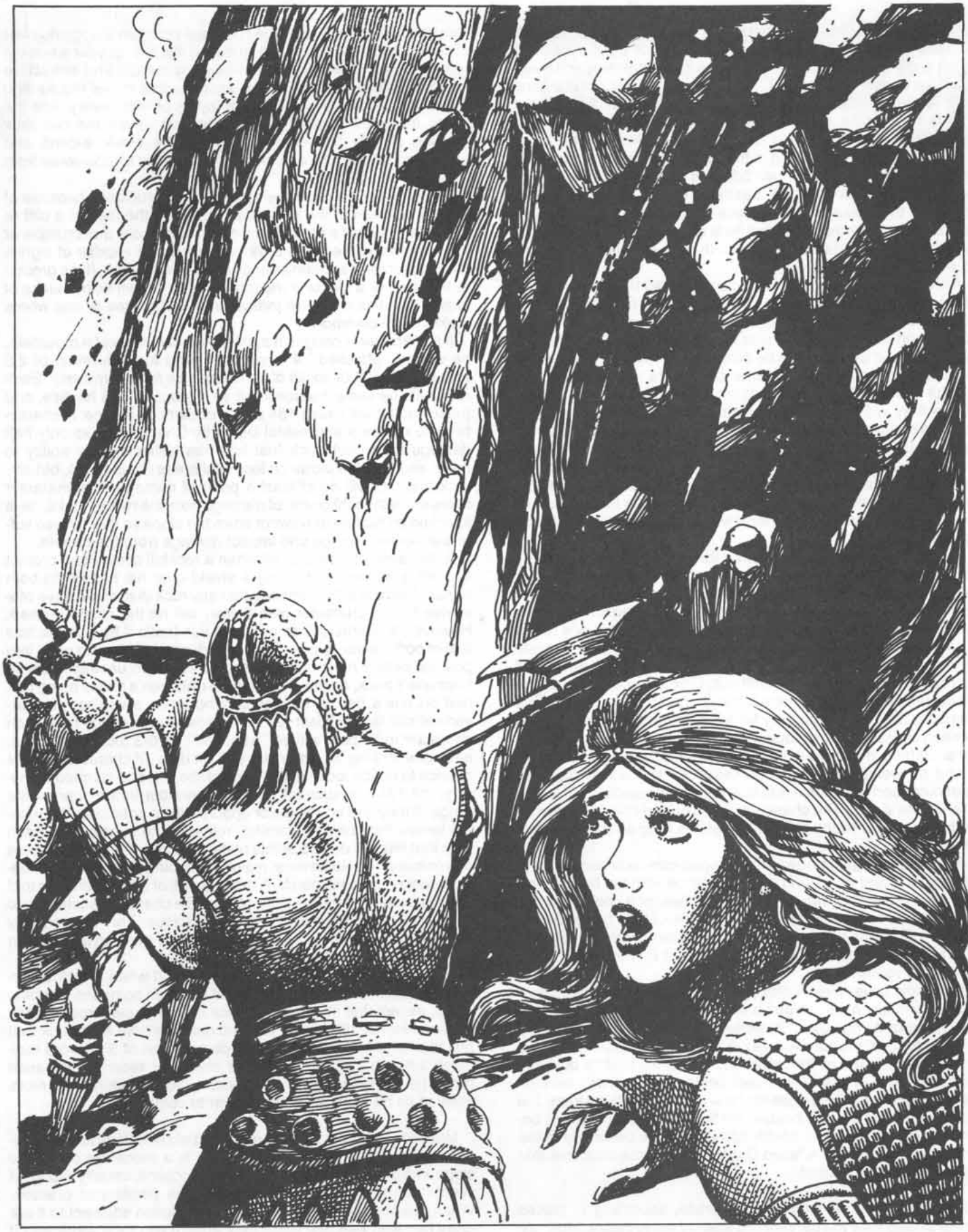
AVALANCHES, ROCKFALLS, AND MUDSLIDES

Whenever a mass of solid matter falls or moves down a slope, the phenomenon is described by one of these three terms. Technically, an avalanche can contain any solid material, or a mixture of several types (snow, ice, rocks, earth); however, in these rules, the term refers specifically to a mass of snow or ice that cascades down a mountainside or over a precipice. A rockfall occurs when a mass of earth or rocks, or both, is in motion down a slope or over a cliff. In a mudslide, the moving material is a mixture of earth and water that flows down a slope at a relatively slow speed.

An avalanche can occur on a moderate or severe slope in any mountainous region where the terrain has a heavy snow cover (12 inches or more). The most favorable conditions are present during the daytime when the sun is shining and the temperature is abnormally warm or at least higher than average. The heat partially melts the snow, which becomes heavier because of its greater water content. If some areas of bare rock are present in the vicinity of a large accumulation of snow, the chance of an avalanche is even greater because the heat of the sun and the air warms the rock. This heat radiates through the rock beneath the snow as well, giving it a higher temperature than the snow on top of it and further weakening the bond that keeps the snow attached to the surface it is covering. When the heat differential and the weight of the snow both reach sufficient proportions, the mass of snow will come loose from the slope and begin its trip down the mountainside.

An avalanche increases in volume and speed as it falls, because more snow is pulled loose by the weight and friction of the mass that is already falling. There is no good place to be in the path of an avalanche, but a character's chance of survival is considerably smaller if he is standing at the base of a slope than if he is located some distance up the slope — assuming that he is able to avoid being carried down the slope by the force of the falling snow.

A character caught in an avalanche will take anywhere from 2d10 to 3d20 points of damage from impact with the falling snow and debris that is carried along with it. The damage dice are determined by the Dungeon Master, depending on the size of the avalanche and the character's location when he is hit by it. This



damage is halved for a character who, knowing he is going to be hit, falls to the ground and curls into a ball to offer himself as much protection as possible. If a character is standing or moving when an avalanche hits him, he must make a successful *bend bars* roll to avoid becoming part of the avalanche. A character who is huddled in a protective position has a 50% chance of maintaining his position and not being swept away by the snow.

Whether he is swept along in the avalanche or not, a character will find himself buried under 2d3 feet of snow when the avalanche subsides (or 4d3, if he is at the bottom of the slope). If he is still alive, the character must make a Constitution Check. Success on this check indicates that he is conscious and may be able to dig himself out; failure indicates that he is unconscious and must be rescued by others.

A character who remains conscious can dig through the snow at the rate of 1 foot per round and thereby free himself — but he won't necessarily know which way is up. A character who was huddled on the ground and was not swept away when the avalanche passed over him will be properly oriented and will always dig in the right direction. All other characters must make a successful Wisdom Check (rolled in secret by the Dungeon Master) before they will know the right direction in which to dig. This check is rolled once per round for a character who is trying to dig himself out until a check is successful. If the first and subsequent checks are failed, the character is spending his effort digging parallel to the surface instead of toward it. When a check succeeds, the character has realized his error and turned in the right direction — but he may still have a long way to go before he breaks the surface.

If some characters have escaped the fury of the avalanche (by aerial movement or magical protection, for instance) or if they have managed to dig themselves out quickly, they may be able to locate the position of characters who are still buried and get them out. The base chance of finding the right spot to dig in one round of searching is 10%, modified upward by 1% per point of intelligence of the searcher and further modified by +25% if the buried character is trying to dig himself out. (The snow on the surface will be disturbed by the actions of the character underneath.) This chance is checked separately for each character searching and for each character being sought. For instance, if three characters are searching in an area where four of their comrades are buried, a total of twelve checks will be called for in the first round of searching, and the odds are that at least one searcher will locate at least one victim. The chance to find a buried character can be re-checked on a round-by-round basis as long as the search is continued.

A character digging down to a trapped comrade can do so at the rate of 2 feet per round if moving snow with his hands, or 3 feet per round if using an implement (weapon, pole, etc.) to loosen the snow and make it easier to move. Up to three characters can dig for the same victim at the same time, and for each extra character beyond the first one an extra 1 foot of snow can be moved per round.

The snow cover over a victim is not airtight and may contain trapped pockets of air, so that a character need not worry immediately about being able to breathe. However, the air supply will only last for 5-10 rounds (1d6+4). After that time has expired, the character is treated as though he is holding his breath, but without a chance to take a deep breath before doing so; see the section on Swimming for details on how this is handled. When the character's time limit for holding his breath expires, he must begin to make successful Constitution Checks as described in the section on Swimming. A failed Constitution Check indicates that the victim has suffocated.

Rockfalls occur in mountainous areas, especially in places where a deep valley separates two sharply rising peaks. They are most likely in areas where the rock faces contain a large number of cracks and outcroppings, and during the time of year when the temperature fluctuates between freezing at night and well above freezing during the day. Water accumulates in the cracks and small openings between different layers of rock; every time the water freezes it expands in volume and drives the two rock masses slightly farther apart. When the crack widens and lenghtens sufficiently, one of the rock masses breaks away from the other and falls.

Some areas are relatively more prone to rockfalls because of the composition of the rocks themselves. If the face of a cliff or the sloping side of a mountain is made up of rocks that crumble or fracture easily, the same area can produce a rockfall of significant proportions as often as once every two months. If the ground at the base of a cliff or a mountainside is strewn with chunks of loose rock, this is a sure indication that the area is one where rockfalls are common.

If a character is caught in a rockfall on the slope of a mountain, he will be "attacked" 4 times per round for a duration of 2-5 rounds (1d4+1) by rocks of sufficient size to do him harm. Each rock has the same chance to hit as a monster of 5 hit dice, and those that hit will cause 1d4 points of damage apiece. A character who makes a successful Dexterity Check will take only half damage from each rock that hits him (reflecting his ability to move and take the blows on less vital areas of his body), but any rock that hits will do at least 1 point of damage. If a character takes more than 20 points of damage from the rolling rocks, he is knocked off his feet and swept down the slope so that he also suffers abrasion damage and impact damage from the tumble.

A character climbing a cliff when a rockfall occurs can protect himself quite well by holding a shield over his head with both hands. There is a 75% chance that any rock that would have otherwise hit the character (see below) will hit the shield instead. However, a character can only use this tactic if he has the free use of both hands, is carrying a shield, and has time to get it into position before he is hit. It takes one round to unstrap a shield from one's back, or one-half round to unfasten a shield being carried on one's belt. A rockfall coming down a vertical or near-vertical cliff face will last for 1-2 rounds, during which time each character in its path will be "attacked" by 0-3 rocks per round, each one striking as a monster of 7 hit dice. (If characters had a chance to notice rocks at the base of the cliff and climbed it anyway, roll 1d4 and subtract 1 to get a number in the appropriate range. If they had no reason or opportunity to anticipate the rockfall before they began climbing, roll 1d6 and subtract 3.) Each rock that hits will do 1d6 points of damage. After any damage roll of 3 or more, the victim must make a Climbing Check to avoid being knocked from his perch. A damage roll of 5 or 6 indicates that the character's head has been hit, and if a character sustains two hits on the head he is knocked unconscious. This will certainly cause him to fall unless he is in a very stable position (such as on a wide ledge) or fastened to the cliff face.

A character standing at the base of a cliff when a rockfall occurs is subject to all the dangers that threaten someone climbing a cliff, except that he has no chance of falling, each rock strikes as a monster of 10 hit dice, and the damage from each rock that hits him is 1d8 instead of 1d6. A damage roll of 5 or more indicates a hit on the head, and if a character receives two such blows he will fall to the ground unconscious, making him more likely to be hit by rocks that have yet to come down.

Mudslides occur in a very specific set of conditions and circumstances. An area prone to mudslides is a moderate or severe slope with a fairly thick covering of loose topsoil, usually devoid of vegetation or only sparsely covered with plants and grasses. When this area and an area of higher elevation adjacent to it are drenched with rain, the earth may absorb so much water that it

loses its ability to adhere to the subsoil and becomes, in effect, a giant puddle of thick mud.

If the mixture gets to the point where it contains as much water as earth, the layer of mud will slide down the slope and settle in a flat spot at lower elevation. (The first part of the above statement is true for a mudslide that forms on a moderate slope; on a severe slope, the mixture will slide when it contains substantially less water.)

If a character finds himself on a slope when a mudslide begins to occur, he will be unable to avoid being carried down the slope unless the area contains some solidly rooted vegetation (a tree or a large shrub) that he is able to grab.

The trip down is dirty but not, under normal circumstances, dangerous; a character will not take abrasion damage from a muddy tumble, nor will be suffer impact damage at the end of the ride. But if the mudslide ends in a deep valley where a significant depth of mud can collect, a character may sink into the mire and suffocate. A character with swimming proficiency can stay on top of the mud indefinitely, as long as his present condition of encumbrance enables him to swim, and can make his way along the surface at 1″ per round in an attempt to get to safety. A character without proficiency in swimming can "tread water" on top of the mud for half as long as he is able to stay afloat in water; after that, he must make a Strength Check once per round. Failure indicates that he has sunk beneath the surface. He can survive for at least as long as he can hold his breath, and when that time limit

QUICKSAND

In any swamp or wet, low-lying area, characters may "stumble" upon a patch of quicksand — an area where water has saturated the ground to such an extent (and such a depth) that the terrain is thick and mushy. Despite its name, quicksand can be composed of earth as well as sand; in such a case, the "quicksand" is nothing more than a mudhole, which can be dealt with in the same manner described in the preceding text on mudslides.

Quicksand that is actually composed of sand is somewhat more treacherous than "muddy" quicksand, because the water-and-sand mixture is generally not as thick as a mudhole, which means that someone who walks or falls into it will sink more quickly. However, contrary to the popular impression, quicksand does not "suck" a victim beneath the surface. Someone who keeps his wits about him, and his head above the surface, can save himself by treading water and (if he has proficiency in swimming) making his way along the surface to a place of safety.

A character who falls into quicksand is in the same situation as someone who is caught in a mudslide (see the text at left). A nearby companion may be able to help a non-swimmer by extending a pole or branch that the victim can grab to help pull himself out. A rescuer who enters the quicksand to help a companion must have proficiency in swimming; otherwise, he will find himself in the same situation. A swimmer can enter quicksand and pull a victim to safety without jeopardizing himself.

Constitution Checks (as described in the Breath" in the section on Swimming) to

text on "Holding One's stay alive.





COMBAT RULES FOR WILDERNESS PLAY

Characters naturally prefer to engage in combat when they are in a position that affords them the greatest possible opportunity for attack and the best possible defensive posture. Unfortunately, the wilderness environment and the creatures that populate it are not usually so accommodating. More often than they would like, characters will be required to attack or defend in a position that is far from the best possible. At other times, they may enjoy an advantage when the tables are turned and the opponents are the ones in the weaker position.

Some combat rules that account for unusual situations are covered in *Dungeoneer's Survival Guide* on pages 30-34. For the benefit of player and Dungeon Masters who do not have access to that volume, some of those rules are summarized in this section. Additionally, this section goes into detail about some other nonstandard combat situations that are peculiar to the outdoors.

Fighting While Climbing

In most circumstances, a character negotiating a severe slope or a cliff face is at a disadvantage if he is required to attack or defend himself. Because his attention and effort must be at least partially focused at all times on climbing, he does not benefit from any armor class bonus due to dexterity that would otherwise apply. (However, an armor class penalty for low dexterity is not negated.) Assuming that the climber needs one hand to hold onto a rope or the surface he is climbing, he cannot use two weapons, or a weapon and a shield, at the same time. Since he is facing the surface he is climbing, he is vulnerable to attacks from behind (with all appropriate penalties) from any opponent except one that is adjacent to him on the surface. If a character is climbing with his shield strapped to his back, he receives an armor class benefit of one step (from 6 to 5, for instance) for a buckler or a small shield and a benefit of two steps for any larger shield.

A character climbing a cliff face suffers a −2 penalty to all of his attack rolls ("to hit" and damage) in melee or missile combat, and a −2 penalty on all saving throws related to an attempt to dodge or evade. If fighting is taking place on a severe slope, these penalties are −1 instead of −2.

If opponents are engaging one another from different elevations on a cliff face (one combatant is above the other by a distance of at least half of the higher combatant's height), the character in the higher position receives a +2 bonus "to hit" and the character in the lower position suffers a −2 penalty "to hit." These adjustments are cumulative with any other modifiers that may apply. On a severe slope, the adjustments are +1 and −1.

If a character climbing a cliff face suffers damage from an attack in missile or melee combat (including damage from a spell effect), he must make a Climbing Check immediately. If the check succeeds, the character remains in place; if it fails, the character falls. On a severe slope, this Climbing Check is made with a +10% bonus to the character's Climbing Rating.

If a character takes damage from a single attack equal to or greater than one-half of the character's total hit points (rounded up), a Climbing Check to avoid falling must be made with a −10% penalty to the character's Climbing Rating. This penalty applies both on a cliff face and on a severe slope.

Climbing a gentle slope or even a moderate slope does not usually put a character at a disadvantage if he is forced to engage in combat in the middle of the climb. Such terrain is usually not so steep that the climber cannot stand up and have the full use of both hands plus a reasonable amount of mobility. At the Dungeon Master's discretion, the "to hit" adjustments for relative elevation of the combatants (+1 and −1) may apply on a moderate slope, especially one that is just short of qualifying for the severe category. Likewise, the Dungeon Master may rule that a character who takes a significant amount of damage in a single attack will be knocked off his feet and will tumble down a moderate or gentle slope. (If a character is extremely outmanned and prefers not to stand and fight, voluntarily tumbling down a slope to get away from his enemies might be a viable strategy.)

Fighting While Precariously Balanced

This category is somewhat different from fighting while climbing, in that a precariously balanced character is considered to be perched on a surface where he does not need to use at least one hand to hold on, and does not necessarily have to face the surface (if any) that his body is next to. A character is precariously balanced in conditions such as these: standing on a ledge that juts out from a cliff face or a severe slope; standing on a narrow bridge of rock or a fallen tree that is spanning a canyon; standing up in a boat or on the edge of a barge; standing in knee-deep water or mud, or upon loose soil or snow in which one's feet sink beneath the surface of the terrain; and standing upon a level but slippery surface.

In situations such as these, a character must be careful not to get overbalanced, or his lack of secure footing (or lack of a sufficiently large area to move upon) may cause him distress during combat. Whenever a character engaged in melee combat misses an attack, he must make a successful Dexterity Check to avoid losing his balance and falling down — perhaps falling down a *long* distance. The Dungeon Master may allow a modifier to the Dexterity Check die roll of −1 to −4, reflecting circumstances where overbalancing is less likely to result in a fall: −4 for a character knee-deep in mud, which helps to hold him upright despite a lack of really secure footing; −2 for a character standing on a fairly wide ledge that offers him room to take a step on his follow-through and thus keep himself from toppling; or no modifier for a character standing on a slippery surface, where his ability to keep his balance depends entirely on how dextrous he is and not on some advantage afforded by where he is located.

If a character in a precarious position at a high elevation is hit by an attack that causes loss of consciousness or inflicts damage equal to or greater than 10% of the victim's total hit points, he must make a successful Dexterity Check to avoid falling from his position. If the victim is not standing right at the edge of a dropoff, he receives a −2 modifier to the Dexterity Check die roll for every foot of distance between him and the edge. If he is 10 feet or more from the edge of a dropoff, he is not considered to be in a precarious position, and does not need to make this Dexterity Check.

Someone balanced on a ledge barely wide enough for his feet receives no modifier; someone who is nine feet away from the edge of a dropoff has a −18 modifier and is virtually assured of not falling — although, as with any ability check, an unmodified roll of 19 or 20 indicates failure. In the case of a character who falls despite the fact that he was a fair distance from the edge of his perch, assume that he did not fall to the ground right away, but instead staggered for a short distance toward the edge before dropping over.

The above general rule also applies to a character who is precariously balanced but not at a high elevation: he is in danger of being knocked off his feet if he takes a large amount of damage, and he will certainly fall down (as would anyone in a more stable position) if he is rendered unconscious. Depending on what the victim is standing on (or in), he may be vulnerable to drowning or suffocation. For instance, a character who is knee-deep in water and gets hit by a *sleep* spell will keel over. Beginning on the following round, he must make successful Constitution Checks as though he was holding his breath underwater and had run out of air (see the section on Swimming). If he does not regain consciousness or is not rescued before failing a Constitution Check, he will die. A character who falls unconscious in loose soil (including sand) or snow must make a Dexterity Check with a −2 modifier to the die roll. Failure indicates that he has landed face down, and must then begin making Constitution Checks as described above. If the victim is not revived or at least rolled over on his back before failing a Constitution Check, he will die of suffocation.

Whenever a character is knocked off his feet and does not lose consciousness, he must make a Dexterity Check. A successful check indicates that he is able to regain his feet in five segments; a failed check means that he must take a full round to stand and resume a fighting posture. A character who gets to his feet quickly may be able to make an attack or cast a spell during the last half of the round, if other conditions permit such an action. On a slippery surface, the Dexterity Check is made with a +4 modifier to the die roll.

Fighting in Water

If a character engages in combat while standing in water that is at least up to his knees but not higher than his waist, he does not enjoy any benefit to armor class due to dexterity that he would normally have, and he must take a −1 penalty on all attack rolls ("to hit" and damage) in addition to any other penalties that may apply. If the water is more than waist-high but not higher than the character's chest, the penalty is −2. If the water is even higher, the penalty is −4. In no case, however, can the damage from a successful hit be reduced to less than 1 point.

At the same time, any opponent attempting to hit a character who is immersed or partially immersed in water does so at the same penalty to its attack rolls (even if the opponent is not immersed), reflecting the fact that a smaller portion of the character's body is vulnerable to a weapon blow.

Of course, these penalties do not apply to a creature that is native to an aquatic environment, assuming that the creature can strike freely either above the water or below the surface. For a character with proficiency in swimming, the latter two penalties are reduced by one-half (to −1 and −2 respectively) and the first penalty (for water up to waist-deep) does not apply.



Fighting in Poor Visibility

Even though characters may be able to see for quite a long distance in moonlight or natural darkness (see the section on Vision and Visibility), their short-range vision is still hampered enough so that they are not always completely aware of what is going on in the immediate vicinity.

In moonlight, a character suffers a −1 penalty on all attack rolls and all saving throws related to dodging or evasion. In natural darkness with no moonlight, the penalty is −3; in total darkness (such as that caused by magical means, or the darkness deep inside a cave), the penalty is −4. In addition, any attack bonus related to a character's ability to see his target is reduced by one-quarter in moonlight, by one-half in natural darkness, and fully negated in total darkness. This category includes such abilities as a thief's backstabbing skill, a ranger's special prowess against giant-class creatures, or the special severing property of a *sword of sharpness* (if the *sword* has been commanded not to shed any light).

When a character is involved in melee combat in natural darkness or total darkness, there is a chance that he will hit something (or someone) other than his intended target. If the attacker's modified "to hit" roll is 0 or less in total darkness, he has accidentally struck another object or creature, if some other target exists within a radius of twice the attacker's weapon length. If more than one such target is in range, the Dungeon Master should randomly determine which object, creature, or character has been hit (including other members of the attacker's party). An object must save versus *crushing blow* to avoid being broken or destroyed; a creature or character will take the appropriate amount of damage (after the damage penalty for attacking in poor visibility has been taken into account). In natural darkness, there is a 50% chance that a wild swing will result in damage to an unintended target; otherwise, the attack fails to hit anything within range.

If a character is fighting in natural darkness while climbing, his Climbing Rating is reduced by 5% for the purpose of any Climbing Check that may be required as the result of combat. If a character is fighting in natural darkness while in a precarious position, any required Dexterity Check is made with a +1 modifier to the die roll. For a character in total darkness, the adjustments are 10% and +2, respectively. If the illumination is at least equivalent to moonlight, neither of these penalties applies.

A character who is using infravision or ultravision, and is able to benefit from the use of the ability, is not subject to any of the penalties described above. Likewise, any character within the range of natural or magical illumination is not penalized. See the section on Vision and Visibility for information on the benefits and limitations of illumination and special vision abilities.

Fighting in Inclement Weather

Guidelines on this topic are given in the section on Effects of the Environment. Note that all adjustments for inclement weather (high wind and precipitation) are cumulative with any other modifiers that apply; even the most accomplished fighter will have a tough time hitting anything in the dark of night during a howling rainstorm.

Melee Combat from a Mount

A character astride a land-based mount who is engaged in melee combat with an opponent standing on the ground has an advantage of +1 "to hit" if the foe is the same size as the attacker, but receives no bonus if the opponent is larger. On the other hand, a mounted attacker must take a −1 penalty "to hit" against an unmounted opponent of smaller size (it's a little tougher for a man on horseback to hit a goblin that is assaulting him from below).

A character who is on foot and fighting a mounted opponent has a −1 penalty "to hit" regardless of the size of the opponent. However, if the character's "to hit" roll (including all other modifiers) is exactly the number he would have needed to hit his foe otherwise, his attack hits the mount instead of the rider. A character on foot can choose to strike against the mount instead of the rider, which can often be a good tactic.

A character on a flying mount can engage in melee combat with a nearby opponent that is also airborne, or with a foe that is on the ground (if the character's mount is flying low enough to make this possible). If two antagonists are both airborne, the combat adjustments for relative elevation usually do not apply, since it is assumed that the combatants are constantly jockeying for position and neither one will voluntarily remain in a vulnerable position for any length of time. A character who is airborne is +1 "to hit" against an opponent on the ground, or +2 if the attack is made at the end of a swooping charge.

A character on the ground may choose to defend against an attack from above by remaining in one spot and bracing himself for the onslaught. If he does this, and he is wielding a weapon of at least 3 feet in length, he receives a +4 bonus on his "to hit" roll, but at the same time he forfeits any armor class bonus due to dexterity. An airborne opponent, noticing this tactic, can choose to pull up and break off his attack, in which case neither combatant will score a hit.

A character on a flying mount must be able to hover in close proximity to a land-based opponent in order to benefit from multiple attacks per round. If an attacker closes to take one swing and then veers away in an attempt to avoid being hit in return, he will not be able to change course in time to get in a second or third attack. Most flying creatures have very poor maneuverability when they are used as mounts, and as such they are not capable of repeated abrupt changes in direction or other precise maneuvers.

Missile Combat from a Mount

Only a character with proficiency in riding his mount can successfully use a missile weapon from the back of a moving mount, whether airborne or land-based. Even if the weapon does not actually require two hands to be used, the character must be able to ride with both hands free, which is one of the abilities included in the land-based and airborne riding proficiencies (see the section on Wilderness Proficiencies).

Any missile weapon except a longbow or a heavy crossbow can be used from the back of a moving mount. However, the attacker must take a one-step reduction in his normal rate of fire on the following scale: 6/1, 5/1, 4/1, 3/1, 5/2, 2/1, 3/2, 1/1. For instance, a 13th-level fighter who is specialized in hurling the javelin can ordinarily make 5 attacks every 2 rounds. If he is fighting from the back of a moving mount, his rate of fire is reduced to 2 attacks per round. In no case can a character's rate of fire be reduced below 1/1 because of this penalty.

In addition, a character using a missile weapon from the back of a moving mount suffers a penalty "to hit" based on the speed of the mount: −1 if the mount is moving at less than half of its full normal rate, −3 for a speed of one-half or more but less than three-quarters of normal, and −5 for a speed of three-quarters normal or greater. These penalties are in addition to all others (range, visibility, etc.) that may apply.

It is not possible to use a missile weapon with success if the mount is performing complex maneuvers, or if the mount is turned at an angle of more than 45 degrees during the round in

which firing is attempted. At the Dungeon Master's discretion, missile combat from the back of a moving land-based mount may be impossible in certain terrain conditions where the rider is forced to use at least one hand to hold onto his mount.

As already noted in the *Dungeon Masters Guide* on page 53, further penalties apply on any attempt to engage in missile combat from the back of a flying mount: short range is treated as medium range and medium range is considered long range for purposes of "to hit" modifiers unless the mount is hovering. In this case, the rider suffers no additional penalties "to hit" but still must abide by the reduction in rate of fire given above.

Forcing Opponents to Dismount

A mounted character should always anticipate the possibility that his opponent (whether also mounted or not) may try to attack his mount or do something else to cause the character to fall or jump to the ground. And, of course, this works in the other direction as well: A character should be alert for an opportunity to separate a mounted opponent from its steed. At worst, an unseated opponent is on more or less equal terms with a character who was already on the ground; at best, a foe who has lost his steed will be at a disadvantage if the character is still in the saddle.

If a land-based mount is killed while a character is riding it, the character instantly falls to the ground. A character with proficiency in riding the mount will land on his feet if he makes a successful Proficiency Check, and he will be able to perform normally during the remainder of the round in which he falls. If the character does not have proficiency or if the check fails, the rider takes a tumble, suffering 1d3 points of damage, and must spend the remainder of the current round and all of the following round getting back to his feet and regaining his bearings.

If a flying mount takes damage that brings it to less than half of its total hit points, the rider must immediately make a check to see if he falls (see the section on Flying Mounts). Further checks are required in every round until the mount is brought to a landing or until it regains enough hit points to put it out of danger; a cleric equipped with several *cure wounds* spells could keep his mount flying for quite a while, as long as the creature is among those that can be affected by such magic.

If a flying mount is killed while a character is aboard, the creature will plummet to the ground and most likely also carry the rider to his death, especially if the rider is securely strapped onto the mount. If the creature is close to the ground when it dies, the Dungeon Master may allow a character with proficiency in riding the mount to leap from its back and land safely on the ground. Although this feat can usually only be performed when the mount is hovering, the DM could grant a character the chance to make the leap under other conditions, with a die-roll modifier on the Proficiency Check to account for the difficulty of the feat.

A mounted character using a melee weapon of at least 3 feet in length may be able to unseat a mounted opponent by getting a natural 20 on his "to hit" roll. If the victim has riding proficiency and makes a successful Proficiency Check, he retains his seat. Otherwise (if the check fails or the rider is not proficient), he falls to the ground and takes 1d3 points of damage, with other effects as described above.

A character standing on the ground can unseat a mounted opponent with a natural 20 on the die roll, if the attacker is using a weapon with a length of 5 to 9 feet. An attacker on the ground armed with a weapon of at least 10 feet in length can unseat a mounted opponent with a natural roll of 16-20 on the "to hit" die. In both of these cases, a rider with proficiency can remain in the saddle by making a successful Proficiency Check.

Finally, a character (mounted or on foot) can attempt to unseat a mounted opponent by pulling him down. If the attacker moves adjacent to the mounted opponent, dives toward his foe, and makes a successful "to hit" roll (as if attacking with his bare hands), then he has managed to grapple his opponent. If the attacker is not mounted, this "to hit" roll is made at a −4 penalty. If the grapple is successful, the mounted opponent is allowed a Proficiency Check (if applicable) to see if he remains on the mount. A successful check indicates that the opponent has not been unseated, and the attacker is clinging to the opponent or the mount. If the check fails, both combatants fall to the ground and suffer 1d6 points of damage. If the original attempt to grapple fails, the attacker falls to the ground and suffers 1d6 points of damage.

If an attacker remains clinging to a mounted opponent, the attacker must make successful "to hit" rolls in each subsequent round to remain in that position. Failure on any of these rolls indicates that the attacker has fallen, with effects as described above. If the "to hit" roll in any round succeeds, the rider must make a Proficiency Check to prevent falling (and taking the attacker along with him). At the Dungeon Master's discretion, a rider may be able to use his weapon to attack a grappling opponent, but if such an attack is possible it is made with a −2 penalty "to hit."

FATIGUE AND EXHAUSTION

Even the strongest and hardiest characters and creatures cannot exert themselves indefinitely without becoming tired and needing to rest. If characters on a long journey through the wilderness press themselves (or their mounts) too hard for too long, the journey itself may exhaust them long before they reach their destination. It is not difficult, and usually not inconvenient, for characters to take measures to avoid the threats of fatigue and exhaustion.

Characters

A character runs the risk of becoming fatigued whenever he engages in strenuous activity for more than four turns in succession. A character moving at greater than his full normal movement rate is engaged in strenuous activity; so is one involved in melee combat. Continuous climbing, swimming against a strong current, and moving while severely encumbered are other examples of strenuous activity.

To avoid the risk of fatigue, a character must rest for two consecutive turns after four turns of strenuous activity. If the character chooses not to rest, he must make a Constitution Check after exerting himself for six consecutive turns. Failure on this check indicates that he is fatigued; success indicates that he can remain active for at least five more turns. At the end of those five turns, the character must make another successful Constutition Check to keep going. Every time a check is successful, the time until the next required check is reduced by one turn (to a minimum of one turn). A character with an extremely high constitution may be able to keep performing a strenuous activity for several hours, but the odds will eventually catch up with him.

If a character becomes fatigued, he is immediately beset by several disadvantages that will remain in effect until he rests for two conscutive hours. All of the ability scores of a fatigued character except for comeliness are lowered by 2, and most incidental benefits bestowed by the higher scores are also lost as long as the character remains fatigued.

Examples: A character with 18 strength who becomes fatigued loses his +1 bonus on "to hit" rolls and has his damage bonus reduced from +2 to +1, among other penalties.

A fighter with 18 constitution who becomes fatigued immediately loses 2 hit points for each hit die he has, to reflect the fact that his actual (temporary) constitution score is only 16.

A cleric with 14 wisdom who becomes fatigued loses both of his bonus 1st-level spells. If he has spells currently in his memory, two of his 1st-level spells selected at random are lost. If he has fewer than two 1st-level spells in his memory, higher-level spells are lost instead. He cannot regain the bonus spells, and must accept a chance of spell failure on any spell he casts (because his effective wisdom is now 12), until he is no longer fatigued.

Any Proficiency Check or Ability Check required of a fatigued character has a smaller chance of being successful, because the die roll is compared to the character's current ability score instead of his normal score.

In addition to all the penalties brought upon a fatigued character by the lowering of his ability scores, he also suffers a −2 penalty on all attack rolls ("to hit" and damage) and saving throws.

A fatigued character can continue to perform strenuous activity, but if he does so he must make a Constitution Check once per turn (using his fatigue-reduced constitution score). If a fatigued character fails a Constitution Check, he becomes exhausted.

An exhausted character takes an additional −2 penalty on all of his ability scores, attack rolls, and saving throws. He can attempt to defend himself or perform some other physical action when failure to move would mean risking death, but otherwise an exhausted character is not capable of any voluntary physical activity: He cannot move under his own power, put on or take off armor, build a fire, or do anything else requiring minimal strength and muscle control.

If an exhausted character rests for one hour without interruption, he can recover from exhaustion by making a successful Constitution Check (using the character's temporarily reduced constitution score). If the check succeeds, the character is only fatigued instead of exhausted, and he can then recover from fatigue by resting for another two hours. If the check fails, the character remains exhausted and must rest for another hour before again trying to recover from the condition.

A fatigued or exhausted character can rest while being carried, as long as he does not have to use any strength or balance to remain in the carried position and as long as he is not being bounced or jostled while he is being carried. A robust fighter can pick up a frail magic-user and drape the exhausted spell-caster across his shoulders so that both of them can keep moving, but the magic-user will not get his needed rest if the fighter is moving in a choppy or zig-zagging path across rugged or very rugged terrain. An exhausted character can rest while he is securely tied to the back of a horse or some other mount, but only if the mount is moving easily (no faster than normal movement rate) over terrain that is not difficult for the animal to negotiate.

Land-based Mounts and Pack Animals

The process for determining the stamina of a land-based mount or pack animal is described in the section on Encumbrance and Movement. Other information about what certain types of animals need to remain at full strength is contained in the section on Mounts and Beasts of Burden. The following rules on the general effects of fatigue and exhaustion apply in all cases not specifically accounted for in other sections of this text.

An animal will become fatigued if it is forced to go for two consecutive days without any food and water, or if it is forced to subsist on less than its full normal daily ration for more than three consecutive days. To recover from fatigue due to lack of nourishment, an animal must be given a full normal ration of food and water and allowed to rest for eight hours afterward. If it does not receive both the full ration and the full amount of rest, it will remain fatigued.

To recover from fatigue due to overexertion (as described in the section on Encumbrance and Movement), an animal must be allowed to rest for 12 hours plus two hours for every hour that it was overworked. For instance, a horse that becomes fatigued because it was pushed for three hours beyond the normal limit of its stamina will remain fatigued until it is allowed to rest for at least 18 hours without interruption.

A fatigued animal moves at one-half of its normal movement rate, but is capable of occasional bursts of speed that enable it to move at its full normal rate for one round per turn. It is not able to negotiate any terrain in which its full normal movement rate is 3"; a fatigued horse cannot move in very rugged terrain if it is carrying more than a normal load, and a fatigued camel cannot move in very rugged terrain under any circumstances. The armor class of a fatigued animal is two places worse than its normal armor class (from 7 to 9, for instance), accounting for the animal's slower reflexes. If a fatigued animal becomes excited, only a character with proficiency in animal handling can get it to calm down — and that character's chance of being able to do so is only as great as the normal chance for a nonproficient character.

If a fatigued animal is forced to keep working or moving, there is a 20% chance per hour, cumulative, that it will become exhausted. If it is worked briefly, does not become exhausted, and is then allowed to rest for at least an hour the animal will recover somewhat; the chance of exhaustion begins again at 20% after any rest period of at least one hour.

By working the animal intermittently as described above (and being lucky), a character can keep his mount or pack animal moving for quite some time even after it becomes fatigued. But if exhaustion does set in, he may wish he hadn't been so impatient. An exhausted animal is not just tired — it is near death, and in the absence of magical assistance or some other aid the survival of an exhausted animal depends entirely on chance.

An exhausted animal will stop in its tracks, incapable of moving or working any more. It may collapse (25% chance if unburdened, 50% if carrying a rider or a normal load, 75% if carrying more than a normal load), and for as long as it remains incapacitated the beast will be oblivious to anything that goes on around it. An exhausted animal will not become excited or panicked, even if threatened by fire; on the other hand, neither will it make any attempt to protect itself from attack or injury.

There is a flat 50% chance that an animal driven to exhaustion will die within 1d4 hours. This chance is checked by the Dungeon Master as soon as the animal collapses. If the beast does not die outright, it may still succumb if it does not have enough strength to fight off the trauma to its system. Once per hour for eight consecutive hours, the Dungeon Master should roll 1d6 and subtract 3 from the result. This yields a number in the range 0-3, which represents the number of hit points the animal has lost during that hour. If the animal's hit-point total reaches 0, it is dead. If it survives the eight-hour "critical period," the animal will regain its lost hit points at the rate of 2 per hour and will be recovered from exhaustion when its hit-point total reaches its original (pre-exhaustion) level. At this point the animal is no longer exhausted, but is still fatigued.

Flying Mounts

For a character using a flying mount, the good news is that the creature can never become exhausted. The bad news is that if it becomes fatigued, the rider stands to suffer at least as much as the animal — and perhaps a whole lot more.

The table on Characteristics of Flying Mounts, in the section on Movement and Encumbrance, gives stamina values for each creature. As described in the text accompanying the table, the first number represents the creature's safe flying time (which may be reduced if it is heavily loaded down). If a flying mount is forced to remain in the air for a number of consecutive turns equal to its safe flying time, the Dungeon Master should begin rolling 1d10 on a turn-by-turn basis thereafter to see if the animal becomes fatigued. The chance of fatigue is equal to 10 minus the second number of the creature's stamina value.

Example: A black dragon has stamina values of 24/6. This means that the animal can be ridden through the air for 24 consecutive turns (four hours) without a risk of fatigue, but at that point it must be allowed to land and rest (not fly) for 6 turns (1 hour) in order to regain its stamina. If it is not allowed to land and rest by the end of the 24th turn, it will become fatigued on any turn thereafter when the Dungeon Master rolls 1-4 on 1d10.

Flying time and rest time need not be taken in full blocks in order to avoid fatigue. For instance, a black dragon can be flown for 12 turns, rested for 3 turns, flown for 6, rested for 2, flown for 6, and rested for 1. Thus, over a period of 30 turns the dragon has been aloft for 24 turns and has rested for 6, which is within the safe limit; it can take off after the last 1-turn rest period and fly for as long as 24 more turns before it has a chance of becoming fatigued. But if the last flying period was 7 turns long instead of 6, the dragon could have become fatigued on the 7th turn because its would have been aloft for a total of 25 turns without getting at least 6 turns of rest.

Whenever a creature exceeds its safe flying time (becomes susceptible to fatigue, but not necessarily fatigued) and is then brought to a safe landing, it must be allowed to have a full rest period or else it will be subject to fatigue as soon as it takes to the air again. In the last version of the above example, the dragon's last flying period was 7 turns long and with that 7th turn it exceeded its safe flying time. If it does not become fatigued during that 7th turn and is brought to a safe landing, it must be allowed to rest for a full 6 turns before taking off again. If it is taken aloft before the 6 turns have expired, it has a chance of becoming fatigued on every turn that it remains in the air. Obviously, it is important for a character to keep careful track of how much his mount has flown and how much it has rested; exceeding the safe flying time by even a small amount can cause an extended delay on a long-distance journey, even if the animal does not actually become fatigued.

And what if it *does* become fatigued? Well, the character(s) riding the animal will immediately notice some changes. On the turn that fatigue sets in, the animal's movement rate will drop to two-thirds of its full normal amount and it will begin to gradually lose altitude at the rate of 10 yards per round. If the creature is not flying more than 100 yards above the ground and is not somehow forced to remain aloft, it will be able to descend and make a safe landing in the same turn that it becomes fatigued.

But if the creature is flying at an altitude of more than 100 yards when fatigue sets in, it will still be in the air when its second turn of fatigue begins — and that's when the real trouble starts for anyone or anything it is carrying. The animal will stop moving slowly and descending gradually, and will instead go into a steep dive, plummeting toward a place where it can rest. Its rider(s) will have an increased chance of falling while it is performing this maneuver, and even if a rider does not fall he must beware of the sudden stop at the end of the flight. For every 10 yards of distance the animal dives before reaching the ground, a rider will suffer 1d2 hit points of damage at the end of the flight from the buffeting he receives when the animal crashes, or bounces, or skids, to a stop. This damage is halved for a character with proficiency in airborne riding or for a character who is securely strapped (upper and lower body) to the back of the mount. A rider who does not have at least his lower body strapped to the mount will not suffer buffeting damage; instead, he will be thrown from the mount when it lands, suffering 11-40 hit points of damage (3d10 + 10) from the abrasion and impact of his tumble.

When a flying mount becomes fatigued and lands, it will refuse to take to the air again for at least three times as long as its normal rest period (18 turns for a black dragon), unless self-preservation dictates that it become airborne. If it takes off again for any reason before this full post-fatigue rest period has expired, it has a chance of becoming fatigued again on every turn that it remains aloft.

MOUNTS AND BEASTS OF BURDEN

A large variety of land-based animals can be used by characters as mounts and beasts of burden. Nearly every type has a distinctive "personality," with traits that set it apart from the others and which may make the animal relatively more or less useful in certain circumstances.

The movement rates and encumbrance capacities of the most often employed mounts and pack animals are described in the section on Encumbrance and Movement. In this section are provided various pieces of information concerning those animals' behavior, proper care and feeding, and some of the special factors that characters may have to contend with when employing a certain animal.

Ape, gorilla: Among the animals considered here, the gorilla has the highest intelligence rating. If a gorilla can be befriended (naturally or magically), it can be trained to follow simple instructions as well as transport equipment. A gorilla might be made to serve as the "point man" on an expedition (which avoids putting a character in jeopardy by requiring him to serve in that capacity). However, a gorilla is not capable of moving with any great degree of stealth; a group containing one or more of these animals has a smaller-than-normal chance of being able to surprise another character or creature. The reduction should be at least 1 in 6, perhaps greater in certain circumstances.

Although gorillas are only encountered naturally in tropical and subtropical forests, they can be "persuaded" to serve as pack animals in any forest, hills, or plains area where the effective temperature does not drop below 50 degrees. If it is forced to remain in a colder area or if it is forced to move on any "prohibited" terrain, a gorilla will either become lethargic or aggressive (50% chance of either) and will desert the group at its first opportunity to head for a warmer climate or more tolerable terrain — perhaps taking along anything it was carrying at the time (certainly so if the equipment is strapped to its body).

A gorilla requires ten times as much food (plants will suffice, since gorillas are primarily herbivorous) and eight times as much water as a man does on a daily basis to maintain full strength and vitality. If it is allowed to hunt and forage for itself, there is a 25% chance every time it goes out that it will not return.

Bear, brown: This animal cannot reliably be used to carry anyone or anything unless it is magically befriended and trained. It is possible to domesticate and train a bear by non-magical means, but there is a 30% chance per month thereafter that the animal will revert to its natural temperament and head back for the wild.

A bear used as a mount or a pack animal will traverse any kind of terrain except for swamp and desert. Its nonretractable claws make it sure-footed on most terrain, but prevent it from negotiating smooth slopes that are severely or moderately inclined.

A bear is omnivorous; it can and will eat anything that a man can eat. It needs eight times as much food and six times as much water as a man does to maintain full strength.

Camel: For game purposes, the single-humped camel (dromedary) is the variety that is exclusively suited for hot desert regions. It cannot move in mountains, forests, or swamps at all, and it cannot negotiate a severe slope of any sort in any other terrain. The dromedary becomes weak and lethargic if it is forced to be exposed to temperatures lower than 50 degrees for more than two days in a row.

The double-humped camel (bactrian) has smaller feet than the dromedary and is able to negotiate rocky or mountainous terrain. It can also be used in the desert, but like its one-humped cousin it will balk at being taken into a forest or a swamp.

All camels are legendary for their ability to subsist without food or water. A camel (of either sort) can go for up to two weeks without eating or drinking; in the meantime, it lives off the water and nutrients stored in its hump(s). However, during the second week of such deprivation, a camel's carrying capacity is reduced to one-half of normal. The animal *must* be fed and watered at least once every two weeks, or at the end of that period its condition will rapidly deteriorate. An "empty" camel needs ten times as much food (plants) and twenty times as much water as the daily ration for one man; reduce these amounts proportionately if it has been less than two weeks since the camel's last meal.

Dog: The animals that pull a sled and its contents over snowy or smooth terrain are hardy and dependable. However, the sled dog is physiologically suited to cold weather; the vehicle and the animals that pull it are only usable when the temperature is lower than 40 degrees and the ground has at least a significant amount (2-3 inches) of snow cover.

A sled dog must be fed at least as much as a man's ration of food and water every day to maintain full strength. Water is free for the taking in the form of snow, so that is no problem. But if sled dogs are forced to go for more than two days without solid food, there is a 50% chance on each day thereafter that the stronger members of a group will kill and eat one or two of the weaker ones. (Explorers have been known to avoid this grisly occurrence by killing one of the dogs before the others get around to it, but this is obviously a tactic that should be used only in the direst of circumstances.)

For every dog less than the optimum number of seven that is pulling a sled, the encumbrance limits for the team are reduced by 200 gp (normal load) and 300 gp (maximum load). For every three dogs less than seven, all movement rates are reduced by 3". A four-dog sled moves at 9" with a normal load and 6" with a full load on normal terrain, or 3" with a normal load over rugged terrain. A sled pulled by a single dog cannot move over rugged terrain at all, and has rates of 6" and 3" on normal terrain.

Donkey: The abilities and characteristics of a donkey are generally the same as those of a mule (see below), except for differences noted in this section and in the section on Movement and Encumbrance.

Elephant: A trained elephant (the only kind anyone should attempt to ride or use) will generally respond only to particular verbal commands taught to it by the trainer; don't buy an elephant unless the command words are included in the price.

An elephant can only be used in a climate where the temperature does not drop below 50 degrees, and it will not travel up or down a mountain or any severe slope. (Elephants can negotiate mountainous terrain, but only if a relatively level pass exists be-

tween the peaks.) If the beast is used in an environment where it can forage for itself along the way, it will eat its fill of food (plants) while traveling — but it will move 3" slower when doing so. If food and water are not readily available, an elephant must be fed the equivalent of fifty food rations and thirty water rations each day to maintain full strength. There is a 50% chance every six hours that an elephant forced to travel for more than two days without getting its full rations will bolt and head in the direction where it believes the nearest food and water sources to be.

Horse: Perhaps the most numerous, and certainly one of the most fragile, beasts of burden available to the adventuring character. The horse is an exception to the general rules on stamina given in the section on Encumbrance and Movement: in addition to requiring rest after traveling for a number of hours, any horse that is carrying more than its normal load must be rested for at least one turn after six turns of travel. To provide the most benefit to the horse, this rest stop should also include a bit of food and water (a "bit," to a horse, is one-half of a man's daily ration) and most or all of the animal's load should be taken off its back, even if only for a few minutes.

All mounts and pack animals can go lame or otherwise become unable to travel through injury (with the chance of such an occurrence usually left to the Dungeon Master), but a horse is particularly susceptible to this problem. There is a 2% chance (a roll of 01 or 02 on percentile dice) for every eight hours of travel through rugged or very rugged terrain that a horse will pull up lame, or stumble over an obstacle and become injured. The chance is only 1% (roll of 01) for a draft horse. If the dice roll is 01, the horse is injured and cannot immediately move farther, but it will recover after 12 hours of rest. If the dice roll is 02, the horse is permanently injured and can no longer be used to carry a burden.

A horse needs four rations of food (plants or grain) and at least four rations of water every day to remain at full strength.

Mule: Although it is a much hardier and stronger animal than a horse, the mule's advantage in this regard is offset by its slower movement rate over normal terrain. But it travels over rugged and very rugged terrain at least as well as a horse, and because its carrying capacity is greater that that of most horses it is often the best animal to take on a journey through potentially treacherous terrain.

Every animal has a personality all its own (see below), but mules are particularly noted for their capriciousness — which usually manifests itself in stubbornness. A character may be frustrated, but should not be surprised, if his mule decides to remain rooted to one spot for half an hour or longer. A character can get a stubborn mule to move (without causing injury to the animal) by making a Strength Check. But the mule, if it still feels stubborn, will only take a few steps before pulling up short again — and making a long succession of Strength Checks can get *very* tedious for everyone involved; it is usually better simply to wait until the mule decides to move again.

A mule normally needs the same amount of food (plants or grain) and water as a horse does, but it can be kept on three-fourths normal rations for as many as three consecutive days before suffering any adverse effects.

Pony: Most of the general statements about horses (see above) apply to ponies as well. Ponies can be specially bred for traveling in mountainous terrain, and in such a case the Dungeon Master may allow them to move through such areas at a faster rate than what is given in the section on Encumbrance and Movement. A pony's chance of going lame is 2% for every eight hours spent traversing rugged or very rugged terrain, and it must have three rations of food or water per day.

Ram, giant: Either a giant ram (the male) or a giant ewe (the female) can be used as a mount or a pack animal, but rams are generally preferred because they can be trained to charge an opponent on command. These animals are only found naturally in hills or mountains in a temperate or subarctic climate, and they will not willingly stay in any area where the temperature regularly goes higher than 70 degrees. However, they can (as part of their domestication and training) be persuaded to travel on flat, dry terrain (except for deserts). They will not willingly enter forests or swamps.

A giant ram (or giant ewe) needs six rations of food and four rations of water per day. In an area where the daily high temperature exceeds 50 degrees, the animal needs six rations of water instead of only four.

Sheep: Even though they are not normally thought of as pack animals, sheep can be useful for this purpose. Each animal in a group can carry a small load, with the result that a small herd of two dozen has a greater carrying capacity than many larger animals have. The animals' herding instinct, plus some effort on the part of the characters accompanying them, will keep them in a cohesive group and headed in the desired direction.

No special ability or proficiency is needed to "shepherd" a group of sheep, but as a rule one character (mounted or afoot) can only control six sheep on the move; for every additional six sheep (or fraction thereof) in the flock, another character (or a dog trained in sheepherding) is needed to help keep them in line. If one or more characters attempt to move a flock while it is not properly supervised, there is a 50% chance per hour of travel that the entire flock will develop a mind of its own and head in a random direction — which may be, but probably won't be, the direction they were supposed to go.

Sheep will travel in temperate or colder climates, or in any area where the temperature does not exceed 70 degrees. They will not willingly enter, or stay in, forests, deserts, or swamps.

A sheep needs two rations of food (plants) and two rations of water to remain at full strength. If a sheep is being used to carry nondurable supplies (things that are used up along the way, such as food for characters, arrows, crossbow bolts, etc.), then the animal itself can be used for food when its usefulness as a carrier is over.

Yak: This animal is similar in most respects to a giant ram, except that its range of terrain and temperature is even smaller. A yak can only be used in mountainous terrain, and only in arctic or subarctic climates where the temperature does not climb above 30 degrees. Note that it is possible for normal terrain to occur in a mountainous area, and such terrain might be flat or sloping at only a very gentle incline. Such terrain does not preclude the use of a yak, since the animal is still being kept inside a mountainous area.

A yak needs six rations of food and four rations of water per day to remain at full strength.

ANIMALS AS INDIVIDUALS

The animals that accompany a party of characters on a trek through the wilderness can be "bit players" in the adventure, if the Dungeon Master and the players choose to regard them in that way. They are more or less taken for granted; as long as you keep them fed, don't work them too hard, and don't try to take them where they can't go, they will serve capably and uncomplainingly from the start of an adventure to the end.

But, taking things one small step further, it is not difficult and can be very interesting to treat each mount and pack animal as a unique sort of non-player character. When animals are consid-

ered in this light, each one has a distinct personality and will react differently from other animals in the same situation. The sooner a character gets to know the quirks and traits of his animals, the better off he and they will be.

Sometimes a character can gain valuable information about a mount or a pack animal from its former owner, assuming the seller is reputable and honest in his dealings with the purchaser. This information can be used by the Dungeon Master to modify the general characteristics of an animal, taking into account the individuality of the creature. For instance, if a horse is known to be "very sure-footed, but hates to get his feet wet," the animal is less susceptible to going lame and might be able to move at a slightly faster rate in rugged or very rugged terrain than a normal horse — but he will not willingly enter a swamp or ford a river, and if he is forced to move in such conditions he will either travel at a slower rate than normal, or he might balk or even panic.

If an animal is captured in the wild, trial and error is the only way for a character to find out what its personality is like (short of magical means such as a *speak with animals* spell). If you aren't sure how an animal will react in a certain situation, it is best to expose the creature to the situation under controlled circumstances. For instance, to find out how an animal feels about getting its feet wet, lead it into a stream just before breaking camp in the morning when the animal is calm and well rested; don't wait until you're being chased by a gang of hobgoblins and you *must* ford a shallow river in order to get away from them.

General Tendencies

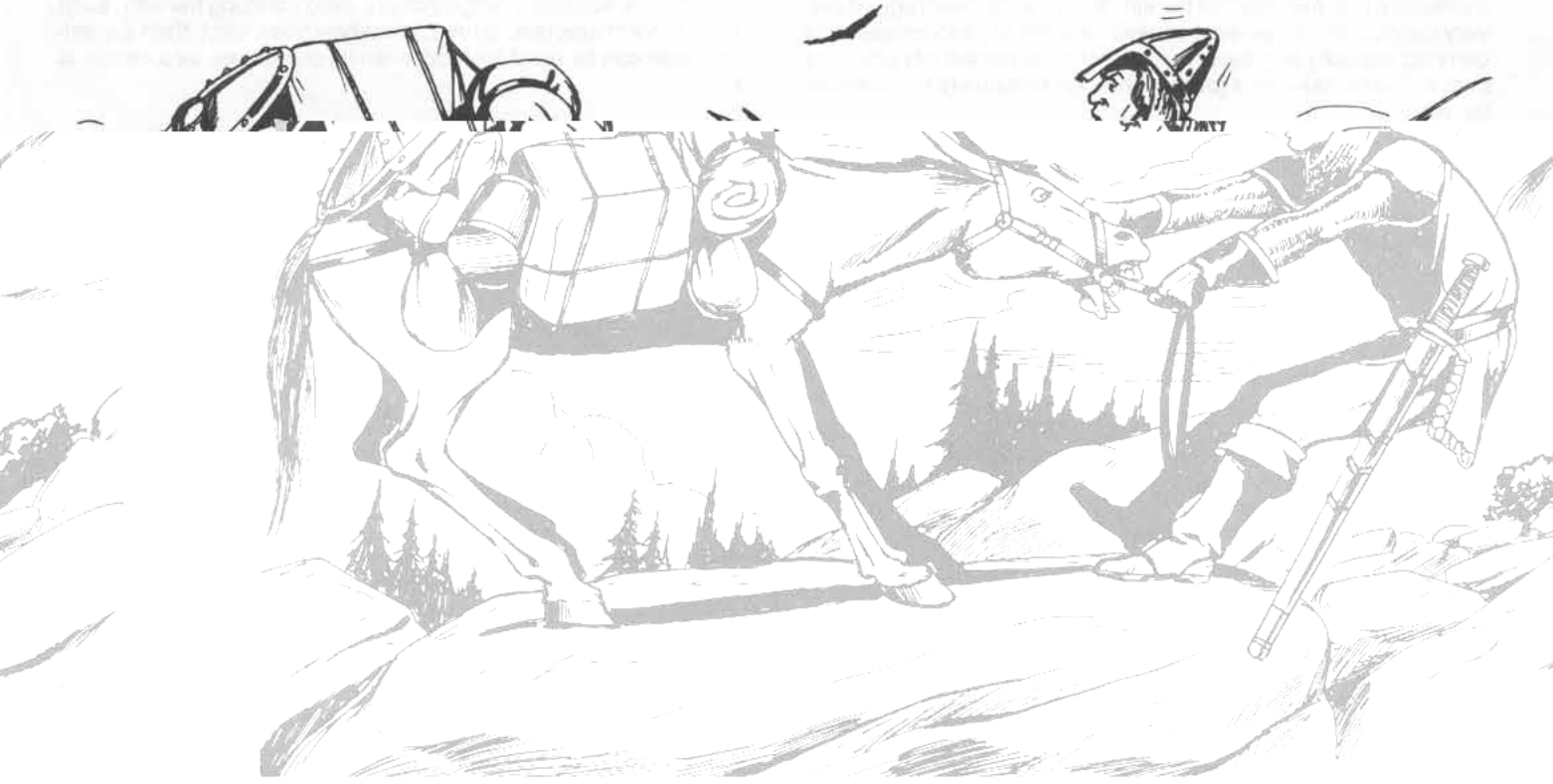
Just as characters do, animals appreciate calmness and stability (even though they might not realize it). They don't like to be exposed to conditions that are unpleasant or potentially harmful; they don't like being startled or upset by something they didn't expect; and they may behave irrationally when something out of the ordinary happens.

All normal (non-fantastic) animals have an instinctive fear of fire. To varying degrees, they have an innate ability to sense when a drastic change in the weather is about to occur. All of them can be startled by a loud noise, or bothered by an unpleasant smell. As a general rule, an animal's sense of smell and sense of hearing are more acute than those of a human or a demihuman: When an animal appears to be nervous or excited, it may be because the creature has perceived something that the character riding it or leading it has not yet noticed. Most animals are not intelligent enough to be capricious; when they seem to be bothered, it's a good bet that they aren't acting that way just because they feel like it.

Table 42: REACTIONS OF ANIMALS

	Fire	Weather	Noise	Odor	Other
Ape, gorilla	8/10/12	6/12/	8/12/	9/11/12	8/10/12
Bear, brown	4/ 8/10	6/11/12	6/11/12	5/ 9/11	5/ 8/11
Camel, any	6/ 9/11	6/10/12	6/11/12	4/10/12	6/10/12
Dog, sled	4/ 9/11	6/10/12	4/10/12	4/10/12	5/10/12
Donkey	4/10/12	6/10/12	6/10/12	6/10/12	6/10/12
Elephant, any	4/ 9/11	7/12/	8/12/	8/11/12	8/11/12
Horse, draft	5/11/12	8/10/12	4/10/12	7/10/12	6/10/12
Horse, wild	4/10/12	5/11/12	6/10/12	7/10/12	5/ 9/12
Horse, other	4/ 9/11	5/10/12	4/10/12	6/10/12	6/10/12
Mule	6/11/	6/12/	6/11/	7/12/	6/10/12
Pony	4/ 9/11	5/10/12	4/10/12	6/10/12	6/10/12
Ram, giant	6/10/12	8/11/12	8/11/12	6/12/	6/10/12
Sheep	4/10/12	7/10/12	8/10/12	8/10/12	6/10/12
Yak	7/10/12	7/10/12	8/11/12	6/10/12	7/10/12

Each entry on the above table consists of two or three numbers, each of which represents a possible result on a roll of 1d12. When an animal is exposed to one of the given conditions, the Dungeon Master should roll 1d12 and ascertain the animal's reaction as follows:



A result equal to or greater than the leftmost number indicates that the animal has noticed the condition, sometimes before any characters have perceived it. The animal will be noticeably nervous or excited; it will pace or prance skittishly and will make vocal sounds (whinnying, braying, trumpeting, snorting, etc.) for no apparent reason.

A result equal to or greater than the second number indicates that the animal may become agitated. Unless a character takes steps to calm or control the animal within two rounds of when it becomes excited, the creature's abnormal behavior will become more pronounced. It will refuse to move, or will proceed very cautiously, if it is being forced to travel toward the threat that it perceives. If a character has not figured out what is bothering his animal by the time it becomes agitated, it is nevertheless a good idea to trust the animal's instinct: Don't force it to move in a direction it doesn't want to go, or, better yet, allow it to move in a direction of its choosing.

A result equal to or greater than the third number (if one is given) indicates that the animal may become panicked. Unless the animal is calmed and brought under control within two rounds of when it becomes excited, it will begin to behave in a manner that seems utterly irrational (but is in fact motivated by the animal's instinct for self-preservation). It will do everything in its power to move away from the threat it perceives and will be utterly uncontrollable by normal (nonmagical) means for the next 2d3 turns or until it has moved sufficiently far away from the threat, whichever amount of time is greater. If no third number is given, this indicates that the animal will not become panicked.

Fire frightens an animal more than any other force or source of energy found in nature. Even an animal that has never seen a fire or felt the heat of one will know instinctively that flames are to be avoided. (This also applies to non-flaming natural heat sources such as flowing lava, and to magical fire that produces heat, but not to a flamelike phenomenon that does not give off heat, such as a *faerie fire* spell.) An animal can become accustomed to the nearby presence of a small fire, such as a campfire, if it learns to associate the fire with something good: Tie your horse to a tree at the campsite, build your campfire, and then feed the animal or allow it to graze. It will quickly realize that the start of a campfire means that feeding time is soon to follow, and after a few days' repetition of this sequence it may actually look forward to the time when a pile of wood is ignited at the end of the day's labors.

However, no animal will ever be comfortable in the vicinity of any blaze larger than a normal campfire, regardless of how many times the creature is exposed to a large fire without being harmed by it. An animal may be able to sense the presence of a bonfire or some similarly large blaze (a burning building, a *wall of fire* spell, etc.) from as far away as one-quarter mile. It can sense the existence of an even larger conflagration (a forest fire, or a grass fire covering a large area) from as far away as one mile — usually long before a character is aware that the fire is nearby.

Weather changes are noticeable to animals in many cases before the signs of change come within sight range of characters. In some instances, an animal can instinctively "know" that severe weather is on the way, even when the only thing a character sees is a mass of approaching storm clouds. A character has no way of being sure whether those clouds are carrying just a moderate amount of rain, a roaring thunderstorm, or even a tornado — but an animal can tell the difference between an impending storm that will simply soak an area with water and a storm that has the potential to cause damage to characters or structures.

Sometimes an animal can perceive drastic changes in the weather even before any visual evidence is apparent. A fast-moving storm may be still beyond the horizon, but an animal can sense the drop in air pressure that precedes the disturbance. An animal will become excited when it senses any upcoming significant change in the weather (the approach of a moderate rainstorm, for instance), but it will only become agitated or panicked if the change is very drastic and very imminent, such as an approaching lightning storm or tornado. If an animal exhibits extremely unusual behavior and no other cause is obvious, a character might logically assume that potentially hazardous weather is on the way.

Noise in this context refers to a sound that is loud enough and sharp enough to startle a nearby animal — a shout, a crack of thunder, the clang of a sword striking a metal shield. An animal can become accustomed to a particular noise if it is exposed to the sound frequently; to make a horse less likely to panic during the commotion of melee combat, expose it to simulated combat (complete with whoops, growls, and clangs) while it is being trained.

An animal with exceptionally sensitive hearing (compared to that of a character) will not become agitated or panicked when it detects a sound that is inaudible to its rider or owner. It may become excited, however, and a character with proficiency in animal lore might be able to ascertain the nature of what the animal is reacting to.

Odor will only produce an extreme reaction from an animal when the scent is strong and pungent, which usually means that it can be smelled by a character as well. An animal with an exceptionally sensitive sense of smell will not become agitated or panicked by an odor so faint that a character cannot perceive it, unless the animal associates the odor with something harmful or unpleasant.

Other covers a wide range of stimuli — some "little thing" that may go unnoticed by characters and most animals, but causes a *certain* animal to become excited, agitated, or panicked. Here is an opportunity to "personalize" an animal by giving it a quirk that its owner might not find out about until an inopportune moment. A donkey may plod along through a mosquito-infested swamp oblivious to bugs that light on its snout or its flanks — but it will fly into a bucking, braying frenzy if one of the critters gets inside its ear. An elephant may be a hard worker, able to carry an enormous load on its back — but it will absolutely refuse to walk through a shallow stream unless it is relieved of the entire burden.

A quirk can be beneficial in some circumstances: A lead sled dog that refuses to run across snow with a light crust, because it doesn't like "falling through," might be difficult to deal with most of the time. But the same dog could be a lifesaver if it reacts the same way when asked to travel across a patch of thin ice over a body of water. A horse that has had a bad experience with a bear won't tolerate one being used as a pack animal in the same party — but if any *wild* bears try to approach the group's campsite at night, that same horse will sound an alarm long before the bear comes within view of a character on guard duty.

Another way to individualize animals is simply to modify the general characteristics described in this section and the section on Encumbrance and Movement. Not all humans are equally strong or equally fast; the same goes for horses, camels, and elephants. As characters get to know the animals they have chosen to accompany them on their adventures, they will discover they they have strengths and weaknesses and idiosyncrasies — not at all unlike the characters themselves.

Calming an Excited Animal

Any character can try to soothe an animal that has become excited. Someone with proficiency in animal handling (see the section on Wilderness Proficiencies) has a reasonably good chance of doing so, assuming that he has an above-average wisdom score. A proficient character can make a new attempt every round if his previous attempt failed, or if more than one animal is excited. A character without proficiency in animal handling has a straight 20% chance of bringing an excited animal under control, and can only make two such attempts (in successive rounds, if desired) on the same animal. Any character who attempts to calm an animal can take no other action in the same round except for movement, if necessary. If an animal is in motion when it becomes excited, it will remain in motion; if it is stationary, it will either remain still or begin moving (50% chance of each occurrence). A character attempting to soothe a moving animal must either be riding it or be able to keep up with it as it moves along.

If an animal becomes agitated or panicked, only a character with proficiency in animal handling has any chance of calming the beast. His Proficiency Check is made with a +2 modifier to the die roll if the animal is agitated, or +4 if it is panicked.

Even if an animal is calmed, there is no guarantee that it will not become excited again in the following round. If the condition that caused it to become upset is still evident (to the animal, not necessarily to the character), then the animal may become excited all over again and require the constant attention of an animal handler to prevent it from doing something drastic.

Understanding an Animal

A character with proficiency in animal lore (see the section on Wilderness Proficiencies) has the ability — partially innate, partially learned — to make at least an educated guess about why an animal is acting a certain way, even if the reason for its behavior is not obvious to the character.

A character without this proficiency may still be able to draw logical conclusions based on what his physical senses tell him. If he hears the rumble of thunder from an approaching storm and his horse seems unusually skittish, he may justifiably assume that the thunder is the cause of his mount's uneasiness. But it's also possible that the horse is upset by something that his master hasn't yet noticed: A nonproficient character can *guess*, but he can't always *know*, what's bothering his mount. In contrast, a proficient character can usually determine the cause with certainty — which, of course, also has the effect of ruling out any other possibilities.



MAGIC IN THE WILDERNESS

Many of the sections of this book describe various facets of the outdoor environment without taking into account the possibility — and it is a very distinct possibility indeed — that characters in the wilderness will have access to spells or magic items that can make their lives easier. Instead of being split up and parceled out among all the topics to which the use of magic might pertain, a lot of general and specific information about magic is presented in this section.

Of course, no discussion of the uses of magic in the wilderness can hope to be exhaustive. The information in this section is nothing more than a starting point; some of it may seem obvious or self-evident, but it is hoped that some of the rest of it will consist of ideas that might not have occurred to players and Dungeon Masters.

The section on spells (including cantrips) is arranged alphabetically, without regard to which class(es) can use a certain spell. The section on magic items is also arranged alphabetically, but magic items that simulate or duplicate the effects of spells mentioned in the preceding text are not included.

Before getting down to particulars, here are some general points:

Any magic that specifically affects animals or plants has an obvious application, and is not listed here unless some particular aspect is considered worth mentioning (see *animal summoning* for an example of this).

Several types of magic can cause, affect, or extinguish fires, and many of these have obvious applications in camping situations. Only when an observation is considered noteworthy (see *affect normal fires*) is such a spell included in this list.

Also excluded from this list are magical effects that can create nourishment, since the spell descriptions usually provide all the necessary information.

Other spells and magic items not mentioned are those that are deemed to have no *general* application for enabling characters to more easily contend with or manipulate the effects of the outdoor environment. Of course, practically any form of magic can be used in the wilderness, and may have a *specific* application in a particular circumstance that makes it beneficial or even necessary for a character to possess.

Spells

Affect Normal Fires: If the group does not contain a character with fire-building proficiency, or if characters are impatient and a magic-user has this spell to burn, it's an easy way to get a campfire or a cookfire blazing quickly after the first few pieces of kindling have been ignited. The effect of the spell won't last long, but by the time the magic expires the larger pieces of fuel will have been ignited and the fire will burn well on its own from then on.

Air Walk: Very useful, as are other spells allowing aerial movement, for ascending or descending a steep incline, or even moving directly up or down in close proximity to a cliff face. Of course, when moving directly up or down, the *air walker* must be sure that he can reach a safe perch before the spell duration expires.

Airy Water: The movement rate of any character in the area of effect is the same as his swimming rate — and, of course, any other characters in the sphere or hemisphere cannot move faster than the spell-caster if they intend to remain within the area affected by the spell.

Alarm: Nothing can take the place of an alert sentry on duty at a campsite, but this spell can give an added assist for a short time by guarding an area that is not in the sentry's line of sight. Unless the caster is of very high level, it is not usually prudent to cast this spell on the campsite itself, since it cannot protect a large enough area to give characters adequate warning of an approaching intruder. A better tactic is to cast it on a spot a short distance from the campsite, perhaps on a path that runs toward or parallel to the campsite.

Animal Summoning: If the spell-caster's party contains a character with proficiency in animal lore, the Dungeon Master may allow the spell-caster to know in advance at least one type of animal that is available within the spell range. The caster does not have to request an animal type that is mentioned, but he will certainly receive animals of that sort if that is what he desires.

Animate Object: You've been set upon by a band of orc archers while climbing a slope, and have managed to reach a plateau with your skin intact — but now you have no cover, and nowhere else to flee to right away. See that pile of rocks close to the edge of the plateau? If you animate the one at the bottom and send it over the edge, the others will follow it down. Presto — no more orcs!

Animate Rock: See *animate object*, above, for one idea.

Armor: In addition to its other benefits, the protection afforded by this spell will alter the personal temperature for the recipient by 10 degrees in the direction toward the tolerable range — warmer if the environment is cold, or vice versa.

Augury: Comes in handy for determining if the greenery you've gathered for supper is edible, in the absence of a character with proficiency in plant lore or as a safeguard against the possibility of the character's estimation being incorrect. Of course, the *augury* itself does not always produce accurate results. . . .

Barkskin: A recipient of this spell will suffer half damage from abrasion if he happens to tumble down a slope. A druid who plans ahead (keeping the material components at hand) and acts quickly might be able to discharge the spell on a character as he tumbles past the caster, so that abrasion damage would be minimized for the remainder of the distance tumbled. It will not, however, offset any abrasion damage already suffered before the spell goes into effect.

Bee: If a character is victimized by this cantrip while in a precarious position on a moderate or severe slope or a cliff face, he must make a Climbing Check to avoid falling. If a creature in a similar situation (presumably an opponent of the spell-caster) is stung, it should also be required to make a check to keep from falling.

Bind: The spell will affect at least 100 feet of ½-inch-diameter climbing rope, or an even greater length of a smaller rope (such as might be used to pitch a tent). Using it to help set up camp is rather frivolous, but it may be handy for taking down a tent quickly if the party does not include a character with proficiency in rope use. The spell also has obvious utility in climbing situations. If a protrusion is only a few inches out of a character's reach, he can extend the end of the rope as far as possible and then call upon

his magic-using companion to *bind* the rope to the protrusion.

Bluelight: A reliable, if not especially bright, source of illumination for improving close-range vision in the absence of a torch, lantern, or any other similar but more powerful source of magical light. The effect sheds enough light to enable a character to move at twice his maximum safe speed in darkness or moonlight without needing to make Dexterity Checks, providing that he is paying attention to the terrain in front of him.

Bug: Similar in effect to a *bee* cantrip, except that the bite is usually not as severe as a bee's sting, so a victim gets a +10% bonus to his Climbing Rating for the purpose of this Climbing Check.

Call Lightning: The magical lightning brought into existence by this spell is generally less lethal than natural lightning — but the chance of a character being hit by natural lightning is usually quite small, whereas a bolt of magical lightning will always hit a target within range of the area where it strikes, and will always do at least half damage. To an outside observer, magical lightning is indistinguishable from natural lightning in appearance; thus, a character or creature who witnesses it or is struck by it will not automatically know that the lightning was caused by an external force — but if more than one strike hits a target or targets within a relatively short time, witnesses may logically suspect that nature is not entirely to blame. Natural lightning can also occur during the duration of this spell, as long as conditions permit (*i.e.*, a storm must be actually occurring and not simply about to happen, as might be the case under "hot and cloudy conditions").

Call Woodland Beings: The presence of a character with proficiency in animal lore will not enhance the chances of this spell succeeding, as with *animal summoning* (see above), since this proficiency does not impart any special knowledge about the sorts of fantastic creatures that can be called by this spell.

Commune With Nature: The spell lasts until the caster has requested and found out one fact for each level of experience. The caster need not maintain total concentration on the spell for it to remain in effect; he can move normally, eat, converse with companions, and so forth. But the spell will expire prematurely if the caster performs any strenuous physical or mental activity, if he is struck by a physical or magical attack, or if he loses consciousness.

Cone of Cold: At the Dungeon Master's discretion, this spell could be used in a non-damaging manifestation to enable a character to recover from the effects of heatstroke. Instead of being instantaneously cooled and struck for damage, the target of the spell could be kept cooled for an hour without suffering damage from the spell and thereby saved from further harm due to heatstroke. This treatment will not restore lost hit points but will restore lost constitution points, up to a maximum of six (one per turn for the hour that the cooling power remains in effect).

Control Temperature: Useful for protecting and aiding the re-



covery of someone suffering from hypothermia, frostbite, heatstroke, or some other temperature-related malady. But the caster must take care not to alter the temperature too drastically in certain circumstances. Extreme heat is not necessarily good for someone suffering from the effects of cold, so that a frostbite victim might be harmed as much as helped if the temperature around him was suddenly raised by 100 degrees or more; a gradual warming is much more conducive to full recovery. On the other hand, a heatstroke victim is benefitted the most if he can be promptly exposed to freezing or near-freezing conditions, to bring his body temperature down as rapidly as possible. At the Dungeon Master's discretion, the caster may be able to manipulate the temperature during the duration of the spell, or he may be forced to pick a "target temperature" and stick with it for as long as the spell persists.

Control Weather: The Dungeon Master must interpret this spell description quite literally and somewhat conservatively, not allowing a character to get away with something that should not be possible. As noted in the *Players Handbook*, the spell "will not radically change the temperature" through a range of (for instance) 100 degrees or more — instead, a maximum range of 30 or 40 degrees in one direction or the other is recommended. Also, note that sweltering heat cannot be made hotter, and arctic cold cannot be made colder; when the actual current temperature is at one of these extremes, it can only be moved in one direction. This is true even of the druidic version of this spell, which can be used to move weather conditions two steps instead of just one. When the spell duration expires, the weather conditions that existed before it was cast will be resumed, just as if the intervening time had not occurred. For instance, the use of this spell will not prevent characters on the seacoast from being in the path of an oncoming hurricane — but if they can move inland during the time that the *control weather* spell is in effect, they may be able to avoid the brunt of the storm.

Control Winds: When cast for the purpose of countering a *control weather* or *control temperature* spell, this magic completely negates the previously cast spell, reinstates the natural weather or temperature conditions that were in effect beforehand, and then creates a wind of the desired velocity. This wind does have the power to affect other naturally existing conditions, if it is strong enough (it will dissipate moderate or heavy fog, neutralize a sandstorm within the area of effect, and so forth) — and, unlike *control weather*, the natural weather will not necessarily resume when the spell duration expires: if a sandstorm, for instance, would have abated by the time this spell ends, then it will not resume. The spell does not have the power to change large-scale weather conditions; for instance, it cannot cause storm clouds to move rapidly away or come closer, because the area of effect is not nearly large enough to affect the upper atmosphere where these clouds are located.

Cough: The interruption caused by use of this cantrip is not severe enough or long-lasting enough to cause a character to lose his concentration on a spell he is trying to maintain (see *detect snares & pits* for an example).

Create Food & Water: Better than *create water* (see below) when the party is in dire straits, because it provides both solid and liquid nourishment (if the caster so specifies) and it requires no material component.

Create Water: Obviously, a life-saver when the party runs out of water in the desert or any other waterless environment. But remember two important points: You can't take it with you unless you have something to carry it in, and you can't make water unless you have at least a drop of water to begin with. (Whether saliva or perspiration qualifies as a material component in this case is a matter for the Dungeon Master to decide.)

Cure Blindness: This spell will negate the eye injuries and blindness caused by a sandstorm, without requiring the victim to keep his eyes covered during a recovery period.

Cure Disease: Physical traumas such as dehydration, hypothermia, heatstroke, etc., are not considered diseases for the purpose of determining what maladies this spell can affect.

Darkness, 15' Radius: The magical darkness created by this spell (or any other similar magical effect) is much blacker than the darkness that normally prevails in the wilderness at night, even under a moonless or overcast sky. The maximum safe movement rate under this lightless condition is one-half of the figure given for natural darkness.

Detect Snares & Pits: As indicated in the spell description, this magic is much more versatile in the outdoors than in an underground environment. The area of effect of the spell will move as the caster moves, as long as he concentrates on maintaining the detection, does not have his concentration abruptly interrupted (by combat or the preparation of a different spell, for instance), and does not attempt to move faster than his full normal movement rate. The caster can converse normally with other party members and perform any non-strenuous physical activity without interrupting the *detect* spell.

Dig: A quick way to search for water beneath the surface of the desert. Use of the spell does not increase the chance of finding water at a certain location, but at least the party won't spend a lot of time and effort in a fruitless endeavor.

Dispel Exhaustion: Despite its name, this spell does only what the *Players Handbook* says it does. It cannot alleviate or offset the effects of fatigue or exhaustion as described in this text.

Distract: See *cough*.

Dry: Wet kindling can be made flammable by an application of this cantrip, so that it would be possible thereafter to start a small campfire more quickly. Larger pieces of wood that are not wet all the way through can be used to keep the fire going if they are broken up so that the dry interior is exposed to the flames. Or, a second application of the cantrip could be used to dry out the surface of a pile of larger pieces of wood, so that the fuel can be ignited without needing to be broken up.

Earthquake: The effect brought about by this spell is magical, not natural, and thus does not cause the same results as a natural earthquake. If it is cast within one mile of a natural fault line, there is a 50% chance that a natural earthquake will occur at that location within 1d6 turns after the magical *earthquake* has subsided.

Fear: Creatures with higher than *animal* intelligence that are affected by this spell will not run into the side of a cliff, over a cliff, into a fire, etc., in the process of fleeing away from the caster. If they encounter such an obstacle, they will alter their path and proceed along the edge or perimeter of the obstacle, still attempting to put as much distance as possible between themselves and the caster.

Feign Death: For a character or creature subjected to this spell, the effects of exposure (frostbite, heatstroke, etc.) accumulate only half as quickly as under normal circumstances. Thus, if a character knows that help is on the way and will arrive fairly soon, he may help to save his life or the life of another being by using *feign death* to partially protect the victim.

Find Familiar: Any attempt to cast this spell in a desolate area (a scorching desert or arctic wastes) may, at the discretion of the Dungeon Master, automatically fail to attract any of the listed creatures. In any event, the possibilities for normal familiars should be restricted to creatures that could conceivably exist within the spell range; a black cat almost certainly will not be found in a desert or at the summit of a mountain range, and a toad probably will not be found in the middle of a grassy plain miles from any source of ground water. Die-roll results that indicate such a contradiction may either be re-rolled or treated as "no familiar available," depending on the judgment of the Dungeon Master.

Find Traps: Similar to *detect snares & pits* (see above), this spell can remain in effect while the caster turns or moves at a normal speed. However, note that it is only useful to discover the existence of traps "of a magical or mechanical nature" — it will not reveal the presence of a covered pit, for instance, or a trip wire (unless the wire is connected to a snare or a missile-firing device, or some other accessory that constitutes a trap "of mechanical nature").

Firewater: If the group has water to spare, this spell is an effective way to start a campfire without kindling or any other preparation other than a moderate-sized pile of branches. If as little as one pint of *firewater* is prepared, sprinkled evenly over the fuel, and ignited before it evaporates, it will cause branches, logs, etc., to catch fire wherever the substance is present. The flame thus produced will spread to the rest of the fuel and produce a blaze that can be used for cooking or warmth, or both.

Flame Strike: Using a high-powered fire spell such as this to start a campfire is about as sensible as lighting a pipe with a blowtorch. The *flame strike* will momentarily ignite everything in a 10-foot diameter area, and when the duration expires any easily flammable materials within that area will be charred to a crisp. If the immediate area also contains combustible materials, the use of this spell (and most other sorts of fire magic) could start an uncontrollable fire; see the section on Camping and Campfires for details.

Forcecage: The spell description does not specify that the *cage* must be anchored to a solid surface. There is a chance equal to 5% per level of the caster that the spell could be used to halt a falling character or creature in mid-air (assuming, of course, that the target is within range when the spell is discharged). Failure on this chance indicates that the intended target was missed and the *forcecage* is formed around thin air. Success indicates that the target is prevented from falling any farther, and he only takes damage as for a 20-foot fall (the length of one side of the *cage*). There must be a way to rescue the character by other means before the duration expires, or his fall will resume from that point when the *cage* disappears. It is possible, for instance, to pass a rope through the bars of the cage; the character can tie it around his waist and then be hauled to safety when the duration expires or the magic is dispelled.

Fumble: If this spell is cast upon a character or creature in a precarious position and the target fails its saving throw, it will stumble and fall from that position unless it makes a successful Climbing Check at a −20% modifier to its Climbing Rating, or a successful Dexterity Check with a +4 modifier to the die roll (whichever applies). The effect of the spell can be averted if the target remains motionless until the spell duration expires. In most cases, a target that fails its saving throw will not know that it has been affected by the spell, so the decision to remain motionless must be made independent of any knowledge of the peril that such movement would cause. For example, if a character is perched on a cliff ledge and intends to remain in that spot for several minutes until a companion ascends or descends to the same location, a *fumble* spell will not cause him to lose his grip and fall. But if he attempts to find a new handhold or foothold, grab for a rope, or perform any other deliberate motion, he must make a successful Climbing Check (with the modifier given above) or slip and fall.

Gather: This cantrip cannot be used on a pile of freshly picked greenery to cull out inedible or poisonous plants unless the caster has prior knowledge (by means of proficiency in plant lore, for instance) of which plants are good to eat and which are not.

Giggle: See *cough*.

Haste: If this spell is cast upon a character or creature attempting to negotiate a slope or a cliff face, the target can indeed move twice as fast as normal — but all Climbing Checks for *hasted* characters and creatures are made at a −10% penalty to their Climbing Ratings. If a *hasted* character exceeds his maximum safe speed in conditions of reduced visibility, he must make all Dexterity Checks called for at a +2 modifier to the die roll.

Heal: The Dungeon Master should interpret the power of this spell liberally when it is used to counter injuries or disabilities caused directly or indirectly by the environment. For instance, a *heal* spell will restore *all* constitution points lost from heatstroke, not just those that would have been regained by normal recovery.

Heat Metal: The reverse of this spell can be used to treat a heatstroke victim by at least partially dressing him in metal armor and then discharging the *chill metal* spell on the armor. He will not suffer damage or disability such as the spell would normally cause (see *cone of cold* for another example of this), and the seven rounds of spell duration will benefit him the same as if he had received normal treatment for a full hour.

Hold Person: This spell and similar magics will not suspend a character or creature in mid-air, so that it can thereby be saved from falling. It will only "freeze" victims so as to prevent them from moving under their own power. Someone who is about to lose his grip on a mountainside can be *held* in place by means of this spell as long as he is still gripping handholds and footholds when the spell takes effect, but if he has already lost his grip and is not "attached" to the surface then the spell will not necessarily hold him in place unless his feet are securely placed on a ledge (in which case he probably didn't need to be *held* to begin with). For a willing or needy recipient of the spell in a case such as described here, the saving throw should be disregarded or considered to be automatically failed.

Insect Plague: If this spell is cast when the actual temperature is 40 degrees or lower, the duration is reduced to 1/10 of normal (1 round/level) and the area of effect is cut to 1/4 of normal (9" diameter, 1½" high cloud for the cleric version, or 8" diameter, 1" high cloud for the druid spell).

Irritation: The *itching* application of this spell will cause a target in a precarious position to lose his grip and tumble or fall unless he is otherwise prevented from doing so.

Item: As alluded to in the last line of the spell description, this is a handy way to make a campfire portable — but whoever carries the "fire" between stops had better be sure that the spell-caster won't inadvertently speak the command word while it's in his backpack.

Jump: A possible, but risky, means of ascending (but not descending) a slope or a cliff face — since the spell "does not insure any safety in landing or grasping at the end of the leap." If a place exists for the jumper to land upon or grab onto, he must make a successful Dexterity Check at the end of the *jump* to land safely. If no such place exists, or if he fails the check, he will fall. To determine the chance of a protrusion, the Dungeon Master can use the Grappling Success Table (see the section on Using Rope for Movement and Climbing) or simply rule that a safe landing/grabbing spot always exists, except on a smooth slope or smooth cliff face, where the chance is 50%. (Fingers and toes can find purchase on places where a grappling hook would not usually catch.)

Knot: A character with proficiency in rope use can loosen the *knot* in 1d4 rounds, minus his dexterity bonus for reaction (but a minimum of 1 round in any case).

Locate Animals: See *animal summoning*.

Locate Plants: See *animal summoning*, except that the text applies to plants in this case.

Lower Water: If water exists below the surface of the desert in the area where the reverse of this spell is discharged, the magic will bring it toward the surface but not necessarily all the way to ground level, so that characters might still have to excavate to find it. The unreversed application of the magic can be used to enable characters to ford a deep river or perhaps cross a narrow lake on foot, assuming that the water is lowered enough to allow

such passage and that the travelers can cover the distance from one shore to the other before the spell duration expires. Even though not all the water in the river or lake will be within the area of effect, the water that does spill into the area of effect as the result of the *lowering* will be immediately *lowered* itself.

Massmorph: The characters and creatures of an adventuring party can be made safe from any number of natural hazards (sandstorm, hailstorm, extreme temperature, etc.) by turning them into trees until the hazard has ceased to exist. Only a blow from a weapon (not simply a bare fist) or the impact of some harmful magic effect (*magic missile, death spell*, etc.) will cause damage to characters and creatures while they are massmorphed. Of course, they are still subject to effects that can harm trees (fire, lightning, extremely strong wind, acid, etc.). And, spending time in the form of a tree does not alleviate the need for nourishment; these illusionary "trees" cannot eat, and cannot soak up water from the ground, so that any characters or creatures that remain in this altered state for an extended period of time may be in dire need of food and water when the magic is dispelled, and they may even die from lack of nourishment if kept in this form for too long. Needless to say, the rest of the party is in big trouble if the spell-caster is "chopped down" before he has a chance to dispel the magic.

Mending: The spell will repair a rope that has broken or frayed, but cannot be used to join two different ropes to make one single, longer rope.

Misdirection: If this spell is cast upon a character with some knowledge-based proficiency (animal lore, direction sense, etc.) and the target fails a saving throw, the interpretation or assumption made by the proficient character will be reversed, so that a correct assessment becomes incorrect or vice versa. Of course, the spell-caster will not usually know ahead of time whether the character was making a correct assessment or not.

Protection From Normal Missiles: A character or creature who receives the benefit of this spell is prevented from being harmed by hailstones, a sandstorm, or any other missile-like natural phenomenon. Although the recipient cannot be blinded by a sandstorm, and in fact no sand will actually touch him, he is still limited in visibility as much as an unprotected character is. The spell does not negate any effects of very strong wind, such as a tornado; a character can still be picked up and carried along by the funnel cloud, but he will not take damage from collision with debris that is also being carried along. The spell prevents a character from suffering abrasion damage during a tumble, but does not keep him safe from impact damage at the end of a fall or a tumble. The protection field will not keep out natural lightning. It will keep a character safe from being burned by lava during a volcanic eruption, but will not protect him from radiant heat that can also cause damage at such a time.

Rainbow: If an illusionist casts a *rainbow* cantrip and a cleric who sees it fails his saving throw, the cleric can successfully cast a *rainbow* spell as long as the casting of the spell begins before the magic of the cantrip expires, and the cleric has the material components readily available. (It isn't easy to do, but it's possible.) However, a *rainbow* spell brought about by these means will be reduced in efficacy as follows: the *bow* will fire only once per round, not twice; the weight limit of the *bridge* is half normal; the *elevator* moves at 6″ instead of 12″; and the effects of draughts from the *flagon* will be as if the appropriate spell had been cast by a cleric of 6th level instead of 12th.

Resist Cold: A recipient of this spell who is suffering from hypothermia, frostbite, or some other malady related to cold will be protected from further harm for the spell duration, but the magic will not negate adverse effects already suffered.

Resist Fire: Handled the same way as *resist cold*, except that it pertains to heat-related instead of cold-related effects.

Run: If any affected individuals do not rest and refresh themselves beginning immediately after the spell duration expires, they will become exhausted after as little as 1 turn of activity other than eating, drinking, and resting. This stricture does not prohibit mental activity (such as studying a spell book or praying for spells). The lone exception to this is a character with proficiency in endurance, who can continue to engage in nonstrenuous physical activity immediately after the spell effect expires; however, for a period of time equal to the duration of the spell, such a character cannot make use of his proficiency, and he is subject to the effects of fatigue and exhaustion as a normal character would be. This spell will not affect a character with proficiency in long-distance running, just as it does not affect a barbarian who has the special running ability of that class.

Shield: A magic-user benefitting from this spell takes only two-thirds of the abrasion and impact damage he would otherwise suffer from a tumble or a fall.

Sink: Can be a lifesaver if cast upon someone who is about to fall from a precarious position (*i.e.*, a character who has failed a Climbing Check earlier in the same round). If the caster stops chanting after 4 segments, the subject will become fastened to the surface he is touching; as with *hold person* (see above), the saving throw can be waived or considered automatically failed if the spell is intentionally cast upon a willing or needy recipient. Thereafter, the rest of the group has 4 turns to devise a way to keep the spell recipient from falling when he returns to normal form.

Snare: If the spell is cast upon a snare that has been prepared without magical assistance, the chance of the snare being undetectable without magical means is 100%, and furthermore the snare can only be noticed on a 50% chance even if some form of magical detection is employed on the area in which it is located.

Stone Tell: This spell will function if cast upon something such as a mountainside or a cliff face (which, after all, is essentially a conglomeration of "stones") as well as if it is cast upon individual rocks or boulders.

Stoneskin: A character who takes a tumble while this spell is in effect upon him will suffer no abrasion damage as a result of the episode, but the act of tumbling will dispel the magic, whether or not the recipient would otherwise have suffered damage. The magic will also keep a character safe from injury in a hailstorm (the entire storm being considered as an "attack sequence'), but it will be dispelled when the hailstorm stops.

Summon Insects: If this spell is cast when the actual temperature is 40 degrees or lower, the duration of the spell is only one-half of normal (rounded down).

Symbol: If a *symbol of hopelessness* is placed upon a location where it can only be viewed by a character or creature in a precarious position (on the surface of a severe slope or a cliff face, for instance) and the viewer fails his saving throw, he will be unable to tear his gaze from the *symbol* and must make a successful Wisdom Check every turn as long as the magic remains in effect. If any one of these checks fails, he will fall from his precarious position unless he makes a successful Climbing Check or Dexterity Check (whichever applies) immediately after the Wisdom Check was failed. If a *symbol of pain* is viewed in the same circumstances, the Dungeon Master should substitute a Constitution Check for the Wisdom Check and otherwise handle the incident in the same way as described above.

Trip: The spell will have no effect upon characters who are not walking or running in a normal fashion, such as those who are crawling along level terrain or using both hands and feet to negotiate a slope or a cliff face.

Transmute Rock to Mud: This spell, used in combination with the reverse of *lower water*, can produce drinkable liquid from solid rock.

Water Walk: For the purpose of determining how many individuals can be affected by this spell, treat a character who is heavily

or severely encumbered as equivalent to two man-sized creatures instead of just one. Of course, any creature empowered to walk on water does so at his normal land-based movement rate, taking into account encumbrance, the condition of the water, and any other pertinent factors. Calm water is equivalent to normal terrain, actively flowing water might be considered rugged terrain, and white-water rapids would be very rugged terrain. The current of the water also has an effect on *water walking*; in order to be able to move against the current, the *water walker* must be able to maintain a movement rate faster than the current.

Weather Summoning: As indicated by the spell description, the duration and area of effect of the magically created weather are dictated by the nature of the conditions called for by the caster. Based on general knowledge and the information in the spell description, the caster should not attempt to summon any weather condition that could not conceivably occur during the current time of year; if he does, the Dungeon Master is entitled to disallow the request and consider the spell ruined. Weather conditions that prevailed before the spell was cast will resume when the duration expires. The "trend of the weather to come" will be apparent to any character who observes the changing conditions, not just to a character with proficiency in weather sense.

Web: Can be used to form a "net" beneath a character or an object in danger of falling, as long as two diametrically opposed vertical surfaces (two cliff faces close together, for instance) are available to serve as anchors for the *web*. For every five feet of thickness of the *web*, it can protect a character from a fall of 10 feet; a 10-foot-thick *web* will stop a fall of 20 feet, one of 20 feet in thickness will cushion a character who falls 40 feet, and one of 30 feet in thickness or more will stop a fall of 60 feet. If a character falls more than 60 feet, a *web* will be of no use; his body will have built up so much velocity that it will keep falling as though the *web* wasn't there. If a *web* is used to halt a tumble down a slope, the distance figures given above are doubled for a severe slope, quadrupled for a moderate slope, and multiplied by eight for a gentle slope. For example, a 1″-thick *web* will halt a character after a tumble of 40 feet (or less) down a severe slope; a 2″-thick *web* will bring a character safely to a halt after a fall of 160 feet (or less) down a moderate slope. Of course, the *web* does not negate abrasion damage from a tumble, but it does prevent the character from suffering impact damage.

Wraithform: An illusionist who casts this spell upon himself just before leaping or falling will take no damage from the impact of the fall (assuming he hits ground before the duration expires). The magic does not alter the weight or mass of the illusionist, only his physical nature and appearance. The spell cannot be cast while the illusionist is falling (unlike a *feather fall* spell, which can be effected in mid-air), because one of the material components is a wisp of smoke. However, casting might be possible if the fall carries the illusionist through a cloud of smoke and he has the other material component ready in hand, providing that he can finish the casting before hitting the ground — a body can fall a *long* distance in one segment, especially if it has already been accelerating for some time.

Potions

Gaseous Form: An individual under the effect of this potion will take 3-30 points of damage if he is exposed to a gale-force winds, or will be killed outright if he is hit by hurricane-force winds or a tornado.

Invulnerability: A fighter who has drunk this potion will take no damage from a fall of 40 feet or less, no abrasion damage from a tumble, and no impact damage from a tumble of 80 feet or less. If he falls or tumbles farther than the given distances, impact damage is halved.

Oil of Fumbling: This substance will not increase a character's chance of falling or tumbling from a precarious position unless the user comes "under stress in a melee combat situation." In addition to causing the principal effect of the oil to manifest itself, being in such a situation will require a character to make a successful Climbing Check or Dexterity Check (whichever applies) in any round during which he fumbles or drops a held object. If this check is failed, the character falls or tumbles.

Vitality: Among other things, this potion negates the need for a character to rest and take nourishment after a *run* spell, and it makes the imbiber immune to the effects of fatigue and exhaustion for up to seven days.

Protection Scrolls

Cold: The effective temperature for all characters in the protected area is at least high enough to prevent them from suffering any adverse effects due to cold, or 40 degrees warmer than the current effective temperature, whichever is higher.

Fire: Works similarly to a *protection from cold* scroll (see above), except that the effective temperature is lowered instead of raised.

Gas: Characters within 1″ of the reader are in an area of no wind, so that they cannot be swept up by a tornado or blown across the countryside by a hurricane. A sandstorm is neutralized in the area; when airborne grains of sand come into contact with the calm air, they simply fall to the ground. The effective temperature within the protected area is altered to account for the absence of wind.

Rings

Fire Resistance: Makes the wearer immune to the effects of normal heat just as a *protection from fire* scroll does.

Free Action: The wearer of this ring can move and otherwise operate as if he was not encumbered, unless he is actually severely encumbered, in which case he can operate as if moderately encumbered. Wearing this ring does not enable a character to carry more encumbrance than he can normally; if such an attempt is made, the power of the ring is negated until the wearer rids himself of the excess baggage. The ring does not change the character's actual encumbrance value, so that if he is astride a mount, his presence has its normal effect on the animal's ability to carry encumbrance.

Protection: The ring enables its wearer to take less damage from a fall or a tumble; use the "plus" of the ring as a subtraction from each die of damage called for, to a minimum of 1 point of damage per die. This applies both to abrasion damage and impact damage. This power of the ring is related to its ability to improve armor class, so that this power also will not function if the character is wearing magical armor.

Sustenance: A character wearing this ring is much less likely to be affected by fatigue or exhaustion. All Constitution Checks for fatigue and exhaustion are made with a −5 modifier to the die roll (but an unmodified roll of 20 is still failure in any case). In addition, Constitution Checks for fatigue need not be made more often than once every six turns, regardless of how long the character engages in strenuous activity.

Warmth: This ring provides the same benefits as a *protection from cold* scroll does.

Rods, Staves, and Wands

Rod of Lordly Might: Note that even when the *rod* is out of charges, it can still be used as (among other things) a climbing pole, a direction-finder, and an altimeter. A severely encumbered character must make a successful Dexterity Check to safely negotiate the climbing pole whenever it is extended to 20 feet or more; all other characters can move along the rungs of the pole with no chance of slipping and falling under normal circumstances.

Staff of Swarming Insects: If this item is employed when the effective temperature is 40 degrees or lower, it will produce only half as many insects as normal — 30 plus 5 per level of the user instead of 60 plus 10.

Miscellaneous Magic

Apparatus of Kwalish: The device can negotiate any solid or semi-solid surface except for a cliff face.

Arrow of Direction: At the Dungeon Master's discretion, this item may be usable as a direction-finder in outdoor settings as well as subterranean environments.

Cloak of Protection: See *ring of protection*.

Cube of Force: If cube face five ("keeps out all things") is activated, anything inside the cube is immune to damage from a fall or a tumble.

Daern's Instant Fortress: This structure is impervious to a hurricane or a tornado (or, obviously, any wind of less strength) — but it is not climate-controlled, so that the effective temperature inside will be the same as the actual temperature outside, not considering the effect of any wind that might be blowing.

Gauntlets of Dexterity: A character wearing a pair of these gloves receives a +10% modifier to his Climbing Rating whenever he uses both his hands and feet to traverse a surface.

Gauntlets of Fumbling: A character wearing these gloves receives a −10% modifier to his Climbing Rating whenever he uses both his hands and feet to traverse a surface.

Mantle of Celestian: If every character who went on an outdoor adventure had one of these garments, the *Wilderness Survival Guide* would be a very short book. The personal temperature for a character wearing the *mantle* is always comfortable; he is entirely protected from practically any form of precipitation (including a sandstorm); and he need never worry about dying from thirst or starvation. However, the *mantle* will not protect its wearer from impact damage (from a fall, tumble, hailstones, etc.), and it will not keep him safe from the adverse effects of high winds; he can still be swept away by a tornado, for instance.

Periapt of Wound Closure: The possessor of this stone is immune to abrasion damage from a tumble, but still takes impact damage from a tumble or a fall as normal.

Rope of Climbing: A protrusion must be available within range in order for the *rope* to fasten itself and be useful as a climbing aid. Use the Grappling Success Table (see the section on Using Rope for Movement and Climbing) to determine if a protrusion exists; alternatively, allow a 100% chance on any non-smooth surface and a 50% chance on a smooth surface.

Shoes of Fharlanghn: A character wearing these shoes can travel on foot over any terrain as though it were normal (instead of rugged or very rugged), with his movement rate increased accordingly. If the wearer is of neutral or neutral good alignment, he has a base Climbing Rating of 100% when negotiating a gentle or moderate slope, or 80% when moving on a severe slope or a cliff face with ledges.

Stone of Good Luck: This object affords its possessor a +5% modifier to his Climbing Rating and a −1 modifier to the die roll on any Dexterity Check or any Proficiency Check when dexterity is the appropriate ability related to the proficiency.





STARTING FROM SCRATCH

There's no putting it off any longer.

You've been a Dungeon Master for years, and the campaign world you created and cobbled together has outlived its usefulness. Your players' characters have explored practically every nook and cranny, and you've become intimately familiar even with the parts they haven't been to. Your pride in the world has waned because it doesn't bring out the same sense of wonder and mystery in you that it once did — and if the wonder and mystery is diminished for you, then what must things be like for your players?

Or . . . you've decided to take the plunge and become a Dungeon Master for the first time. You're pretty familiar with the rules of the game, and you've learned a lot from the campaigns you've participated in as a player. But those weren't *your* campaigns, and all the ideas that have been building up in your conscious and subconscious mind are aching for release.

No matter which of those situations you're in, you stand at a crossroads — a focal point from which radiate a virtually infinite number of paths. You are about to start making a new campaign world, and it all begins with the first line you draw on a blank piece of paper that will become the world map. With every mark you make on that paper, you eliminate some possibilities and open up others. At some point, when the paper actually begins to look like a map, there will be no going back (without starting all over again). By then you should be confident that what you have done will stand as a firm foundation — a structure to which you can (and must) add detail, but a structure that can support detail without limiting your creativity.

Realism vs. Fantasy

This section of the *Wilderness Survival Guide* will not tell you how to make a world where water flows uphill, a desert is bordered by a swamp, and a steaming tropical jungle is nestled between two arctic mountain ranges several thousand feet above sea level. If your ideas run along these lines, you don't need any help — just put pencil to paper, let your imagination run free, and see what you end up with. The ADVANCED DUNGEONS & DRAGONS® game can be played in any kind of universe, even one where the natural laws of our Earth do not necessarily apply.

But for the purpose of this discussion, we're going to use the same assumption that underlies practically every other paragraph in this book: The campaign world is one that could exist on Earth, or at least under Earthlike conditions. Water flows downhill; you can't go from a swamp to a desert without passing through (or over) some other kind of land; terrain features that are found at sea level in the tropics are not also found thousands of feet above sea level surrounded by snow-covered peaks.

An Earthlike campaign world has some advantages over a "freeform" environment or one that is deliberately created with unearthly features. First, both you and your players are naturally familiar with the features of the planet we live on; when you say "mountain," they know what you mean. But if you create a world where "mountains" are made of wood (for instance), your players are going to ask questions and you're going to have some explaining to do: Are these wooden mountains slippery? Do they burn? Can the characters get splinters if they're not careful? For every "unrealistic" question that players come up with and you are forced to address, the players' suspension of disbelief is strained a little further. When it gets strained too far, players become preoccupied with the fact that, after all, they're "only" playing a game — and role-playing falls by the wayside in favor of an artificial "contest" between the players and the world they're trying to understand.

Second, *homo sapiens* is the dominant and predominant creature in the game universe that is described in the rules, and the campaign world should be one in which player characters (either human or demi-human) can survive and prosper — one in which they can feel at home without having to undergo some biological or artificial adaptation. For instance, if you think it would be fun for your world to have an atmosphere of methane instead of air that is normally breathable by characters, think again. Even if every character was somehow equipped with an apparatus that allowed him to survive, no character in his right mind would set out on an adventure for fear of breaking or losing his life-support apparatus. And if the apparatus can't be broken or lost, or if the characters all have "special lungs," then why bother to create a poisonous atmosphere in the first place?

Third (and related to advantage number one), the best kind of campaign world is one that is everpresent but usually inobtrusive. The world should be a backdrop for the activity that takes place between the characters and creatures that live in it — the location of a conflict, but not the source of the conflict itself. The way to keep the world in its proper place is to make it "ordinary," so that player characters can concentrate on what they're doing instead of where they're doing it.

All of the foregoing is not meant to say that *some* deviation from the norm is not a good idea. In a campaign world of continental proportions, there's plenty of room for your pet ideas — but use them on a small scale. Replace that clear, tranquil river with water that is always at the boiling temperature, so that even characters who can swim won't be able to just jump in and paddle along — but don't make *every* river a scalding experience. Create a forest of trees that not only lose their leaves in the autumn, but actually pull themselves down into the ground when the first frost hits. When a fantastic feature of this sort is localized, it remains intriguing; when it's used everywhere throughout the world, it loses its distinctiveness and becomes an obstacle instead of an oddity.

Step by Step

If you've ever spent ten minutes looking for a pair of sunglasses and then had someone else tell you they're perched on top of your head, you're aware of two basic facts about the human mental process and our powers of observation: The obvious is often overlooked, and what's obvious to one person may not be apparent to another. Even if you *know* how to create a world map, read through these step-by-step suggestions in case you run across something that hasn't occurred to you before.

1. *Settle on a scale.* Decide how much area you want your world map to cover. It isn't necessary to create an entire planet at one

time; stick to something the size of a continent or part of a continent. The *Dungeon Masters Guide*, on page 47, recommends that the scale of a world map should be from 20 to 40 miles per hexagon. At 40 miles per hex (measured across the middle), a standard 8½ × 11-inch piece of small-hexagon mapping paper covers an area of roughly two million square miles — 1600 miles in the long dimension and 1250 miles in the short dimension. If this isn't a large enough area for what you want to create, simply fasten together two or more sheets of hex paper and work in an even larger scale (50 or 60 miles to the hex) if you want to. Everything will be scaled down later when you need to detail a certain section of the world; for now, all we're concerned with is describing the size and shape of the world and locating its most prominent physical features.

The outline of your world, and any other features you draw on the map, need not follow the boundaries between hexagons; in fact, it's much better if you don't restrict yourself in this fashion. The hexes are there only for the purpose of regulating size and distance. As you fill in the features on your map, try to pretend the hexes aren't even there — or, better yet, draw the map out in rough form on blank paper and transfer it to hex paper later.

Sheets of hex paper, with hexagons of a different size on each one, are provided in the back of this book (pages 124-126). The owner of the book is hereby granted permission to make photocopies of the sheets for his personal use only.

2. *Start at the bottom.* Decide whether your creation is going to be the size of a continent or just part of one, and then pencil in an outline that describes the coastline. Now's the time to plan for major islands, long peninsulas, and other ultra-large-scale geographic features. If you're creating an entire continent, you must know whether the continent is an island in itself or if it connects above water with another large land mass. Unless you have a reason for creating a continent surrounded by water, extend the land mass off the edge of your map paper in at least one direction. This keeps your options open: If you want to connect another land mass to this one later, you can do it without redrawing anything you've already done. If you want to turn the continent into an island, all you have to do is make a small extension of your original map containing the previously uncharted seacoast.

At this point, your map shows all the places where the land meets the sea, at least as far as the major land masses are concerned. By definition, these lines also show the location of zero elevation, or sea level.

3. *Now take it to the top.* Decide where to place the mountain ranges, and determine how high the tallest peaks will rise. Don't make them too frequent or too high; characters shouldn't have to scale something the size of Mount Everest once every few days during a cross-country trek. But don't make them too low, or they won't provide a good challenge and change of pace. Locate the tallest peaks individually and decide how high they stand. If any peaks are higher than 10,000 feet, draw shapes around those points indicating the line of 10,000-foot elevation. Then do the same for a line of 5,000-foot elevation.

Now your map is a rough topographical map, showing the highest points of elevation on the continent and the area's lines of elevation at 5,000-foot increments. The rough shape of the world, in all three dimensions, has been determined.

4. *Place it on the planet.* Decide where your world is located with respect to the poles and the equator of the planet it is a part of, and then note some rough boundaries where climatic zones change. The world you start with need not run the gamut from arctic to tropical climate; on the other hand, it doesn't need to be the size of the Earth's northern or southern hemisphere in order to contain all five climatic regions. At this time, you should also determine the direction of the prevailing winds in each climatic area of the world; see the weather-generation system in the appendix for general rules to aid you in these decisions.

5. *Just add water.* Now that you've placed the areas of high and low elevation and you know what the climate is in any spot on the map, you can draw in rivers and lakes. Rivers begin at high elevation and run toward the ocean (or some other place at or near zero elevation). A large river usually has several tributaries that flow into it, and extremely large river systems (such as the Mississippi or the Amazon, and all the tributaries that feed them) are rarely found more than once or twice in a continent-sized area. Large inland bodies of water (wide-ranging river systems and huge lakes) are somewhat less frequent in subarctic climates than in warmer areas, but a subarctic region may be laced with a dense and intricate network of smaller rivers and lakes; look at a map of Canada for an example of such a network (as well as some areas, such as Great Bear Lake and Great Slave Lake, that contradict the above statement about frequency of large bodies of water). Don't be bashful about laying in rivers and lakes, but don't run a stream through every hex unless you're designing a world with no deserts.

This is also the time to decide where you want your swamps. Put them in areas of low elevation, usually near or on the seacoast and usually in an area that has a lot of rivers or lakes.

6. *What's for desert?* Now that you know where water is and isn't located, you can plan your desert areas. Have an eraser handy for this stage (if you haven't used one already), because you may want to dry up a few rivers and lakes along the way.

On Earth, most deserts are located in subtropical climate and the part of the temperate zone closer to the subtropical area (the southern half of the zone in the northern hemisphere, the northern half in the southern hemisphere). This is because of global wind patterns; the prevailing winds blow generally east to west around the equator, and usually in the opposite direction in the temperate regions. When they meet each other in the upper atmosphere over the area in between, the cool upper air descends. As the air gets lower, it gets warmer, and its ability to retain moisture increases; thus, the water vapor in the air remains suspended and is not released as precipitation.

Farther away from the tropics, deserts are often located on the downwind side of high mountain ranges. When the wind hits the slope of a mountain, the air rises and becomes cooler. Since cool air cannot retain moisture as easily as warm air, the water in the air is released as precipitation on the slope facing the wind direction, and by the time the air crosses over the mountains all or most of its moisture has been depleted.

With these two facts in mind, place your deserts, and be prepared to obliterate a river (or at least change its course) if your map shows water flowing through an area that would make a good desert.

7. *May the forest be with you.* You've already established lots of places (high mountains, deserts, arctic regions) where forests can't grow; now is the time to decide where they *do* appear. Mark off the forest areas on your world, remembering that they are more likely to be located along or near large bodies of water. Don't go above the tree line (where arctic climate begins) and don't put a forest right next to a desert, unless you have a specific reason for creating a region of "unearthly" terrain in that area.

8. *None of the above.* Any terrain that you haven't designated as seacoast, mountains, swamp, desert, or forest must be either hills or plains. If it has no other distinguishing characteristics, the area adjacent to a mountainous region should be considered as hills. You may also want to spot some hilly regions in the middle

of an area that is flat and featureless, just for a little variety. After that, as the next-to-last step in this process of creation and elimination, anything else is plains.

9. *Large-scale details.* Up to now, we've been dealing in features of immense scale — the aspects of a world that would be apparent to someone from a vantage point several dozen miles above the surface. Now it's time to narrow the scope just a bit and toss in a few details. Does that huge desert have an oasis, or more than one? Is there a pass that runs through that awesome mountain range? Mark these features now, and you won't have to worry about putting them in when characters decide to look for them. This is also the time to make any large-scale additions or alterations to the terrain features. If you want to run a thin strip of forest land on either side of the big river that slices through a vast plain, do it now. If you want to send a river coursing through a desert, that's okay, but be sure to border the river with a couple of strips of something other than desert. Make any large-scale finishing touches to the terrain that you think are appropriate, until you're satisfied with the lay of the land.

10. *Points of interest.* While you're still looking at things from an ultra-large-scale viewpoint, you should pinpoint the locations of special isolated features. If your world has features resembling the Grand Canyon, Death Valley, or the Yellowstone area, locate them now. This is also the time to determine if your world has earthquakes or volcanoes and, if so, where you ought to place the fault lines and the hot spots.

An earthquake can occur almost anywhere, but the most frequent and most severe quakes take place along major fault lines. These lines are often located where the land rises abruptly in elevation, and especially near the seacoast. (The San Andreas Fault in California is an example of this.) A major fault line can also occur in the middle of a mountain range, running along the long axis of the chain of mountains. If your world has features that might be the location of major fault lines, sketch in those lines now.

Individual volcanoes do not need to be placed on a map of very large scale; this would be as difficult as locating every individual mountain peak. However, you should know where the "hot spots" are, because these are the areas where volcanoes will be found. Each hot spot is an area of 20 to 40 miles in diameter, usually located in the lower regions of a mountain range or along a major fault line that cuts through a mountain range, representing a place where magma lies close to the surface.

Not every major fault line produces frequent earthquakes, and not every hot spot contains active volcanoes within its area, so don't be stingy about locating these special features. If you don't want to make all of them active right away, no one else (in other words, the characters) will have any way of knowing that they exist. But if you decide that a long-dormant volcano is suddenly going to spring into life, you can cause the eruption by design rather than on a whim. The more decisions you make in the creation stage, the fewer times you'll find yourself caught short later.

The Semi-Finished Product

You now have a one-of-a-kind creation — a map that looks like no other map ever made. But it's still not ready to use as the location for adventures until you bring it alive. Divide the terrain into countries, sketch out political boundaries, and decide where the major population centers are located. This is a much more complex and difficult process than that single sentence would indicate. Unless you have reasons for doing things differently, use these general guidelines to rough out the political and cultural makeup of your world.

1. The largest population centers are usually located adjacent to large bodies of water, especially along the seacoast or on the shores of bodies of water with an outlet to the sea. The health of a city depends on commerce, and the most efficient way to move trade goods from one place to another is by boat or ship.

2. Other large cities may be located in areas with an abundance of a useful natural resource. A city can spring up in the foothills of a mountain range several days' travel from the nearest large river, as long as a road exists (or can be built) from that city to another city that lies on the river. The first city is a place where miners can bring their take to be assayed and refined, after which it is sold to a merchant caravan operation that transports it to the manufacturing and shipping center that lies on the river.

3. Areas that are physically isolated tend to be politically independent, at least at the beginning of a world's political history (before an aggressive neighbor decides to try expanding its boundaries). An area that is ringed by high mountains, or composed entirely of mountains, will have a different government than the areas around it. (Switzerland is a good modern-day example.) The areas on either side of a vast desert will usually not belong to the same country, since it is very difficult for a single central government to successfully exercise its power across a large expanse of impassable terrain.

4. In the absence of other factors, rivers often serve as political boundaries. This is to your advantage and the advantage of the people who live in the adjacent countries, since there can be no doubt about where one country ends and another one begins.

5. Enclaves of humanoids and demi-humans will usually occur in terrain that is suited to them, according to the descriptions of those creatures given elsewhere in the rules. Elves tend to be more numerous in forests, dwarves in mountains, and so forth.

Flesh out your world, still working in large scale, by spotting at least the larger cities and the places where a certain type of creature forms the predominant part of the resident population. Outline the countries, perhaps leaving some of the political boundaries indefinite (that's how wars get started). Then use a combination of common sense and imagination to make some general assumptions about the state of the world, such as:

Country A doesn't like Country B because B insists on sending all of its refined iron ore eastward into Country C. It doesn't seem to matter that A and B are separated by a mountain range that makes overland traffic between the countries almost impossible.

Country B, being no dummy, sells the ore in return for weapons that it sends to the troops stationed along the mountain passes near its border with A.

Country D, watching the interplay between A and B from its vantage point to the south, is carefully playing a waiting game but building up its military strength in the meantime to keep itself safe from invasion by either A or B, in case one of those countries starts looking for a way to make an end run around the mountains and attack the other.

In three short paragraphs we have described a fairly simple situation that could produce a wide range of consequences and which offers several opportunities for adventurers to either defuse or aggravate the tension. The party might hire itself out to any one of the four principal countries, charged with the responsibility of furthering that country's interests — and no matter which government they work for, the characters are going to spend a lot of time in the wide open spaces and must know how to survive on the way to accomplishing what they are being paid to do.

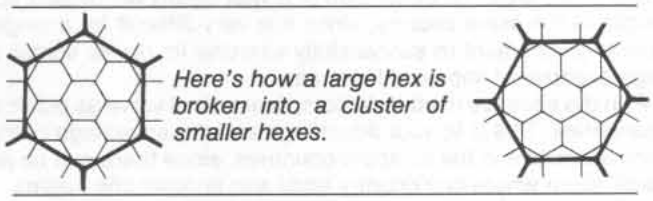
Scaling Down

Unless every character and creature in your campaign is wearing seven-league boots, your world map isn't going to be very useful in day-to-day adventuring. Even at the smallest recommended scale (20 miles across the middle of a hex), there will be

times when characters traveling overland won't cover the span of a single hex in a single day.

But it's not the function of a world map to mark location and movement on a day-to-day basis. To know precisely where characters are and exactly what the environment is like in their vicinity, you need to draw up smaller-scale maps of the areas they move through as they go along.

A good way to scale down your world map is by "clustering." Start with a single large-scale hex and break it up into a cluster of eight smaller hexes (see the accompanying diagram). On this eight-hex cluster, make a more detailed map of the area the large hex covers. Since the cluster is three hexes wide, the scale of each smaller hex is one-third of the scale of your world map. If each large-scale hex is 36 miles across, then each hex in the first cluster you create is roughly 12 miles wide. (The scale change is not an exact 3:1 ratio, since the hexes in a cluster are always oriented differently from the larger hex, but it's close enough for our purposes.)



Here's how a large hex is broken into a cluster of smaller hexes.

Of course, each hex in a cluster can be broken down farther; each time you step down in scale, reduce the distance across a single hex to one-third of the next larger value. If a 12-mile hex is broken down, each hex in the cluster is 4 miles across. If you need to work in an even smaller scale, just keep going: from 4 miles to 1⅓ miles, from 1⅓ miles to about ½ mile, and so on.

You don't have to make small-scale maps for every hex on the world map — at least, you don't have to make them all at one time. Concentrate on the area the characters are in and the area they're heading toward. Before you sit down to begin or continue an adventure, be prepared with "cluster" maps of the territory that you expect the party to travel through, drawn up in as much detail (as small a scale) as you think will be necessary. If the characters head in a direction you didn't expect, you can either call a brief halt to the activities and generate some rough small-scale maps, or you can simply improvise without interrupting the flow of play. (See the text below on the subject of "Winging It.")

Smaller Scale, More Detail

Your large-scale world map is a collection of generalities. That big green spot is a forest, hundreds or perhaps thousands of square miles in area — but it's not *all* forest. Next to it is a large grassy plain, extending hundreds of miles in every direction — but it's not *just* flat terrain. Remember, your large-scale map is a picture of the world as it would appear to someone viewing it from hundreds of miles overhead. From that distance, small-scale variations in terrain arn't visible — but that doesn't mean they're not there.

As you break each hex of your world map into a cluster of smaller-scale hexes, keep in mind that in most cases terrain does not remain the same on a mile-by-mile basis. Very often, the monotony of a flat grassland is broken by a grove of trees several hundred yards wide, or even a small forest a mile or two in diameter. If the elevation of the land in the middle of a forest takes a slight dip, the result might be an area of swampy ground among the trees. A small cliff, perhaps only twenty or thirty feet high, can show up almost anywhere on otherwise flat terrain.

With each step you take to a smaller scale, the detail of your hex maps, and the variety in terrain and special features they contain, should increase. If a river cuts through the hex that you're scaling down, draw in some streams coming off the main branch and trailing through some of the smaller-scale hexes. If the large-scale hex takes in part of a lake, sketch in some swampy ground along the lakeshore when you go to the next smaller scale — a swamp that doesn't show up on the large-scale map but is there nevertheless.

Winging It

A Dungeon Master must be able to think on his feet. No matter how much planning you do, your players will occasionally have their characters do something, or go somewhere, you didn't anticipate. Sometimes this can be a problem, but more often than not the problem is just an opportunity in disguise — the opportunity to do some creation and decision-making on the spot, during the game instead of taking the time to do it later.

When characters move into an area that you haven't yet mapped in detail, you can do a lot more than simply say, "There's forest around you as far as you can see." Of course, that may indeed be the case — but it doesn't have to be. Remember, you're in control; you can improvise and invent (within reason) any special features that you think will make this segment of the adventure more interesting, or at least give your players some things to think about. Instead of the simple sentence given above, you can say something like this: "You're in a lightly wooded area, with most of the trees the same height except for one big oak a short distance away to the east that towers over the trees around it. Looking north from where you are, you can see an area where a lot of sunlight reaches the ground; this may be a clearing. The land slopes upward gradually to the west, and you can see that the peak of this slope has very few trees."

By improvising like this, you accomplish two good things. You impress your players (whether they realize it or not) with your organization and attention to detail; never mind that the detail was created on the spur of the moment. And, perhaps more important, you create possibilities for excitement and intrigue. If someone climbs the big oak, maybe he'll be able to see something important in the distance from this vantage point. If characters move to the clearing, maybe they'll find a path leading away from it that makes it easier for them to move through the rest of the forest. If they climb the slope, maybe they'll discover that there's a sharp dropoff with a small pool at the bottom. By improvising further on what you've just invented, you can make things easier or tougher — or, in any event, more interesting — for your players and their characters.

The only rule to remember when you improvise in this fashion is that you can't un-create something later. Keep track of what you tell your players, either by making brief notes as you go or (preferably) by sketching the features you've just described on a handy sheet of hex paper. If the characters visit this spot more than once, they will obviously expect to see the same details that you described when they first arrived on the scene. Between playing sessions, take a few minutes to update your collection of small-scale maps, incorporating the features you devised during the game. Then you won't be caught short in case the characters decide to backtrack or just happen to stumble upon the same location later.

As has been said many times within the AD&D® game books, all the rules we can create still provide nothing more than a framework upon which your world and your adventures are built. In effect, we've given you the pieces to a puzzle that has an infinite number of different solutions. Now it's up to you to put those pieces together.

APPENDIX: THE WORLD OF WEATHER

Introduction

A system for determining the weather at any time and place in the campaign world is a necessary part of a set of rules that defines and describes that world. Yet weather, by its very nature, is anything but systematic. Modern-day meteorologists, armed with all the equipment and knowledge that man has devised and accumulated, still can't always predict with certainty what the weather will be from one day to the next — so how can a game designer hope to accomplish what they cannot?

The resolution of this paradox lies in the judicious use of one of the designer's most valuable tactics: simplicity. The tables and text on these pages may not look simple at first glance, but they are simple indeed compared to what would have been needed to account for all the combinations of terrain, climate, elevation, and location that exist on Earth. The system given here will enable a Dungeon Master to predetermine the important weather conditions that will prevail on any day (and for days or weeks in advance, if desired) at any location on the world.

The system has been constructed so that parts of it, such as the sections on wind chill and humidity, can be disregarded if the Dungeon Master prefers even more simplicity than the designer built in. The basic structure requires the DM to consult only two tables, and make a single dice roll, to determine the temperature, wind speed and direction, and precipitation (if any) for any day except one on which a special weather phenomenon takes place.

Note that this system describes how to determine weather conditions, but does not explicitly describe the effects, in game terms, that the weather will have upon characters, creatures, or other elements present in the environment. Information on the effects of weather is presented in the first section of this book, for both players and DMs. The difference, of course, is that the Dungeon Master will know exactly what the weather conditions are or will be, while player characters (and their players) in most cases only will be able to make general inferences and observations based on the information the DM imparts to them — and they, unlike the DM, usually will not know what the weather has in store for them during the hours and days to come.

Basic Assumptions

The system is designed for a world that is similar, if not identical, to our Earth, on the assumption that most campaign worlds are Earthlike at least in terms of their fundamental natures. A day is 24 hours in duration; a year is 365 days in length, or thereabouts. (Many Dungeon Masters prefer to develop their own calendars, and a good number of those conveniently divide the year into twelve identical months of 30 days each, making each year 360 days long.) Each year is divided into four seasons, and each of the seasons is further divided into three months. The planet rotates in a counterclockwise direction, as viewed from a point above the north pole. Temperatures are expressed in degrees Fahrenheit, elevation in feet above sea level, and wind velocity in miles per hour. Wind direction is given as the direction the wind is coming *from*; a north wind blows from north to south, not the other way around.

The planet contains five climatic regions, each described in detail below. The system considers seven distinct types of terrain, which are defined in the first part of this book. Although these terrain/climate designations do not directly correspond with the terrain and climate categories given in the encounter tables in the *Dungeon Masters Guide* and *Monster Manual II*, translation is not difficult. If you use the *DMG* terrain categories, consider scrub and rough areas to be the same (for weather determination) as plain or forest, depending on which of those latter areas the terrain most closely resembles. Swamp areas, whenever this category is not specifically mentioned (such as on the Temperature Variation Table), are considered as either plain, forest, or seacoast, depending on which of those three latter types most obviously applies. (A swamp devoid of large vegetation is a plain; a swamp containing trees or other large vegetation is a forest; and a swamp adjacent to the ocean is seacoast.) *Monster Manual II* considers only three climatic categories: cold, temperate, and tropical. To mesh that system with this one, simply divide the subarctic and subtropical areas in half, so that monsters encountered in a cold climate will be found in the arctic and in the part of the subarctic adjacent thereto. Those encountered in a tropical climate are found in the tropics and in the adjacent half of the subtropical area. And, monsters that occur in a temperate climate will be found in any area between the two extremes, encompassing the temperate area (as described herein) plus the adjacent half of the subarctic and the adjacent half of the subtropical area.

Climatic Regions

Arctic climate prevails in latitudes from 90 degrees (the north or south pole) to 66 degrees (the approximate location of the Arctic Circle). In this text, "arctic" refers to the polar regions in both the northern and southern hemispheres (and the same general rule applies to subarctic, temperate, and subtropical regions, described below). The arctic is, in a word, *c-c-cold*. The temperature sometimes rises to tolerable levels in the height of summer, but for most of the year the arctic region is so frigid that it is essentially uninhabitable, except by characters who are outfitted for survival in the deep freeze (and, of course, by creatures and monsters that are adapted to — and might even thrive in — this kind of climate). The winds in this area generally blow from east to west and seldom reach greater than moderate velocity (15-20 mph) except during storms. However, even a light breeze can make a drastic difference in effective temperature when it is bitterly cold to begin with; see the section below on wind chill and its effects.

In every other climatic area, the amount of precipitation a certain locale receives depends on the time of year, the type of terrain in the locale, or both. But in the arctic, time of year makes no appreciable difference and terrain distinctions are for the most part irrelevant since everything is covered with ice. (On the Temperature Variation Table below, the entries are identical for arctic hills and arctic mountains, and also for arctic desert and arctic plains; temperatures for an arctic forest area are not given, since vegetation of the normal sort cannot survive in this climate.) Precipitation in the arctic is usually very light if it exists at all.

CLIMATIC REGIONS

A phenomenon unique to the arctic is the "midnight sun," which occurs during spring and summer. Because the Earth rotates around an axis that is tilted with respect to the sun, there is a period of time each year when the arctic region is in continual daylight; at any time during the planet's rotation, the arctic is tilted toward the sun. The converse of this is the long arctic winter night (the "noon moon"?), when for an equal length of time in autumn and winter the region is tilted away from the sun and is in constant twilight. This difference in the amount of daylight each day occurs at all latitudes, of course (except right at the equator, where day and night are of virtually identical length), but only in the arctic are the extremes of all-night days and all-day nights realized. (See the Hours of Daylight Table in the Optional Rules section for more information.)

Subarctic climate is typical of areas from 65 degrees latitude to 51 degrees. (In the northern hemisphere, the southern boundary of this area roughly describes the border between the United States and Canada.) Winters are long and cold, but there is also a season that can legitimately be described as summer; daytime

Table A1: TEMPERATURE VARIATION

		Winter			Spring			Summer			Autumn		
		1	2	3	4	5	6	7	8	9	10	11	12
Arctic	Desert	A B G	A B H	A C H	A E H	C G K	F J L	J K N	J K M	F H K	D G J	A D H	A B H
	Forest	—	—	—	—	—	—	—	—	—	—	—	—
	Hills	A B E	A B D	A C F	A D G	B E I	C F I	D G L	D G K	C F J	C E H	B E H	A C E
	Mountains	A B E	A B D	A C F	A D G	B E I	C F I	D G L	D G K	C F J	C E H	B E H	A C E
	Plains	A B G	A B H	A C H	A E H	C G K	F J L	J K N	J K M	F H K	D G J	A D H	A B H
	Seacoast	A C H	A B H	A C H	A E J	C G K	F J N	J K P	J K N	E I L	C G J	A E I	A C I
Subarctic	Desert	A D I	A D J	B E J	C G J	F K M	J L N	K M Q	J M Q	G K Q	F H M	C E L	A C I
	Forest	A E J	A E I	B G K	D J L	H K N	J L P	K M R	J M R	I K P	E J L	B H K	A F J
	Hills	A D I	A D I	B F J	C G J	F K N	J L N	J M P	I M P	G K M	D J L	B G K	A D J
	Mountains	A C I	A D I	A F J	B H L	E J M	I K M	J L N	I M O	G K M	D J L	B F K	A D J
	Plains	A D I	A D J	B E J	C G J	F K M	J L N	K M Q	J M Q	G K Q	F H M	C E L	A C I
	Seacoast	B F K	B G K	C H K	D J M	H K N	J L R	K M R	K M R	J L P	E K M	C H L	A F K
Temperate	Desert	K M S	K M T	L M T	M N W	M P X	P P Z	U Y Z	U Y Z	Q W Y	N S X	L R X	K M R
	Forest	C F L	B F K	E K P	H L P	K N U	M P V	M S X	M S X	L P V	J N R	F J L	D J L
	Hills	B I L	C J M	E K P	I L R	J O T	J Q X	L T Y	L T Y	K Q W	J N T	F K P	C J M
	Mountains	A I L	B I M	C J N	E K Q	F L S	K O V	L Q X	K Q W	I N U	E L S	C K R	B J L
	Plains	B H M	C H N	D K Q	G L S	K N U	L P X	M S Y	M S Y	K P W	G L S	E K Q	C J M
	Seacoast	E J M	F K N	I K Q	K L S	K M T	L O W	M P X	M P W	L O W	K L T	G K P	E K M
Subtropical	Desert	L P T	L P U	M S W	N T X	O T X	R V Y	T X Z	T X Z	R U Y	P U Y	N S X	M P W
	Forest	L T U	L T V	M T V	N T W	N T X	P U X	P U X	P U X	O U W	N U W	M S V	L S V
	Hills	K N Q	K O R	L Q U	M S V	N T W	O U X	P U X	P U Y	N S X	M Q V	L P S	K N R
	Mountains	K M P	K M Q	L P S	L P T	M Q U	N Q U	N P T	N O R	L O R	L N Q	L N Q	K M P
	Plains	L N R	K O S	M R U	N S X	R V X	S W Y	T W Z	T W Z	S V Y	Q V Y	M R U	L P S
	Seacoast	L M U	K M V	K O W	L P X	M Q X	M S Y	N S Y	N S Y	M R X	L Q W	K O U	K M U
Tropical	Desert	P R U	P S T	P T W	P U X	Q V Y	T W Z	V Y Z	V Y Z	U X Y	U V X	R U W	Q S V
	Forest	M U W	L U W	M U W	O U X	O U X	Q U X	Q U X	Q U X	Q U X	P U X	O U W	M U W
	Hills	M P R	N P T	N R T	P R U	P T X	Q U Y	S W Z	S W Z	S V Y	Q T W	O R U	N Q T
	Mountains	M P R	N P S	N Q T	O Q T	O Q U	O Q U	N P T	N P T	N P T	N P S	M P S	M P S
	Plains	M P R	N Q T	N R U	P R U	R W Y	T W Y	T W Z	T W Z	T W Y	R V Y	P S W	N R U
	Seacoast	P S U	P S V	O T W	Q T X	Q T X	R T Y	R T X	R T X	R T W	Q S V	Q S V	P R V

The temperature figures for desert assume an elevation of sea level; for plains and forest, 500 feet; for hills, 2000 feet; and for mountains, 4000 feet. If these terrain types exist at different elevations than the ones given, subtract 3 degrees from the temperature figures for every increase of 1000 feet (or add 3 degrees for every decrease of 1000 feet) if a more accurate temperature determination is desired.

Temperature Letter Codes

Letter	High	Low	Letter	High	Low	Letter	High	Low	Letter	High	Low
A	−20	−40	H	30	15	O	70	55	U	90	70
B	−15	−30	I	35	15	P	75	55	V	90	75
C	−5	−20	J	40	20	Q	80	60	W	95	75
D	0	−10	K	50	30	R	80	65	X	100	80
E	10	0	L	60	40	S	85	65	Y	105	80
F	18	10	M	65	45	T	85	70	Z	115	85
G	25	10	N	70	50						

temperatures during the warm part of the year may reach or exceed 80 degrees. Winds are somewhat more active here than in the arctic. In the winter, winds usually blow from the arctic or on a westerly angle from the arctic (northwest in the northern hemisphere, southwest in the southern hemisphere), while in the summer a prevailing westerly or tropical west wind (southwest in the northern hemisphere, northwest in the southern hemisphere) is more often the case.

Temperate climate extends from 50 degrees latitude to 31 degrees (in the northern hemisphere, the line that roughly describes the border between the United States and Mexico). It is the Earth's area of climatic compromise, and paradoxically also the area where the greatest extremes of temperature are recorded. As anyone who lives in the American Midwest can attest to, a temperate winter can be a real bone-chiller — and on the hottest days of a temperate summer, going into a steam bath to cool off can seem like a good idea. Winds can blow from the north, south, or west, but almost never from the east (except along eastern seacoasts and in localized areas, such as the breeze that sometimes blows from Lake Michigan across the Wisconsin and Illinois shoreline; see the discussion of Local Winds in the Optional Rules section). Wind velocity in the temperate zone is as variable as the temperature.

Subtropical climate predominates from 30 degrees latitude to 16 degrees (a line running along the southern edge of Mexico). This area, like the temperate zone, is one of climatic extremes, but here they are more closely related to terrain. The subtropical area of Earth's northern hemisphere includes the vast deserts of Africa and Arabia, where rain hardly ever falls, and also the forests and jungles of India and Southeast Asia, where during the summer it rains almost constantly. The warm months can be very warm — as hot as the tropics — and in the cooler months, nighttime low temperatures can actually be rather brisk. Winds in this area are highly variable in velocity, and they generally blow from the east or from the east and toward the equator — the "trade winds" that explorers from Europe took advantage of on their journeys to the New World.

Tropical climate, in the area from 15 degrees latitude to 0 degrees (the equator) is as consistently hot as the arctic is consistently cold. The temperature almost never drops below 70 degrees, except during the winter months at high elevation when a "cold snap" of 65 or 60 degrees might occur. The summer is blisteringly hot, especially in flat areas (desert and plains) at low elevation, and even being along the seacoast offers little relief. Winds are generally docile (except during storms, of course), and they most often blow in the same direction as the subtropical trade winds.

How to Use the Temperature Variation Table

Each terrain/climate type is represented by a set of twelve three-letter codes that describe the general temperature conditions of that area during each month of the year. The first letter identifies the lowest temperatures that will normally occur, the third letter identifies the highest temperatures that will normally occur, and the second letter represents the mean, or average, high and low temperatures for that area. For example, the code for a subtropical plains area in the seventh month of the year (early summer) is T W Z. The T indicates that the lowest temperature during that month will almost never be lower than 70; the Z indicates that the temperature can rise as high as 115 on the hottest days; and the W indicates that on most days, the high temperature will be 95 and the low temperature 75.

At the beginning of an adventure or an episode (such as when player characters find themselves abruptly transported to a different area), use the second letter to ascertain the current temperature conditions. From this starting point, the temperature will move up or down on a daily basis according to the results of the Day-to-Day Change Table (below).

As a general rule, the lowest temperature of the day will occur just before sunrise, and the reading will gradually rise until the high temperature for the day is reached in early afternoon. After possibly remaining at the high point for a few hours (DM's discretion), the reading will decrease gradually through the evening and night until the next low point is reached just before sunrise on the following day. Of course, this general rule should be modified or disregarded in special weather conditions or when the Dungeon Master judges that different times for high and low temperatures should prevail.

How to Use the Day-to-Day Change Table

Roll 2d6 for each day beyond the present one, either day by day as needed or for a number of days in succession if desired. Use two dice that are different in color or size, so that they can be designated as "die 1" and "die 2." This distinction is important whenever there is a chance of precipitation, as explained below.

Follow the instructions below for how to interpret each category on the Day-to-Day Change Table.

Temperature Change: Move up or down the letter scale as required to ascertain what the next day's high and low temperatures will be. If the present temperature is within the allowable range (as indicated by the first and third letters of the Temperature Code) but a move dictated by this table would take the result beyond that range, then stop when the extreme result is reached. Example: The current temperature in a subarctic forest in the first

Table A2: DAY-TO-DAY CHANGE

Dice Roll	Temp. Change	Chance of Precipitation	Wind Conditions
2	−3 steps	yes	Very strong **
3	−2 steps	no	From arctic, +15 mph*
4	−2 steps	yes	From arctic, +10 mph*
5	−1 step	no	Prevailing direction, +15 mph*
6	−1 step	yes	Prevailing direction, +10 mph*
7	no change	same	Same as previous day
8	+1 step	yes	Prevailing direction, −10 mph
9	+1 step	no	Prevailing direction, −15 mph
10	+2 steps	yes	From tropics, −10 mph
11	+2 steps	no	From tropics, −15 mph
12	+3 steps	yes	Very slight **

* — Wind velocity in arctic and tropical climatic regions does not exceed 20 mph except in special conditions; in subarctic climate, 25-30 mph is the normal maximum.

** — Consult Special Weather Table.

month of winter is H, and the 2d6 roll yields a 12. Instead of going up three steps (to K, which is beyond the upper limit), increase the temperature to J for the following day.

If the current temperature is already at the upper limit, treat any "plus" result as "no change" and treat a roll of 7 the same as a roll of 6 — that is, the temperature drops by 1 step and precipitation is possible. If the temperature remains at the upper limit for two consecutive days, treat a roll of 7 or 8 as a roll of 6, and continue this pattern until the streak of hot weather ends. (For a streak of cold weather, perform the same process with the other end of the table.)

Chance of Precipitation: If the dice roll indicates a "yes" result in this column, note the numbers that came up on die 1 and die 2 and consult the Precipitation Variation Table below.

Wind Conditions: On a dice roll of 3 through 11, this column is used to determine the direction and velocity of the wind. Note that a wind from the arctic will be a north wind in the northern hemisphere and a south wind in the southern hemisphere; the reverse is true for a wind from the tropics. The "prevailing direction" is as described above in the text for the various climatic regions. The velocity increment (+15 mph, +10 mph, etc.) is added to the wind velocity for the previous day. Obviously, wind velocity cannot fall below zero, and except in special circumstances it will not increase beyond 45 mph. Exceptions to this rule for arctic, tropical, and subarctic climates are noted beside the Day-to-Day Change Table.

Wind velocity represents the highest speed the wind will reach on the day in question, during gusts that can last anywhere from a few seconds to a few minutes. For the rest of the day, the wind speed will be no more than half of the indicated maximum velocity. For example, the maximum wind velocity for the present day has been determined as 15 mph. A roll of 3 on the Day-to-Day Change Table indicates that the maximum velocity for the following day will be 30 mph. This means that gusts of up to 30 mph will

Table A3: PRECIPITATION VARIATION

		Winter			Spring			Summer			Autumn		
		A	B	C	A	B	C	A	B	C	A	B	C
Arctic	Desert	-	T	-	-	T	-	-	T	-	-	T	-
	Hills	-	-	T	-	-	T	-	-	T	-	-	T
	Mountains	-	-	T	-	-	T	-	-	T	-	-	T
	Plains	-	T	T	-	L	T	-	M	L	-	T	T
	Seacoast	-	T	-	-	L	T	-	L	T	-	L	T
Subarctic	Desert	-	T	-	-	-	T	-	-	T	-	T	-
	Forest	-	L	T	T	M	L	T	M	L	T	L	T
	Hills	-	T	T	-	L	T	T	L	L	-	L	T
	Mountains	-	T	T	T	M	L	T	L	T	-	L	T
	Plains	-	L	T	T	M	L	T	M	L	T	L	T
	Seacoast	-	T	T	-	L	T	T	M	L	-	L	T
	Swamp	-	L	T	T	M	L	T	L	L	T	L	L
Temperate	Desert	-	T	-	-	T	-	-	T	-	-	-	-
	Forest	T	M	L	L	H	M	L	M	M	L	M	M
	Hills	T	M	L	L	H	M	L	H	M	T	M	L
	Mountains	-	M	L	-	M	L	-	L	T	-	M	L
	Plains	-	L	T	L	H	M	L	H	M	T	M	L
	Seacoast	L	H	M	T	M	L	-	L	T	L	H	M
	Swamp	T	M	L	L	H	L	L	H	M	-	M	L
Subtropical	Desert	-	T	-	-	T	-	-	-	-	-	T	-
	Forest	M	H	H	M	D	H	M	D	H	M	H	H
	Hills	T	L	L	L	H	M	L	H	M	T	M	L
	Mountains	T	M	L	L	H	M	L	M	M	T	M	L
	Plains	-	L	T	T	H	L	T	M	L	-	L	T
	Seacoast	T	M	L	L	H	M	L	D	M	-	L	T
	Swamp	T	L	L	T	M	L	T	H	L	T	L	L
Tropical	Desert	-	T	-	-	L	T	-	T	-	-	T	-
	Forest	M	D	H	M	D	H	M	D	H	M	D	H
	Hills	-	T	-	-	L	T	T	M	L	-	T	-
	Mountains	T	M	L	M	H	H	T	M	L	M	H	H
	Plains	-	T	-	L	H	M	M	H	M	L	H	M
	Seacoast	-	T	-	L	D	M	H	D	D	-	L	T
	Swamp	-	L	T	M	H	H	M	H	M	L	M	M

Precipitation Letter Codes

- = No precipitation
T = Trace (less than 1/8" rain or 1/2" snow)
L = Light (up to 1/2" rain or 1" snow)
M = Moderate (up to 3/4" rain or 2" snow)
H = Heavy (up to 1 1/2" rain or 4" snow)
D = Downpour (more than 1 1/2" rain)

occur (at times determined by the DM), but in general the wind speed on the following day will average about 15 mph.

If precipitation occurs on a given day, the maximum wind speed for that day will usually occur immediately before and during the precipitation. The current wind speed can serve as an indicator of how long the precipitation lasts: On a very windy day, the precipitation will usually occur over a short duration; the clouds containing the rain or snow will be moving rapidly through the upper atmosphere. On a relatively calm day, the rain clouds move more slowly, and precipitation that occurs in a certain location will usually be less intense and more prolonged.

If the dice roll on the Day-to-Day Change Table is 2 or 12, follow the normal procedure for determining temperature change, chance of precipitation, and wind conditions, and then refer to the Special Weather Table (page 112) to see if some extraordinary weather occurs on the day in question.

How to Use the Precipitation Variation Table

If the roll of 2d6 on the Day-to-Day Change Table is an even number, you must refer to the Precipitation Variation Table to determine whether precipitation occurs and, if so, how much rain or snow will fall during the next 24 hours.

Cross-index the appropriate climate/terrain combination with the current season. Take the result for column A under the season if die 1 is greater than die 2; use the result under column B if the dice are equal; and use the result under column C if die 2 is greater than die 1.

A result from this table indicates the amount of precipitation that will fall during the entire day to come. Exactly when the precipitation occurs and how long it lasts are matters ultimately left to the judgment of the Dungeon Master. For instance, a heavy accumulation of rain could be the result of a day-long sprinkle or it could all fall in less than half an hour during a storm. (For some guidelines on the duration and intensity of precipitation related to wind velocity, see the text above on Wind Conditions.)

Rain, Sleet, or Snow

To determine in what form the precipitation falls, use this general guideline: If the current temperature is 36 degrees or higher, rain will fall. If the temperature is between 30 and 35 degrees inclusive, sleet will result half of the time (1-3 on d6, or DM's discretion) and snow the other half. At a temperature lower than 30 degrees, the precipitation will be a snowfall.

Collecting Precipitation

Of course, it is possible for characters to attempt to collect precipitation in containers and use it for drinking water. When this occurs, it is fairly simple for the Dungeon Master to calculate how much water can be obtained as long as the dimensions of the container are known. For liquid collected in a circular container, the volume of the cylinder of water so obtained is $pi \times r^2 \times h$, where *pi* is a constant (roughly equal to 3.14), *r* is the radius of the container and *h* is the depth of the water collected. Thus, one inch of rain collected in a 6-inch-radius container yields about 113 cubic inches of water. Since an ounce of water occupies about 1.8 cubic inches of volume, the container holds about 63 ounces of water, or roughly one-half gallon.

If water is collected in a square or rectangular container, the volume of the liquid is simply the product of the measurements of all three dimensions. If a metal box measuring 6 inches long by 4 inches wide by at least 1 inch deep is left open during a 1-inch rainfall, the box will contain $6 \times 4 \times 1$, or 24, cubic inches of water. This amounts to roughly 13 fluid ounces, which is somewhat less than a pint.

Melted snow converts to water at a rate of 10 to 1; that is, 1 inch of fresh snow, if it is collected and melted, will yield the same amount of liquid as a rainfall of 1/10 inch. However, this fact is not especially relevant to the subject of collecting liquid for drinking. In most cases when a snowfall occurs, the precipitation will stay on the ground, from where it can be easily gathered and put into a container. And more often than not, there will already be snow cover on the ground that can be scavenged whenever drinking water is needed. For obvious reasons, it is not difficult for characters to obtain needed drinking water during the snowy season in any climate that has one.

Following are some general descriptions of the intensities of precipitation to use as guidelines for certain seasons and terrain/climate types. In this section of text, "rain" refers to precipitation in general, not just the liquid form, unless otherwise specified.

Trace precipitation accumulates to a measurable amount only if the rain falls continuously for at least half an hour. In a desert, only one out of every ten trace rainfalls will last more than a few minutes, and any liquid precipitation that does fall will quickly soak through the sandy or rocky soil — or evaporate (in hot temperature) almost as quickly. Collecting the water from a trace rainfall is fruitless except in cases of dire need: the heaviest possible trace accumulation, just short of 1/8 inch of rain, even if collected in something as large as a cooking pan 1 foot in diameter, will yield less than eight fluid ounces of liquid.

Light precipitation should be interpreted very conservatively in terrain/climate areas where it represents the greatest amount of rain or snow that normally falls in a day. Most of the light rainfalls or snowfalls in such an area will be scarcely greater than trace precipitation. The converse does not apply in an area where *light* represents the least precipitation possible; in such a case, the accumulation can range through the entire span of possibilities.

Moderate precipitation does not always fall under moderate conditions. The amount may be the result of continuous drizzle for most or all of a day, or it may all come down in a storm of only a few minutes' duration. In a climate/terrain area where *moderate* represents the greatest amount of precipitation that can normally fall, the accumulation will usually not be much greater than *light*, and most of the time it will fall as gentle, prolonged rain instead of coming down quickly in a brief storm.

Heavy precipitation almost always falls in a relatively short time as the result of storm conditions, and in most cases those storm conditions will occur at dawn or dusk — within two hours either way of sunrise or sunset. This is in contrast with the lighter amounts of accumulation, which can occur at any time of the day or night.

Downpour precipitation occurs in certain terrain in subtropical and tropical climates. Typically there is a period of intense rain, during which as much as an inch of water may fall in a half-hour or less (at any time of the day or night), sandwiched between two periods of lighter, more prolonged precipitation.

Extraordinary Precipitation

Whenever two successive rolls on the Day-to-Day Change Table are doubles, and no special weather occurs on either day, then there is a 50% chance (1-3 on d6, or DM's discretion) that the precipitation for the second day will be one step greater than

the result given on the Precipitation Variation Table for a roll of doubles. For example, it is summer in a temperate forest area. The roll for the current day was double 4's, indicating a day on which a moderate amount of rain falls. The roll for the next day is double 3's, and a subsequent roll of a six-sided die results in a 3, indicating a day of heavy rainfall (one step greater than moderate). If the d6 roll is 4 or higher, the precipitation remans moderate for the coming day.

If doubles are rolled more than twice in succession, the precipitation amount does not continue to increase, but remains at the "one step greater" level; a downpour will never occur during summer in a temperate forest, regardless of how many times in a row the dice come up doubles. Thus, the 1-in-3 chance does not have to be checked if doubles are rolled more than twice in a row. In no case can extraordinary precipitation exceed the level of a downpour.

How to Use the Special Weather Table

Consider the earlier roll on the Day-to-Day Change Table (either a 2 or a 12) as Roll 1, and then roll 2d6 again, referring to this result as Roll 2. Cross-index the appropriate terrain/climate combination with the current season of the year on the Special Weather Table to obtain the four-letter code that indicates what kinds of special weather are possible. Then check the table below to determine what special weather (if any) occurs:

	Roll 2				
Roll 1	**2-4**	**5-6**	**7**	**8-9**	**10-12**
2	1st	2nd	2nd	—	—
12	—	—	3rd	3rd	4th

The notations "1st, 2nd, 3rd, 4th" refer to a single letter of the four-letter code. For example, if Roll 1 was a 2 and Roll 2 is a 6,

Table A4: SPECIAL WEATHER

		Winter				Spring				Summer				Autumn			
Arctic	Desert	G	A	D	D	G	A	D	D	G	A	D	D	G	A	D	D
	Hills	G	A	D	D	G	A	D	M	G	A	D	Z	G	A	D	D
	Mountains	G	A	D	D	G	A	D	M	G	A	M	Z	G	A	D	M
	Plains	G	A	D	D	A	G	D	M	X	A	D	Z	G	A	D	Z
	Seacoast	G	A	D	D	A	G	M	Z	G	A	M	Z	G	A	M	Z
Subarctic	Desert	G	A	D	D	G	A	D	D	A	S	D	D	G	A	D	D
	Forest	G	A	D	Z	A	X	D	Z	X	A	Z	D	A	X	M	D
	Hills	G	A	M	D	A	G	D	Z	A	X	Z	D	G	A	M	D
	Mountains	G	A	D	M	A	X	M	Z	A	X	Z	D	G	A	M	D
	Plains	G	A	M	D	A	X	D	Z	Z	A	Z	D	G	A	D	Z
	Seacoast	G	A	M	Z	G	A	M	Z	X	A	Z	M	A	G	M	Z
	Swamp	A	X	M	Z	A	X	M	Z	X	A	Z	M	A	X	M	Z
Temperate	Desert	A	S	D	Z	G	S	D	Z	G	S	D	Z	S	G	D	Z
	Forest	A	X	M	Z	G	X	M	Z	G	X	M	Z	A	X	M	Z
	Hills	A	X	M	Z	A	X	Z	T	A	X	D	Z	A	X	D	Z
	Mountains	A	X	M	D	A	X	M	Z	A	X	D	Z	X	A	D	Z
	Plains	A	G	D	Z	A	X	T	Z	X	G	D	Z	X	A	D	Z
	Seacoast	A	X	M	Z	C	X	M	Z	C	X	M	Z	A	X	M	Z
	Swamp	A	X	M	Z	G	X	M	Z	G	X	M	Z	A	X	M	Z
Subtropical	Desert	A	S	D	Z	G	S	D	Z	G	S	D	Z	G	S	D	Z
	Forest	X	A	M	Z	X	G	Z	M	X	X	Z	M	A	X	M	Z
	Hills	A	X	D	Z	A	X	D	T	X	G	D	Z	A	X	Z	M
	Mountains	A	X	D	Z	A	X	Z	M	X	G	Z	D	X	A	Z	M
	Plains	A	X	D	Z	X	G	Z	T	X	G	D	Z	G	A	D	Z
	Seacoast	A	X	D	Z	C	X	M	Z	C	X	M	Z	C	X	D	Z
	Swamp	A	X	D	Z	C	X	M	Z	C	X	M	Z	C	X	D	Z
Tropical	Desert	A	S	D	Z	G	S	D	Z	G	S	D	Z	G	S	D	Z
	Forest	X	X	M	Z	X	X	Z	M	X	X	Z	M	X	X	M	Z
	Hills	A	G	D	Z	G	X	D	Z	G	X	D	Z	G	G	Z	D
	Mountains	A	X	M	Z	A	X	M	Z	X	G	Z	M	A	G	M	Z
	Plains	G	X	D	Z	G	X	D	Z	S	X	Z	D	G	X	Z	D
	Seacoast	X	A	D	Z	A	X	M	Z	C	X	M	Z	X	A	Z	M
	Swamp	A	X	Z	D	G	X	Z	M	X	G	M	Z	X	A	M	Z

Special Weather Letter Codes

A = Cold Wave
C = Cyclone/Hurricane/Typhoon
D = Drought
G = Gale
M = Mist or Fog
S = Sandstorm/Dust Storm/Blowing Snow
T = Tornado
X = Extreme Precipitation
Z = Heat Wave

the second letter of the four-letter code indicates what sort of special weather will occur. A result of "—" on the above table indicates that no special weather occurs. To determine what conditions prevail on the day in question, refer to the following section of text. Many episodes of special weather span more than a single day; while such an episode is still running its course, treat any roll of 2 or 12 on the Day-to-Day Change Table as No Special Weather.

Special Weather Definitions

No Special Weather (—): If the roll on the Day-to-Day Change Table was a 2 but no special weather occurs, then the prevailing condition for the day in question is very strong wind (as given on the Day-to-Day Change Table). This is a wind that gusts up to 45 mph, accompanied by a sharp decrease in temperature and a chance of precipitation (check the "B" column for the appropriate season on the Precipitation Variation Table). The wind will come either from the arctic or from the prevailing direction (50% chance of each, or DM's choice).

If the roll on the Day-to-Day Change Table was a 12 but no special weather occurs, then the day's weather is marked by a very slight wind plus a sharp increase in temperature and a chance of precipitation (check the "B" column on the Precipitation Variation Table). A very slight wind is one that occasionally gusts up to 5 mph, but for virtually all of the day in question the wind is calm, or so slight that it has no effect on the surroundings.

Cold Wave (A): For the next 3-8 days (1d6 + 2), starting with the day in question, the temperature will drop at the rate of 4 steps per day until it reaches a low point one step below the normal minimum temperature. Roll on the Day-to-Day Change Table as usual each day, but disregard the Temperature Change column for the duration of the cold wave. When the temperature drops to one step below the normal minimum, it will remain at that level for the duration of the cold wave. If the normal minimum temperature level is "A" (high of −20, low of −40), the lowest possible temperatures during the cold wave will be 10 degrees colder (high of −30, low of −50), and the cold wave will only last for at most three days after the temperature falls to this level (counting the day on which the extra-low temperatures first occur), regardless of the result of the roll for duration. When the cold wave ends, the temperature will automatically rise to the normal minimum on the first day thereafter, and will rise even higher if the Day-to-Day Change Table roll is 7 or greater.

For example: It is the first month of spring in a temperate mountain region, and the temperature for the current day is K (high of 50, low of 30). The tables indicate that a cold wave will begin on the following day, and a roll of 3 on 1d6 determines that the cold wave will last for 5 days. On the following day the temperature will drop by 4 steps, to G (high of 25, low of 10). On the second day of the cold wave, the temperature will fall only 3 more steps, to D (high of 0, low of −10) because this is one step lower than the normal minimum temperature at this time of year for this terrain/climate combination. The temperature will remain at level D for two more days thereafter until the cold wave breaks. On the first day after the cold wave, the temperature will automatically climb one step, to E. If a 7 or higher is rolled on the Day-to-Day Change Table for that day, the temperature will go up an additional 1, 2, or 3 steps. If a 6 or lower is rolled, the temperature remains at level E, since this is the lowest the temperature can be under normal circumstances.

Cyclone/Hurricane/Typhoon (C): This ferocious storm is known by different names in different areas of our world — but no matter what it is called, it is one of the most fearsome and potentially lethal of all weather phenomena. The wind velocity in a hurricane can be from 80 to 180 mph (1d6 × 20 + 60), strong enough to damage even stone structures. Any characters or creatures not in places of secure shelter when the storm hit are in danger of literally being blown away.

One day before a hurricane actually reaches land in a seacoast area, the area will be drenched by a lightning storm (see the section below on Extreme Precipitation for the description of this storm). If characters sense that things are going to get worse before they get better, and if they are able to move far enough inland during this first day, they may be able to avoid the full fury of the hurricane but they probably won't be able to move out of the path of the storm altogether. A hurricane will not move farther than 10 miles inland, but the storm around its perimeter will extend at least another 50 miles inland.

A hurricane moves in a general direction away from the equator. After it hits land, it will follow the coastline for 1 or 2 days before veering back out to sea. The storm is accompanied by torrential rain, up to twice as heavy as *downpour* precipitation. In addition, the wind of the hurricane drives sea water ahead of it, forming a tidal wave that can flood low-lying areas as far as 3 miles inland.

Hurricane winds revolve around a central calm area, known as the "eye." After spewing forth winds and rain in a certain area for six hours, the storm will abruptly subside as the eye passes over the location that only minutes earlier was being ravaged and drenched. The sky will clear partially or entirely and wind velocity will drop to practically zero. Then, after 30 to 60 minutes, the storm will mount to its full fury again as the second half of the disturbance passes over the area. Six hours later, the hurricane will have passed, and "only" a vigorous rainstorm will remain for the next few hours until the storm center moves entirely out of the area.

For three days in a row beginning with the day the hurricane hits, the Day-to-Day Change Table is not used. On the day of the hurricane, the temperature will remain constant, and precipitation and wind speed will be as described above. For two days after the hurricane, the temperature will not vary by more than one step either way from the temperature on the day of the storm. (Roll 2d6: 6 or less = 1 step down; 7 = no change; 8 or more = 1 step up.) During those two days there will be no precipitation, and wind velocity will not be greater than 10 mph (from the prevailing direction).

A hurricane will not occur in the same general area (within a 200-mile radius) more often than once a month. If the tables indicate the occurrence of a second hurricane in the same area before one month has elapsed, treat it instead as an occurrence of extreme precipitation (see below). Also, a hurricane will not occur in the tropics within 5 degrees of latitude north or south of the equator; disregard any "C" result obtained on the Special Weather Table if it pertains to a location within this area.

Drought (D): For a period of 4-14 days (2d6 + 2), the usual principles governing frequency and amount of precipitation do not apply. On the first day of a drought no precipitation will fall, regardless of what the Day-to-Day Change Table has indicated. At any time when *trace* precipitation is indicated, no rainfall or snowfall will occur. In an area where light or moderate precipitation is the normal maximum, no precipitation greater than a trace amount will fall, and this will occur no more than once in every span of five full days. In addition, any *trace* result is disregarded. In an area where heavy precipitation is the normal maximum, treat any precipitation result as two steps lower than actual, so that H becomes L, M becomes T, and L becomes no precipitation. Use the Day-to-Day Change Table normally for temperature and wind, but amend any precipitation results as described here.

Example 1: It is winter in an area of subtropical hills, and the ta-

bles indicate that a drought will occur beginning on the following day. A roll of 2d6 yields a result of 9, so the drought will persist for 11 days. No rain will fall on the first day. When light precipitation is indicated on the second day, a trace of rain falls instead. Since precipitation can only occur once in a five-day period, it will not rain again until day 6 of the drought at the earliest.

Example 2: The season is spring instead of winter, which means that the precipitation amount in subtropical hills normally ranges from light to heavy. During a springtime drought, any heavy precipitation result is treated as light rain, and in any other instance only trace precipitation will occur if it rains at all.

Gale (G): This is an extremely strong wind, usually ranging from 45 to 70 mph (1d6x5+40), which is almost always accompanied by precipitation. When rain or snow does occur along with gale-force winds, the result can be almost as perilous as a hurricane. For a period of 2-7 hours (1d6+1), gale-force winds will never drop below 30 mph and will almost always be 50 mph or greater. If the wind velocity was 20 mph or greater on the previous day, then the gale-force winds on the current day will range from 50 to 70 mph. If a gale occurs in a desert area, *no* precipitation will fall on the same day; instead, the wind will bring about a *severe sandstorm*. Also, in an arctic or subarctic environment when snow is on the ground, gale-force winds will whip the snow up and around, causing conditions similar to those of a *severe sandstorm*. See the description for Sandstorm/Dust Storm/Blowing Snow below for more information on this phenomenon.

Mist or Fog (M): The "calmest" form of special weather, mist or fog is nevertheless not to be taken lightly. It will occur beginning either at sunrise (1-4 on 1d6) or sunset (5-6 on 1d6) and will last for a number of hours equal to the result of this die roll. Fog will be *heavy* whenever it occurs in a seacoast area or in an inland location adjacent to a body of water; in all other locations, it will be of *moderate* intensity. If precipitation occurs on the same day, the rain or snow will not fall while the fog condition persists, but it is likely (50% chance, or DM's choice) that a period of precipitation will immediately follow or precede the fog (the former case for a daytime fog, the latter for a nighttime fog).

The effects of fog on movement are covered in the section on Encumbrance and Movement; the effects of fog on visibility are covered in the section on Vision and Visibility.

Sandstorm/Dust Storm/Blowing Snow (S): This phenomenon occurs in a desert environment where the top layer of soil is loose or sandy in consistency, or in a cold environment where the ground is covered by a thick layer of loose snow. Regardless of what the result on the Precipitation Table indicates, no precipitation will fall on the day that a sandstorm occurs; instead, the very strong winds will pick up the loose soil (or snow), and for a period of 2 to 5 hours (1d4+1) the rapidly moving air will be filled with particles that inhibit movement and reduce visibility, and may even cause damage to unprotected characters or creatures. A *severe sandstorm* occurs whenever gale-force winds are indicated for a desert environment, or an arctic or subarctic environment where snow is on the ground. This condition will last for 2-7 hours (1d6+1), and only the very hardy or the very foolish will attempt to do anything other than seek shelter and wait out the storm.

Tornado (T): In terms of the area it directly affects, a tornado is the most dangerous and destructive of all natural weather phenomena. When a "T" result is indicated on the Special Weather Table, this means that conditions suitable for the development of tornadoes will arise during the day in question. The temperature will rise to at least two steps above the normal temperature for the area in question (if the roll of 12 on the Day-to-Day Change Table did not increase it to this at least this level already), and for 1d3 hours before tornadoes pass through the area the winds will be very strong and heavy precipitation will occur. Then the rain will stop abruptly, tapering to nothing or a trace amount within minutes, and in the area immediately around a tornado's path (one-half mile on either side) the wind will drop off to slight or very slight velocity. The tornado will come through the area 3d6 minutes after the start of this cessation of activity. During this time and for about 30 minutes after the tornado passes, the temperature will drop abruptly by 15 degrees or three steps, whichever is greater. After this "cooling-off period," the temperature will begin to rise again until it reaches an appropriate level according to what was predetermined for the day. For the rest of the day after a tornado comes through an area, the weather will be calm and non-threatening — a strange (and usually welcome) contrast to what has just happened.

The path of a tornado when it touches the ground is typically one-quarter mile wide and about 15 miles long, and most tornadoes travel along the ground at about 40 mph. The whirling vortex of air is distinguishable from the surrounding sky, especially near the ground where the cloud contains dirt and debris that it has picked up in its rampage across the countryside. Within and around the whirlwind, the velocity of the spiraling air ranges from 200 to 300 mph. Because of centrifugal force pushing the air outward from the center, the air pressure in the center of the vortex is considerably lower than in the surrounding vicinity. Structures that are able to stand up to the high-velocity winds may still be destroyed — virtually exploded — when this area of extremely low pressure passes over their location.

Extreme Precipitation (X): This category encompasses several phenomena. The particular type of storm that occurs depends on climatic region, temperature, and a die roll. Cross-index the appropriate conditions on the table below and roll d6 to determine what kind of extreme precipitation occurs:

	Climatic region	
Temperature	Tropical/ Subtropical	Temperate/Subarctic/ Arctic
−1 or lower	—	S (1-3) or none (4-6)
0-9	—	S (1-5) or none (6)
10-29	—	S (1-5) or I (6)*
30-35	H (1-6)	S (1-4) or H (5) or I (6)
36-49	L (1-5) or H (6)	L (1-4) or H (5-6)
50-74	L (1-6)	L (1-5) or H (6)
75 or higher	L (1-6)	L (1-6)

Extreme Precipitation Letter Codes

H = Hailstorm
I = Ice/Sleet Storm
L = Lightning Storm
S = Severe Snowstorm

* — An Ice/Sleet Storm will only occur if the temperature is 25 degrees or higher; otherwise, treat a roll of 6 as "none."

Hailstorm (H): This kind of activity usually occurs during the first ten minutes of a lightning storm (see below), but on rare occasions (roll of 1 on 1d6) can be a storm in and of itself lasting from 5-10 (1d6+4) minutes. Hail consists of lumps of ice, typically no larger than ¼ inch in diameter but possibly as large as 2 or 3 inches across. When a hailstorm occurs at a temperature of 40 degrees or higher, the hail will melt within minutes of hitting the ground. If the hail activity is followed by a lightning storm, the pellets will have melted by the time the lightning storm ends.

Ice/Sleet Storm (I): Sleet is frozen or nearly frozen rain, formed when snow falls from a high altitude and passes through a layer of warmer air on its way to the ground. The warmer air melts the snow crystals back into droplets of water, and the water freezes during the remainder of its descent. When the sleet hits the ground, it will coat anything it touches; by the time the storm passes, stationary and inaminate objects may carry a coating of ice up to 1/2 or 3/4 inch thick.

Depending on its intensity, an ice storm will last from 20 minutes (if it occurs as heavy precipitation) up to two hours (if it occurs as trace precipitation). Of course, the longer the storm, the heavier the coating of ice that will result.

Lightning Storm (L): A lightning storm, or thunderstorm, can occur as a separate phenomenon in and of itself or as the beginning stage of a longer rainstorm. If a lightning storm is indicated for a day on which moderate or light precipitation is supposed to fall, then the storm will occur by itself (and the moderate or light result is disregarded). If a lightning storm is indicated for a day on which heavy or downpour precipitation is supposed to fall, then the storm will occur at the beginning of the period of precipitation. A typical lightning storm lasts for 25 minutes, during which 3/4 to 1 inch of rain is dropped and the sky is lit up at frequent intervals by bright flashes of lightning. Roughly half of all thunderstorms occur within two hours either way of sunrise or sunset.

Severe Snowstorm (S): If the normal maximum precipitation for the day in question is *moderate*, this storm will dump 5-10 inches (d6+4) of snow; if the normal maximum precipitation is heavy, a severe snowstorm will cause 7-12 inches (1d6+6) of accumulation. The snow will come down at the rate of 1 inch per hour until the indicated accumulation is reached. Wind velocity will be very strong at the start of the storm, but will taper off after 1 or 2 hours to a moderate breeze (15-20 mph) at best as the storm center becomes stalled over the area receiving the precipitation.

Heat Wave (Z): For the next 3-8 days (1d6+2), starting with the day in question, the temperature will rise at the rate of 4 steps per day until it reaches a high point one step above the normal maximum temperature. Roll on the Day-to-Day Change Table as usual each day, but disregard the Temperature Change column for the duration of the heat wave. When the temperature rises to one step above the normal maximum, it will remain at that level for the duration of the heat wave. If the normal maximum temperature level is "Z" (high of 115, low of 85), the highest possible temperatures during the heat wave will be 10 degrees hotter (high of 125, low of 95), and the heat wave will only last for at most three days after the temperature rises to this level (counting the day on which the extra-high temperatures first occur). When the heat wave ends, the temperature will automatically fall to the normal maximum on the first day thereafter, and will fall even lower if the Day-to-Day Change Table roll is 7 or less.

For example: It is the first month of spring in a temperate mountain region, and the temperature for the current day is K (high of 50, low of 30). The tables indicate that a heat wave will begin on the following day, and a roll of 3 on d6 determines that the heat wave will last for 5 days. On the following day the temperature will rise by 4 steps, to O (high of 70, low of 55). On the second day of the heat wave, the temperature will rise only 3 more steps, to R (high of 80, low of 65) because this is one step higher than the normal maximum temperature at this time of year for this terrain/climate combination. The temperature will remain at level R for two more days thereafter until the heat wave breaks. On the first day after the heat wave, the temperature will automatically fall one step, to Q. If a 7 or less is rolled on the Day-to-Day Change Table for that day, the temperature will fall an additional 1, 2, or 3 steps. If an 8 or greater is rolled, the temperature remains at level Q, since this is the highest the temperature can be under normal circumstances.

OPTIONAL RULES

Relative Humidity

This figure, expressed as a percentage, describes the amount of water vapor in the air at a given temperature compared to the maximum amount of water vapor the air could hold at that temperature. The warmer the temperature, the more water vapor the air can hold: air with a relative humidity of 100 percent is considerably "wetter" at a temperature of 80 degrees than it is at a temperature of 50 degrees.

Humidity can have a significant effect on the ability of characters and creatures to cope with the weather when temperature and humidity are both high, and particularly so when the wind is slight or nonexistent.

Table A5: HUMIDITY VARIATION

		Winter	Spring	Summer	Autumn
Arctic (all terrain)		L	L	L	L
Subarctic	D	L	L	L	L
	F	L	M	M	L
	H	L	L	L	L
	M	L	M	L	L
	P	L	M	M	L
	Se	L	M	M	L
	Sw	L	M	M	L
Temperate	D	L	L	L	L
	F	M	H	M	M
	H	M	H	H	M
	M	L	M	L	M
	P	M	H	H	M
	Se	H	M	M	H
	Sw	M	H	H	M
Subtropical	D	L	L	L	L
	F	H	H	H	H
	H	M	H	H	H
	M	M	H	H	H
	P	M	H	M	L
	Se	M	H	H	M
	Sw	M	H	H	M
Tropical	D	L	L	L	L
	F	H	H	H	H
	H	M	M	H	M
	M	M	H	H	H
	P	M	H	H	H
	Se	M	H	H	M
	Sw	M	H	H	H

Humidity Letter Codes

L = Low (21-40%) H = High (71-90%)
M = Medium (41-70%)

How to Use the Humidity Variation Table

The letter codes show the prevalent levels of humidity for the various terrain/climate combinations during the different seasons of the year. The humidity in a given area will fluctuate through a range of three levels (one lower, the given level, and one higher), depending upon the precipitation for the day in question (Day 1) and the precipitation for the following day (Day 2). Thus, before the proper humidity for Day 1 can be known, the general conditions for Day 2 must have been determined. Consult the following table and assign the humidity for Day 1 according to the conditions that apply:

Day 1	Day 2 precipitation		
precip.	None	L or T	M or more
None	−1	0	+1
L or T	0/−1	0	0/+1
M or more	0/−1	0/−1	+1/+2

−1 = Humidity falls one level
0 = Humidity level unchanged
+1 = Humidity rises one level

Where two values are given, the one before the slash indicates the humidity on Day 1 before that day's precipitation occurs, and the one after the slash indicates the humidity after that day's precipitation — in both cases using the humidity level at the end of the previous day as the base for this adjustment.

Note again that in no case can humidity rise or fall beyond the three-level range for a given area. If low humidity falls one level, the result is *dry* humidity (0-20%). If high humidity rises one level, the result is *saturated* humidity (91-100%).

Example 1: The humidity at the end of the previous day was medium. The weather for Day 1 includes an episode of moderate precipitation, and a check for Day 2 indicates that heavy precipitation will fall on that day. Thus, the humidity on Day 1 is high before that day's precipitation falls, and it rises to saturated after the precipitation has ended.

Example 2: The humidity at the end of the previous day was saturated. The weather for Day 1 includes an episode of light precipitation, and a check for Day 2 indicates that no precipitation will fall on that day. Thus, the humidity on Day 1 is saturated before that day's precipitation falls, and it falls to high after the precipitation has ended.

The preceding example points out a shortcoming of this system: It does not accommodate the possibility that the humidity will drop off drastically after reaching the high or saturated level on a day when significant precipitation (moderate or heavier) occurs. When this possibility exists, common sense and the DM's discretion must prevail. If a one-day drop of two humidity levels (from saturated to medium, high to low, or medium to dry) seems warranted, then the DM is fully entitled to make this ruling.

Humidity and Effective Temperature

At temperatures of 60 degrees and higher, humidity and wind speed can combine to alter the effective temperature. In short, the combination of relatively high humidity and relatively low wind speed can make it seem hotter than it actually is, and the effects on characters and creatures operating in this effective temperature are modified accordingly. If these rules for humidity are used in the campaign, the DM should check the following table to determine the effective temperature and use this figure instead of the actual temperature to ascertain the effects on characters and creatures (as outlined in the first section of this book).

Table A6: HUMIDITY AND EFFECTIVE TEMPERATURE

Temp.	Wind velocity				
& Hum.	0-10	11-20	21-30	31-45	45+
60-64					
Dry	—	—	—	—	—
Low	—	—	—	—	—
Med.	+5	—	—	—	—
High	+10	+5	—	—	—
Sat.	+10	+5	—	—	—
65-74					
Dry	—	—	—	—	—
Low	—	—	—	—	—
Med.	+5	—	—	—	—
High	+10	+5	—	—	—
Sat.	+10	+5	+5	—	—
75-84					
Dry	—	—	—	—	—
Low	+5	—	—	—	—
Med.	+5	+5	—	—	—
High	+10	+5	+5	—	—
Sat.	+15	+10	+5	—	—
85-94					
Dry	—	—	—	—	—
Low	+5	+5	—	—	—
Med.	+10	+5	+5	—	—
High	+15	+10	+5	+5	—
Sat.	+20	+15	+10	+5	—
95+					
Dry	—	—	—	—	—
Low	+10	+5	—	—	—
Med.	+15	+10	+5	+5	—
High	+20	+15	+10	+5	+5
Sat.	+25	+20	+15	+10	+5

How to Use the Humidity and Effective Temperature Table

Whenever the temperature is 60 degrees or higher, find the entry in the left-hand column that corresponds to the current temperature and humidity. Read across to the column corresponding to the wind speed for the day in question. If a number is given in the place where the appropriate row and column intersect, add that number to the actual temperature to obtain the current *effective temperature* and then determine the effects of temperature on characters and creatures using this value instead of the actual temperature.

Wind Chill

Anyone who has lived in an area where the temperature drops to 35 degrees or lower has first-hand experience with the phenomenon known as wind chill. As the temperature falls and wind speed increases, the effective temperature can drop off drastically. Certain temperatures that are tolerable or even enjoyable in calm wind conditions can become dangerous or even potentially fatal when combined with a brisk or strong wind. It is wind chill, more than temperature alone, that makes a cold climate dangerous to characters and creatures who find themselves exposed to the elements. If only one set of optional weather rules is used in the campaign, it is strongly recommended that the Wind Chill Table (on the next page) be the one.

Table A7: WIND CHILL

	Wind velocity							
Temp.	5	10	15	20	25	30	35	40
35	35	20	15	10	5	5	0	0
30	25	15	10	5	0	0	−5	−5
25	20	10	0	−5	−5	−10	−15	−15
20	15	0	−5	−10	−15	−20	−20	−25
15	10	−5	−10	−15	−20	−25	−30	−30
10	5	−10	−20	−25	−30	−35	−35	−40
5	0	−15	−25	−30	−35	−40	−45	−45
0	−5	−20	−35	−40	−45	−50	−50	−55
−5	−10	−25	−40	−45	−50	−55	−60	−65
−10	−15	−30	−45	−50	−60	−60	−65	−70
−15	−20	−40	−50	−60	−70	−75	−80	−80
−20	−25	−45	−60	−70	−75	−80	−85	−90
−25	−30	−50	−65	−75	−85	−90	−90	−95
−30	−35	−60	−70	−80	−90	−95	−100	−100
−35	−40	−65	−80	−90	−95	−100	−105	−110
−40	−45	−70	−85	−95	−105	−110	−115	−115
−45	−50	−75	−90	−100	−110	−115	−120	−120

How to Use the Wind Chill Table

Simply cross-index the actual temperature with the maximum wind speed for the day in question to find the effective temperature with wind chill taken into consideration. Then use this effective temperature instead of the actual temperature to determine effects on characters and creatures in the environment. For temperatures lower than −45, extrapolate downward following the pattern given for the decrease in effective temperature from −40 to −45. For wind speeds greater than 40 mph, use the column for 40 mph; greater wind speeds have little, if any, effect on chilling.

Hours of Daylight

As noted at the start of these rules under the description of the arctic climatic region, the number of hours of daylight and darkness on a given day at a given location depend on the latitude of the location and the time of year. Use the following table, or an adapted version of it, to incorporate this phenomenon into the campaign.

How to Use the Hours of Daylight Table

Read down the left-hand column to the latitude designation that most closely corresponds to the location in question, and read across to the appropriate month of the year. The number given at the intersection of the row and column represents the number of hours of daylight on each day during the month in question. For this purpose, "hours of daylight" is defined as the length of time between sunrise and sunset on a given day.

A shorter, simpler version of this table can be obtained by using only the middle row of figures for each climatic region (the "80" line for arctic, "60" for subarctic, "40" for temperate, "25" for subtropical, and "10" for tropical). This avoids the need for the Dungeon Master to keep track of latitude, instead being concerned only with the climatic region for which the hours of daylight are being determined.

Note that this table does not indicate the precise times of day at which sunrise and sunset occur; if these determinations are important, they can be arrived at logically (using midnight as the midpoint of the nighttime period and noon as the midpoint of the daytime period), or they can be stipulated by the DM based on either real-world experience or the particular characteristics of the campaign world.

Twilight

As noted above, a figure for "hours of daylight" does not necessarily indicate the span of time in a day during which activities can be conducted without the need for artificial illumination. Each day also has two periods of twilight, immediately preceding sunrise and immediately following sunset, during which the sun still casts a significant amount of light across the sky. As noted in the first section of this book (see Vision and Visibility), twilight conditions have an effect on how far characters can see.

Each twilight period lasts about 30 minutes at the middle latitudes (30-40 degrees), decreasing to a minimum of 20 minutes at the equator (0 degrees) and increasing to 40 minutes at relatively high latitudes (50-60 degrees). Local terrain conditions may affect this time span; for instance, twilight in a dense forest or on the side of a mountain opposite the sun may only last for 5-10

Table A8: HOURS OF DAYLIGHT

	Winter			Spring			Summer			Autumn		
	1	2	3	4	5	6	7	8	9	10	11	12
Arctic												
90	0	0	0	24	24	24	24	24	24	0	0	0
80	0	0	11	24	24	24	24	24	15½	5	0	0
70	0	7½	11½	16	22	24	24	18½	13½	9	3	0
Subarctic												
65	3	8½	11½	15	19½	21½	20	17	13½	9½	5	3
60	6½	9	11½	14½	17	19	17½	16	13	10	7½	6
55	7½	9½	11½	14	16	17½	16½	15	13	10½	8½	7
Temperate												
50	8½	10	12	13½	15½	16½	15½	14½	12½	11	9	8
40	9½	10½	12	13	14½	15	14½	14	12½	11	10	9½
35	10	11	12	13	14	14½	14	13½	12½	11½	10	10
Subtropical												
30	10½	11	12	13	13½	14	14	13	12½	11½	10½	10
25	11	11½	12	12½	13	13½	13½	13	12	11½	11	10½
20	11	11½	12	12½	13	13½	13	13	12	12	11	11
Tropical												
15	11½	12	12	12½	12½	13	13	12½	12	12	11½	11½
10	11½	12	12	12½	12½	13	13	12½	12	12	11½	11½
0	12	12	12	12	12	12	12	12	12	12	12	12

minutes. At extremely high latitudes for which the "hours of daylight" figure is zero, a twilight condition exists for 24 hours every day. If the sky is clear, the sun will provide enough light from its position just below the horizon to make normal activities possible without a constant need for an artificial light source.

Local Winds

The "prevailing direction" described for winds in the basic weather system is just that: the direction from which wind activity will *usually* originate under non-extraordinary conditions. However, it is certainly not impossible to have (for instance) easterly winds in a temperate location, particularly on land adjacent to a large body of water or over a small area of unusual terrain.

Along the coastline of an ocean or a large lake, the land may be swept by a "sea breeze" that moves from the water to the land. If the water is east of the land, then an east wind will result even if the prevailing wind comes from the opposite direction. A sea breeze occurs during daylight hours because the land gains heat more rapidly than the adjacent water. As the warm air over the land rises, it is replaced by cooler air that moves in from its previous location over the water. At night, the phenomenon is reversed because the land also *loses* heat more rapidly than the water does. The air over the water remains warm for a longer time, and when the two air masses are significantly different in temperature the colder air over the land moves out and replaces the warmer air over the water. This reverse phenomenon is called, logically enough, a "land breeze." It can also result in wind that moves contrary to the prevailing direction — for instance, where the prevailing direction is west but a body of water is located to the west of a land mass.

A sea breeze is usually stronger than a land breeze produced in the same location, but neither type of wind current normally moves very far inland (five or ten miles at the most). Both types of breezes are more likely to occur when the sky is clear, because cloudy skies tend to inhibit the transfer of heat through the air. At times, the temperature along a seacoast may be markedly lower than the temperature only a few miles inland; when a sea breeze occurs, this is almost always the case, although other factors (such as cold ocean currents) may also contribute to this disparity in temperature.

Unusual terrain features can also bring about unusual wind patterns. For instance, if the eastern edge of a flat plain ends abruptly in a cliff face that rises thousands of feet above the level of the plain, then a prevailing westerly wind will be "trapped" when it reaches the cliff face. The result may be a swirling wind that can come from different directions in locations only a few hundred yards apart (and might be conducive to the formation of a storm or a tornado if other conditions are right for such an occurrence). If the westerly wind is relatively light, it may simply double back on itself and produce an area of calm air in the immediate vicinity of the cliff as the westerly and easterly flows effectively cancel each other out.

As with other aspects of this weather system, the DM is encouraged to modify, extrapolate from, or even ignore certain "facts" about wind direction and velocity for the sake of variety, or to account for out-of-the-ordinary combinations of terrain and climate that may have no correlation to features found in our real world.

Tides

The movement of ocean water caused by the gravitational pull of Earth's moon and the sun have no direct effect on weather or on the conditions of the physical environment — except, of course, on land areas bordering the ocean. A simplified description of tides that simulates real-world conditions is presented here for the Dungeon Master's use when desired and appropriate.

High tide and low tide occur twice each day on an alternating sequence; each high tide is separated from the next high tide by 12 hours, and low tide occurs 6 hours after each high tide. Because the moon orbits the Earth approximately once every 25 hours, the times of high and low tides advance by about an hour each day. This distinction is not usually important, but may be significant if the player characters spend more than one day in the same seacoast location. (If they don't know any better, they may expect the next day's high tides to occur at the same time as the current day's — and in certain circumstances, this could turn out to be an important miscalculation.)

The moon goes through its full cycle of phases once every 28 days, or roughly once per month. The difference between the water level at high tide and the water level at low tide is greatest during the seven-day periods surrounding the full moon and the new moon; these are called the *spring tides*. The difference in water levels is much less pronounced when the moon is waxing (moving from new to full) or waning (moving from full to new); these are the periods of *neap tides*.

On the average, the difference in water level between high and low tide ranges from 5-7 feet (during neap tides) to 15-18 feet (during spring tides). The variation in depth is less than this along a coastline bordering a very large body of water, and may be substantially greater than the average along a coastline bordering a smaller body of water partially enclosed by land. For example, the variation in tide depth along the coast of North and South America bordering the Pacific Ocean is relatively small, because the ocean water has a lot of room to move. In contrast, the variation between high and low tide in the Bay of Fundy (between New Brunswick and Nova Scotia in eastern Canada) is often as much as 60 feet, because the water in the bay has much less freedom of movement. Imagine a gallon of water poured into a bathtub and set in motion so that it splashes from side to side lengthwise in the tub; the difference between "high tide" and "low tide" along the sides of the tub will not be very great. Pour the same gallon of water into the kitchen sink and set it in motion with the same amount of force, and it might move against the sides of the sink so vigorously that it actually splashes out of the container.

If it is important to determine the area of seacoast covered by high tide (and uncovered at low tide), the Dungeon Master can use these guidelines: If the land slopes gently toward the sea (not more than 30 degrees of slant), high tide will come in a distance of 4 to 5 times the height of the tide. If the slope of the seacoast is moderate (31 to 50 degrees), high tide will come in 2 to 3 times the height of the tide. If the slope of the seacoast is severe (51 to 70 degrees), high tide will come in 1 to 2 times the height of the tide. Examples: If the difference in height between high tide and low tide is 15 feet and the seacoast is a gentle slope, the sea water at high tide will encroach on the land 60 to 75 feet farther inland than it does at low tide. If the difference in height between high tide and low tide is 5 feet and the seacoast is a moderate slope, the sea water at high tide will encroach on the land 10 to 15 feet farther inland than it does at low tide.

The DM's Responsibility

As brought out in the introduction to the appendix, this weather-determination system does not attempt to account for all of the possible combinations of terrain, climate, and weather phenomena that can occur in our real world. Of course, it also cannot consider the fantastic properties that an imaginative Dungeon Master might incorporate into the world in which his campaign takes place. However, it is hoped that what is given here will serve as a flexible framework that the DM can modify.

For instance, day-by-day weather determination may be seen as too cumbersome and time-consuming. In that case, you may decide to make each determination apply for two or three days in succession instead of just one. This tactic may be particularly useful when a party of player characters is simply moving from one place to another on an extended journey through the wilderness, and you want to compress game time to get the mundane period of traveling out of the way. Of course, you can switch between various time frames as desired or appropriate: determine the weather for a single day, then let the next set of dice rolls dictate conditions for a two- or three-day period, and then drop back to a one-day determination for a certain purpose.

If a playing session is to extend over several days of game time, it is possible (and recommended) for the Dungeon Master to predetermine the weather conditions for the entire several-day period before the playing session begins. By doing this, you can avoid disrupting the flow and continuity of the player characters' activities and thereby maintain the desired flavor of the role-playing adventure. (It may prove difficult for players to remain "in character" if you call a five-minute halt to play at midnight of each new game-day in order to roll some dice and consult a few tables to find out what the coming day will be like.)

Predetermining the weather for several days in advance is an especially good idea if you expect the party to be relatively stationary over that span of time, or at least if you anticipate that the player characters won't be moving from one type of terrain or one climatic region to another. However, on many occasions the player characters will not be sauntering along in an area of consistent terrain and climate. Perhaps they are on a mission that requires them to move speedily and in a direction that necessarily carries them from one terrain/climate area to another. Or, perhaps the physical characteristics of your world are such that, even at a leisurely pace, the player characters cannot help moving from one terrain/climate area to another within a short span of time. If you can anticipate when such a changeover will occur ("After one day of travel, they'll be entering the mountains"), then you still may be able to predetermine what the weather will be like in the newly entered area. But, as any DM knows, trying to predict the future actions of player characters is often a fruitless exercise at best. Thus, there will be times when you simply must hold up play to make some new determinations — or, if you can do the dice-rolling and table-consulting while the players are occupied with something else, so much the better.

The question still remains of how to make a smooth transition from one terrain/climate area to another. Obviously, if one terrain area is in the grip of a heat wave as the party moves out of that area and into an adjacent area, this does not mean that the heat wave instantly ends. In virtually every case, the weather for the immediate future in a new area will be essentially the same as the conditions were in the area just vacated. It is up to the DM to use the rules and tables of this system in a way that will ensure a smooth and realistic transition.

For example, consider this scenario: It is the third month of winter, and the party is moving from a temperate desert to an adjacent region of hilly country. The current temperature in the desert is "T" — the highest it can normally get. Therefore, the current temperature in the hills should also be high, perhaps even higher than "P" (the normal maximum) for the first day or part of a day that the party spends in the hills. Only after the player characters move well away from the desert will they be entirely "insulated" from the conditions that existed when they left that terrain. If your day-to-day dice rolls indicate that the temperature will drop, then let it drop. (Presumably, it's also getting cooler in the desert.) But if the temperature remains high, keep it there — don't drop it (or raise it) to the average temperature given for the area if movement into that area has been accomplished through normal means and in gradual fashion.

At times, player characters will find themselves voluntarily or accidentally transported across great distances in a short time. This may occur through some means of teleportation or magical transport, or perhaps through the use of aerial mounts that can travel at relatively high speed (compared to land-based movement). In these cases, you are entirely in control of what sort of weather conditions await them in their new locale. They may be *teleported* from an area in a heat wave to another area hundreds of miles away that is in a cold wave — if you decide that this should be so. If you have no particular reason for dictating a certain set of weather conditions in the destination area, use the second letter from the appropriate entry on the Temperature Table (that's what it's for) and take things from there.

The one part of this system that virtually cries out for alteration on a campaign-by-campaign basis is the Special Weather Table. The format of this part of the system is such that only four (at most) different types of special weather are possible in any terrain/climate combination. But you can build in as much variability as desired, without changing the structure of the system.

For instance, if you decide that it is possible for a tornado to occur in a temperate forest during summer, simply replace the "M" or "Z" in this part of the table with a "T." Or, if you want to have all three special results possible, then modify the subtable (in the "How to Use" text following the table) to take this into account.

Last but not least, there is the matter of how to incorporate fantastic weather phenomena into this system. It would have been practically impossible (and, at best, terribly complicated) to design a system to account for every type of "unearthly" weather that a Dungeon Master could devise in the process of creating a campaign world. However, by drawing upon the system given here an experienced and/or energetic DM should be able to work in any kind of "natural" phenomenon that he can think up. The following list is far from exhaustive, but might present some ideas for fantastic weather that could be useful:

— "Acid rain" that causes a certain amount of damage to exposed flesh, depending on the intensity of precipitation and the length of time a character or creature is exposed to it.

— "Good lightning" that heals damage or has some other beneficial effect upon a character or creature hit by it.

— An "everlasting breeze" that keeps characters and creatures from being adversely affected by high temperature and humidity.

— "Frozen air" that occurs in extremely cold conditions and can be fatal to anyone or anything not equipped with the means to offset it.

— "Teleporting tornado" that seeks out characters, lifts them into the air, and deposits them (with or without doing damage) in a random location miles or hundreds of miles away. ("I don't think we're in Kansas any more . . .")

The number of variations on these themes is, of course, limited only by the imagination of the Dungeon Master. Design your weather the way you want it to be, try to make it consistent within the framework of the world you have created, and always remember that you are in control. A modern-day weather forecaster may be able to predict what he *thinks* is going to happen, but a Dungeon Master *knows* — and he isn't telling!

COMPILED TABLES

On this and the following three pages are reproduced most of the tables from the first section of this book. Because of space limitations, not all of the tables could be printed here, so this selection is limited to the ones that will probably be referred to most often during a playing session.

Table 3: EFFECTS OF CLOTHING AND ARMOR ON PERSONAL TEMPERATURE

(From page 19)

	Effective Temperature			
Attire	−1 or lower	0 to 30	31 to 75	76 or higher
Very Cold	+30	+40	+50	+60
Cold	+20	+30	+40	+50
Moderate	+10	+20	+20	+30
Hot	+0	+0	+0	+0
Full Plate	+10	+20	+30	+40
Field Plate	+10	+20	+30	+40
Plate Mail	+10	+20	+30	+30
Splint Mail	+5	+10	+15	+20
Banded Mail	+5	+10	+15	+20
Chain Mail	+0	+5	+10	+20
Scale Mail	+0	+5	+10	+20
Ring Mail	+0	+5	+10	+15
Studded Leather	+5	+0	+15	+30
Padded Armor	+20	+30	+40	+50
Leather Armor	+10	+5	+10	+20

Table 4: TEMPERATURE EFFECTS

(From page 21)

Personal Temperature	Str	Dex	Con	Land Move	Attack Rolls
−40 or lower	−1/−2	−4/−5	−1/−2	1/2	−4
−39 to −30	−1/−2	−3/−4	−1/−2	1/2	−3
−29 to −20	0/−1	−2/−3	0/−1	2/3	−2
−19 to −10	0/−1	−1/−2	0/−1	2/3	−1
−9 to 0	—	−1/−2	—	3/4	−1
1 to 10	—	0/−1	—	3/4	—
11 to 20	—	0/−1	—	—	—
21 to 79	—	—	—	—	—
80 to 89	—	—	0/−1	3/4	—
90 to 99	0/−1	—	−1/−2	3/4	−1
100 to 109	−1/−2	0/−1	−2/−3	2/3	−2
110 to 119	−1/−3	−1/−2	−3/−4	1/2	−3
120 or higher	−2/−4	−1/−3	−4/−5	1/2	−4

Table 5: WIND VELOCITY EFFECTS

(From page 21)

Wind Velocity	Missile Combat	Melee Combat	Move vs. Wind
0 to 10	—	—	—
11 to 20	0/−1/−2/−3	—	—
21 to 30	−1/−2/−3/xx	−1	3/4
31 to 45	−2/−4/xx/xx	−2	2/3
46 to 79	−4/−6/xx/xx	−4	1/2
80+	xx/xx/xx/xx	−8	1/4

Table 12: CHARACTER MOVEMENT ON FOOT

(From page 31)

	Terrain Type		
Encumbrance	Normal	Rugged	Very rugged
None	15/18	12/16	8/10
Light	12/16	12/15	6/9
Moderate	10/12	9/11	4/6
Heavy	7/10	6/8	3/5
Severe	5/7	3/5	2/3

Table 9: TEMPERATURE DAMAGE TO CHARACTERS

(From page 26)

Personal Temperature	Unprotected Con	Unprotected Dmg	Protected Con	Protected Dmg
−60 or lower	+14	8	+9	4
−59 to −50	+13	8	+8	4
−49 to −40	+12	7	+7	3
−39 to −30	+11	7	+6	3
−29 to −25	+10	6	+5	3
−24 to −20	+10	6	+5	2
−19 to −15	+9	5	+4	2
−14 to −10	+8	5	+3	2
−9 to −5	+7	4	+2	1
−4 to 0	+6	4	+1	1
1 to 5	+5	3	0	1
6 to 10	+4	3	—	—
11 to 15	+3	2	—	—
16 to 20	+2	2	—	—
21 to 25	+1	1	—	—
26 to 30	0	1	—	—
31 to 84	—	—	—	—
85 to 89	0	1	—	—
90 to 94	0	1	0	1
95 to 99	+1	2	0	1
100 to 104	+2	3	0	2
105 to 109	+3	3	0	2
110 to 114	+3	4	0	3
115 to 119	+5	5	0	3
120 or higher	+6	6	+1	4

Damage Adjustments

	Cold	Hot
Stationary/inactive	+1 to +3	−1 to −3
Strenuous activity	+1 to +2	+1 to +4
Fatigued and not resting	+1 to +6	+1 to +6

Constitution Check Adjustments

Character level 4-6	−1
Character level 7-9	−2
Character level 10-12	−3
Character level 13-15	−4
Character level 16+	−5

Table 11: ENCUMBRANCE LIMITS FOR CHARACTERS

(From page 30)

	Encumbrance Category			
Strength	Light	Moderate	Heavy	Severe
3	40-100	101-350	351-700	701-1150
4-5	50-150	151-450	451-800	801-1250
6-7	60-200	201-550	551-900	901-1350
8-11	90-350	351-700	701-1050	1051-1500
12-13	120-450	451-800	801-1150	1151-1600
14-15	140-550	551-900	901-1250	1251-1700
16	160-700	701-1050	1051-1400	1401-1850
17	170-850	851-1200	1201-1550	1551-2000
18	180-1000	1001-1400	1401-1700	1701-2250
18/01-50	190-1100	1101-1450	1451-1750	1751-2500
18/51-75	200-1200	1201-1500	1501-1800	1801-2750
18/76-90	210-1300	1301-1600	1601-2000	2001-3000
18/91-99	220-1400	1401-1700	1701-2200	2201-3500
18/00	250-1500	1501-1900	1901-2400	2401-4500

Table 13: ENCUMBRANCE LIMITS AND MOVEMENT RATES FOR ANIMALS

(From page 32)

Animal	Normal Load	Maximum Load	Movement by Terrain: Normal	Rugged	Very Rugged
Ape, gorilla	2000	4000	12/6	9/6	6/3
Bear, brown	3000	6000	12/6	9/6	3/0
Camel, bactrian	4000	6000	18/6	9/6	3/0
Camel, dromedary	4000	6000	21/9	12/6	3/0
Dog sled (7 dogs)	3000	6000	12/9	6/3	0/0
Donkey	1500	2500	12/6	9/6	6/3
Elephant, African	5000	10000	15/9	9/6	0/0
Elephant, Asiatic	5000	10000	12/9	6/6	0/0
Horse, draft	4000	8000	12/6	6/3	3/3
Horse, heavy war	5000	7500	15/9	9/6	6/3
Horse, light war	3000	5000	24/12	12/6	6/3
Horse, medium war	4000	6500	18/9	9/6	6/3
Horse, wild	3000	6000	24/12	12/6	6/3
Mule	5000	7500	12/6	9/6	6/3
Pony	2000	3000	12/6	6/3	3/0
Ram, giant	2500	4000	15/9	12/9	6/3
Sheep	250	500	9/6	6/3	6/3
Yak	2250	3500	12/6	9/6	6/3

Table 14: MOVEMENT OF VEHICLES

(From page 33)

Vehicle/animal(s)	Terrain: Normal	Rugged	Maximum Load
Cart, small/pony	8	4	3500
Cart, small/light horse	10	5	5500
Cart, small/medium horse	12	5	6000
Cart, small/mule	12	7	6000
Cart, medium/pony	6	0	4000
Cart, medium/light horse	8	3	6500
Cart, medium/medium horse	8	5	7500
Cart, medium/mule	10	6	7500
Chariot, small/pony	6	3	3000
Chariot, small/light horse	9	5	4000
Chariot, small/medium horse	10	6	4000
Chariot, large/light horses	12	7	5500
Chariot, large/medium horses	14	8	5500
Chariot, large/heavy horses	16	10	5500
Wagon, small/light horse	8	3	7500
Wagon, small/medium horse	10	6	8500
Wagon, small/heavy horse	12	9	9000
Wagon, large/light horses	10	6	12000
Wagon, large/medium horses	12	8	13500
Wagon, large/heavy horse	14	8	13500
Wagon, large/heavy horses	16	10	15000

Table 15: CLIMBING MOVEMENT RATES

(From page 33)

Surface Climbed	Condition of Surface: Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	90	60	30
Rough slope, moderate	80	50	25
Rough slope, severe	60	40	20
Normal slope, gentle	80	45	25
Normal slope, moderate	60	30	15
Normal slope, severe	50	20	5*
Smooth slope, gentle	60	30	15
Smooth slope, moderate	40	20*	10*
Smooth slope, severe	20*	10*	5*
Cliff, rough, with ledges	25*	15*	5*
Cliff, rough, no ledges	15*	10*	5*
Cliff, smooth, with ledges	15*	10*	5*
Cliff, smooth, no ledges	10*	5*	5*

Table 16: MODIFIERS TO NON-THIEF'S CLIMBING RATING

(From page 35)

Surface Climbed	Condition of Surface: Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	+70	+55	+35
Rough slope, moderate	+60	+40	+20
Rough slope, severe	+40	+20	+10
Normal slope, gentle	+60	+40	+20
Normal slope, moderate	+50	+25	+10
Normal slope, severe	+30	+15	+0
Smooth slope, gentle	+50	+25	+10
Smooth slope, moderate	+30	+10	+0
Smooth slope, severe	+10	+0	−10
Cliff, rough, with ledges	+0	−10	−20
Cliff, rough, no ledges	−10	−20	−30
Cliff, smooth, with ledges	−10	−25	−40
Cliff, smooth, no ledges	−20	−35	−50

Table 17: DAMAGE FROM FREE FALL OR SEVERE SLOPE

(From page 35)

Distance of Fall	Damage
10 feet	1d6
11-20 feet	3d6
21-30 feet	6d6
31-40 feet	10d6
41-50 feet	15d6
51 feet or more	20d6 (maximum)

Table 18: DAMAGE FROM TUMBLING DOWN MODERATE OR GENTLE SLOPE

(From page 36)

	Condition of Surface: Non-slippery	Slightly Slippery	Slippery
Rough slope, gentle	20/3/50	30/3/40	40/3/30
Rough slope, moderate	10/6/40	20/6/30	30/6/20
Normal slope, gentle	30/3/50	40/3/40	50/3/30
Normal slope, moderate	20/6/40	30/6/30	40/6/20
Smooth slope, gentle	40/3/40	50/3/30	60/3/30
Smooth slope, moderate	30/3/30	40/3/20	50/3/20

Table 19: CHANCE OF STOPPING A FALL OR TUMBLE

(From page 36)

	Condition of Surface		
Surface Fallen From	Non-slippery	Slightly Slippery	Slippery
Gentle slope	7/8	3/4	2/3
Moderate slope	3/4	2/3	1/2
Severe slope	2/3	1/2	1/4
Cliff face	1/2	1/4	—

Table 20: GRAPPLING SUCCESS

(From page 38)

		Condition of Terrain		
Target terrain	Chance of Protrusion	Non-slippery	Slightly Slippery	Slippery
Moderate slope, rough	30/50	50	60	70
Moderate slope, normal	50/70	60	72	84
Mod. slope, smooth	70/85	64	76	86
Severe slope, rough	30/40	68	80	88
Severe slope, normal	50/60	72	84	90
Severe slope, smooth	70/80	76	88	92
Cliff, rough, with ledges	20/40	80	92	94
Cliff, rough, no ledges	40/60	84	96	96
Cliff, smooth, w/ledges	60/80	88	98	98
Cliff, smooth, no ledges	80/90	92	99	99

Table 21: THROWN LOOP RANGES

(From page 38)

Character Level	Maximum Range (in feet)
1-4	40
5-8	50
9-12	60
13-16	75
17+	90

Table 22: CHARACTERS' JUMPING ABILITY

(From page 39)

Level of Character	Standing Broad Jump	Running Broad Jump	High Jump
1-6	1d4+1	1d4+5	1d3
7-9	1d4+2	1d4+6	1d4
10-12	1d6+2	1d6+5	1d3+1
13-15	1d6+3	1d6+6	1d4+1
16-18	1d6+4	1d6+9	1d5
19-22	1d6+5	1d6+12	1d5+1
23+	1d6+6	1d6+15	1d6+1

Table 23: MOVEMENT IN REDUCED VISIBILITY

(From page 40)

	Clear	Moderate Fog	Heavy Fog or Snow	Heavy Snow w/ Wind	Blowing Sand or Dust
Daylight	1/1	5/6	3/4	2/3	1/2
Moonlight	2/3	1/2	1/3	1/4	1/6
Darkness	1/2	1/3	1/4	1/6	1/8

Table 24: EFFECTS OF ENCUMBRANCE ON SWIMMING

(From page 41)

Enc.	Endurance	Speed	Diving	Surfacing
None	×2	×2	×1	×2
Light	×1	×1	×1	×1
Moderate	×1/2	×1/2	×2	×1/2
Heavy	×1/4	×1/4	×3	×1/4
Severe	—	—	×3	—

Table 26: CHANCE OF CAPSIZING

(From page 45)

	Wind/Water Conditions			
	Mild	Moderate	Dangerous	Severe
Kayak	25%	40%	60%	80%
Small canoe	20%	35%	50%	75%
Small rowboat	5%	15%	30%	50%
Coracle	10%	20%	30%	50%
Large canoe	10%	20%	30%	40%
Large rowboat	0%	10%	25%	40%
Small barge	0%	5%	10%	20%
Large barge	0%	0%	5%	10%

Table 28: TOLERANCE LEVELS FOR LACK OF FOOD

(From page 50)

Combined Strength and Constitution	Tolerance Level
15 or less	4 days
16 to 19	5 days
20 to 24	6 days
25 to 30	7 days
31 to 35	8 days
36 or more	10 days

Table 29: WATER REQUIREMENTS FOR CHARACTERS

(From page 53)

	Effective Temperature			
Activity	Below 50	50-70	71-90	Above 90
Inactive	5	6	7	8
Light	6	7	8	10
Moderate	8	9	10	12
Heavy	9	10	12	16

Table 25: WATERBORNE VEHICLE CHARACTERISTICS

(From page 44)

Vehicle	Length	Width	Capacity	Large Move	Small Move	Enc. Value	Startup	Hull Value	Draught
Kayak	8-12	2-3	1 + 1000	18/24/12/14	160/200/120/180	600-800	1-2	1-2	1/4
Small canoe	10-15	2-3	2 + 2500	20/30/10/12	160/200/120/180	700-900	1-2	1-2	1/4
Small rowboat	8-12	2-4	2 + 2000	16/24/12/14	120/180/ 90/120	700-1000	1-3	1-3	1/2
Coracle	10-15	3-5	2 + 2000	12/18/ 6/8	45/ 60/ 30/ 45	900-1200	1-3	1-2	1/2
Large canoe	15-20	2-3	2 + 4000	20/30/10/12	120/180/ 90/120	1000-1200	1-3	2-3	1/3
Large rowboat	15-20	3-4	4 + 4000	16/24/ 8/10	45/ 90/ 45/ 60	1200-1600	2-5	2-4	3/4
Small barge	15-20	8-12	4 + 6000	16/24/ 8/ 9	45/ 60/ 30/ 45	4000-6000	2-6	1-6	3/4
Large barge	25-45	12-20	6 + 7500	8/16/ 4/ 5	30/ 60/ 20/ 30	10000+	5-10	2-8	1

Table 33: CHANCE OF FOOD SPOILAGE

(From page 58)

	Effective Temperature				
Type of Food	Below 30	31-50	51-70	71-90	Above 90
Green plants	—/—	6/20	4/30	2/40	1/50
Fruits or vegetables	—/—	5/30	3/40	2/50	1/60
Cooked meat	—/—	3/20	2/50	1/60	1/80
Raw meat	—/—	2/50	1/70	1/80	1/90

Table 36: PORTABLE SHELTER CHARACTERISTICS

(From page 62)

	Enc. Value	Cost	Setup Time	Moisture Res.	Wind Res.	Life Span
Poor						
Small	350	10	1d2+1	Light	20	40
Medium	450	20	1d2+2	Light	20	40
Large	600	30	1d2+3	Light	20	40
Adequate						
Small	500	30	1d3+1	Moderate	30	80
Medium	600	50	1d3+2	Moderate	30	80
Large	750	75	1d3+3	Moderate	30	80
Good						
Small	600	75	1d3+1	Heavy	40	120
Medium	800	120	1d3+2	Heavy	40	120
Large	1000	180	1d4+2	Heavy	40	120
Superior						
Small	750	200	1d4+1	Downpour	50	180
Medium	1000	300	1d4+2	Downpour	50	180
Large	1500	400	1d4+3	Downpour	50	180

Table 37: EFFECTS OF LACK OF SLEEP

(From page 64)

Average Rest Per Day	Effects
Less than 5	Dexterity Checks at +1
Less than 4	Dexterity Checks at +2 Strength Checks at +1 −1 "to hit"
Less than 3	Dexterity Checks at +3 Strength Checks at +2 Wisdom Checks at +1 −1 "to hit" Climbing Rating −10% Movement Rate −25%
Less than 2	Dexterity Checks at +4 Strength Checks at +3 Wisdom Checks at +2 Constitution Checks at +1 −2 "to hit" Climbing Rating −20% Movement Rate −33% Weight Allowance −50 × Strength
Less than 1	Dexterity Checks at +5 Strength Checks at +4 Wisdom Checks at +3 Constitution Checks at +2 −3 "to hit" Climbing Rating −30% Movement Rate −50% Weight Allowance −100 × Strength

Table 32: FISHING SUCCESS

(From page 57)

	Time of Day		
Type of Area	Daytime	Night	Dawn/Dusk
Poor	1d4−2	1d4	1d4+2
Fair	1d6−3	1d6−1	1d6+2
Good	1d6−2	1d6+2	1d8+2

Table 38: CAMPFIRE CHARACTERISTICS

(From page 65)

Size	Fuel	Start	Refuel	Wind Res.	Cap.	Vis.
Small	6	2d20	3	20	6	240
Medium	12	2d20+5	6	30	10	360
Large	18	2d20+10	9	40	15	540

	Warmth Provided at Given Distance								
	1	3	5	10	20	30	40	50	60
Small	80	60	40	30	20	10	0	0	0
Medium	—	80	60	40	30	20	10	0	0
Large	—	—	80	60	40	30	20	10	0

Table 39: AVAILABILITY OF FUEL

(From page 66)

	Winter	Spring	Summer	Autumn
Desert	20	20	20	20
Forest*	70	100	100	100
Hills	40	70	70	60
Mountains	20	30	40	40
Plains	50	70	80	70
Swamp	40	30	30	40

Table 41: OUTDOOR RANGE OF NORMAL VISION

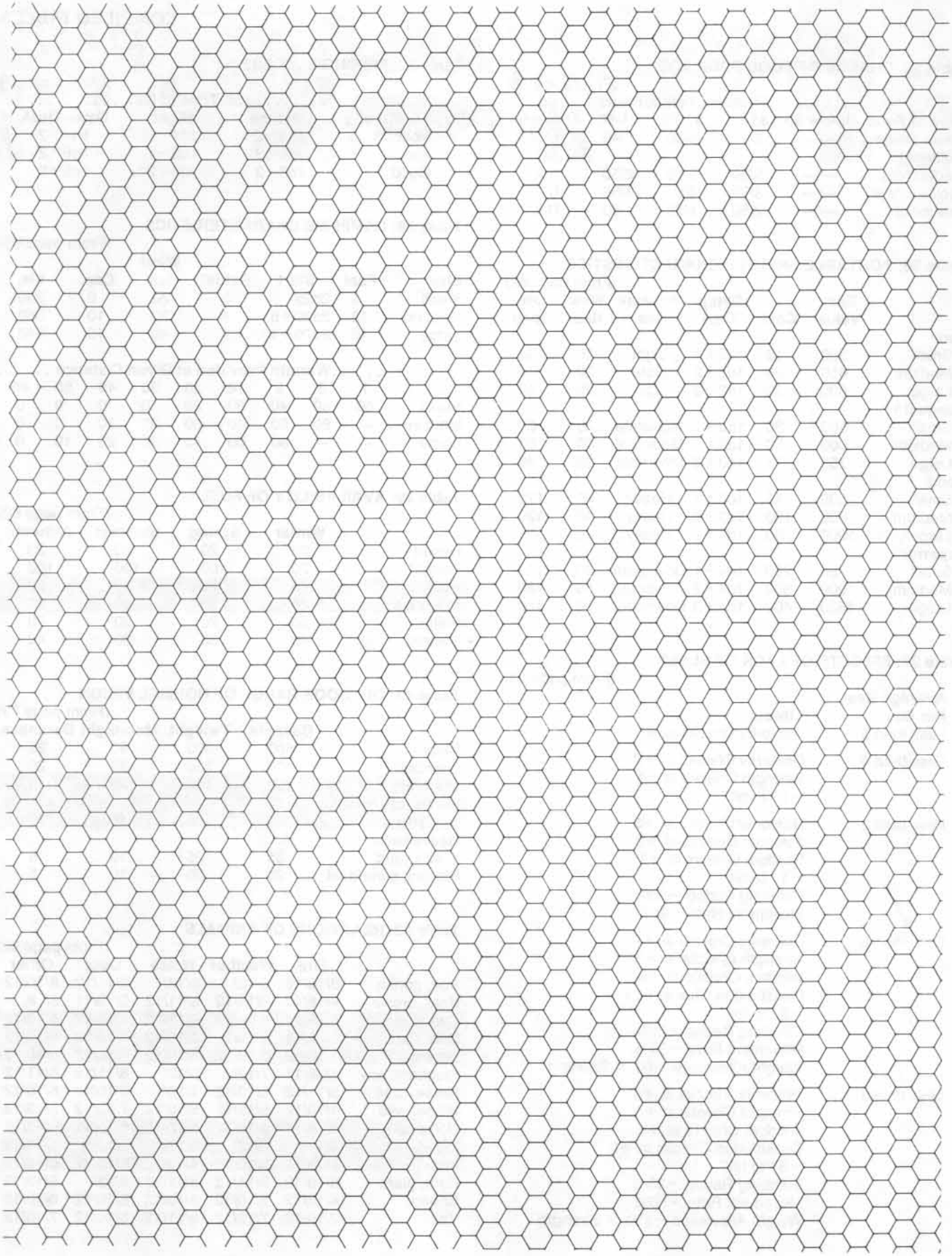
(From page 73)

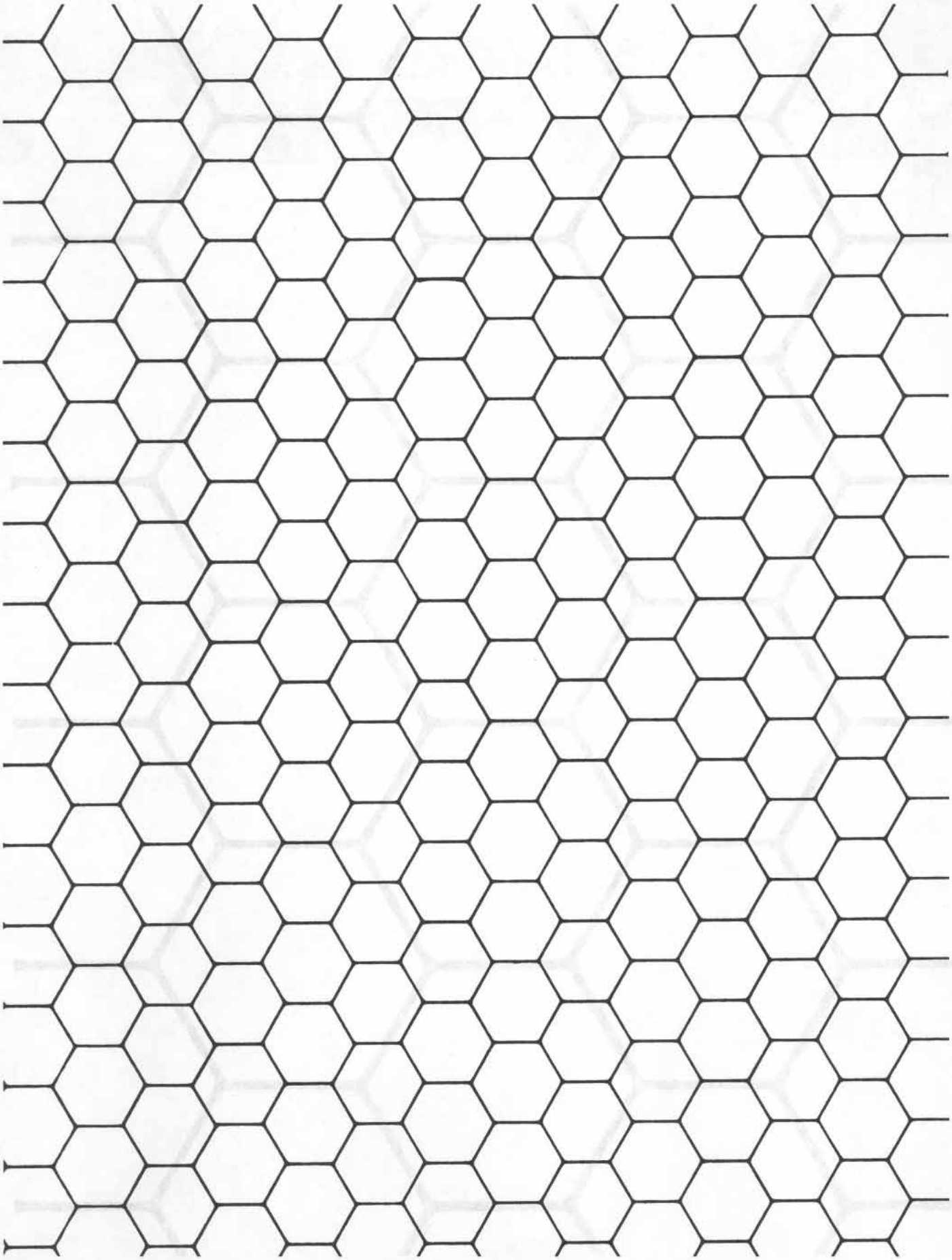
	Daylight	Twilight	Moonlight	Darkness
Clear	500	300	50	25
Overcast	400	250	50	25
Moderate fog	150	100	25	15
Heavy fog, rain, or snow	50	30	15	10
Heavy snow with wind	35	25	10	5
Blowing sand/dust	20	20	10	5

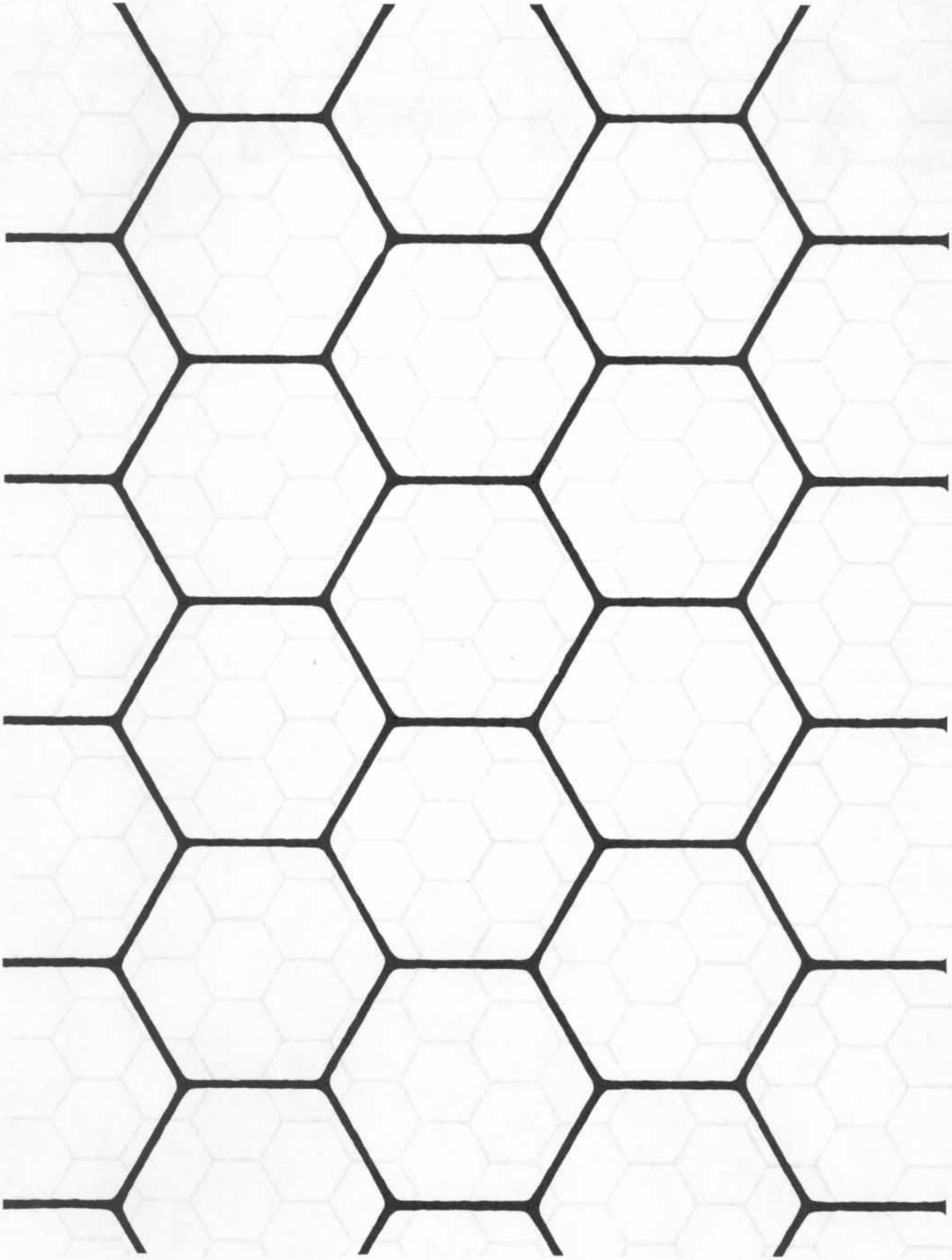
Table 42: REACTIONS OF ANIMALS

(From page 92)

	Fire	Weather	Noise	Odor	Other
Ape, gorilla	8/10/12	6/12/	8/12/	9/11/12	8/10/12
Bear, brown	4/ 8/10	6/11/12	6/11/12	5/ 9/11	5/ 8/11
Camel, any	6/ 9/11	6/10/12	6/11/12	4/10/12	6/10/12
Dog, sled	4/ 9/11	6/10/12	4/10/12	4/10/12	5/10/12
Donkey	4/10/12	6/10/12	6/10/12	6/10/12	6/10/12
Elephant, any	4/ 9/11	7/12/	8/12/	8/11/12	8/11/12
Horse, draft	5/11/12	8/10/12	4/10/12	7/10/12	6/10/12
Horse, wild	4/10/12	5/11/12	6/10/12	7/10/12	5/ 9/12
Horse, other	4/ 9/11	5/10/12	4/10/12	6/10/12	6/10/12
Mule	6/11/	6/12/	6/11/	7/12/	6/10/12
Pony	4/ 9/11	5/10/12	4/10/12	6/10/12	6/10/12
Ram, giant	6/10/12	8/11/12	8/11/12	6/12/	6/10/12
Sheep	4/10/12	7/10/12	8/10/12	8/10/12	6/10/12
Yak	7/10/12	7/10/12	8/11/12	6/10/12	7/10/12







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