



MOVEMENT & TRAVEL

LIGHT SOURCES & ILLUMINATION

Object	Bright	Shadowy	Duration
Candle	n/a ¹	5 ft	1 hr
Everburning Torch	20 ft	40 ft	Permanent
Lamp, common	15 ft	30 ft	6 hr/pint
Lantern, bullseye ²	60 ft cone	120 ft cone	6 hr/pint
Lantern, hooded	30 ft	60 ft	6 hr/pint
Sunrod	30 ft	60 ft	6 hr
Torch	20 ft	40 ft	1 hr
Spell	Bright	Shadowy	Duration
Continual flame	20 ft	40 ft	Permanent
Dancing lights (torches)	20 ft (each)	40 ft (each)	1 min
Daylight	60 ft	120 ft	30 min
Light	20 ft	40 ft	10 min

- A candle does not provide bright illumination, only shadowy illumination.
- A bullseye lantern illuminates a cone, not a radius.

TERRAIN & OVERLAND MOVEMENT

Terrain	Highway	Road or Trail	Trackless
Desert, sandy	x1	x1/2	x1/2
Forest	x1	x1	x1/2
Hills	x1	x3/4	x1/2
Jungle	x1	x3/4	x1/4
Moor	x1	x1	x3/4
Mountains	x3/4	x3/4	x1/2
Plains	x1	x1	x3/4
Swamp	x1	x3/4	x1/2
Tundra, frozen	x1	x3/4	x3/4

HAMPERED MOVEMENT

Condition	Additional Movement Cost
Difficult terrain	x2
Obstacle ₁	x2
Poor visibility	x2
Impassable	-

- May require a skill check

GETTING LOST

	Survival	Poor visibility	Survival
Moor or hill, map	6		12
Mountain, map	8	Mountain, no map	12
Moor or hill, no map	10	Forest	15

Survival check 1/hour.

+2 bonus with 5 ranks in Knowledge (geography/local).

+2 bonus (or more) for recognized landmarks.

Effects of Being Lost: Randomly determine the direction for each hour of local or overland movement.

Recognizing that You're Lost: Survival check (DC 20, -1 per hour of random travel) each hour to recognize that they are lost.

Setting a New Course: Survival check (DC 15, +2 per hour of random travel). To determine the correct direction; failure indicates a random direction is thought to be the "correct" one; multiple characters can make the attempt, which may result in conflicting directions; whether traveling the correct direction or not, they may get lost again.

MOVEMENT & DISTANCE

	Speed			
	15 feet	20 feet	30 feet	40 feet
One Round (Tactical)₁				
Walk	15 ft.	20 ft.	30 ft.	40 ft.
Hustle	30 ft.	40 ft.	60 ft.	80 ft.
Run (x3)	45 ft.	60 ft.	90 ft.	120 ft.
Run (x4)	60 ft.	80 ft.	120 ft.	160 ft.
One Minute (Local)				
Walk	150 ft.	200 ft.	300 ft.	400 ft.
Hustle	300 ft.	400 ft.	600 ft.	800 ft.
Run (x3)	450 ft.	600 ft.	900 ft.	1,200 ft.
Run (x4)	600 ft.	800 ft.	1,200 ft.	1,600 ft.
One Hour (Overland)				
Walk	1-1/2 miles	2 miles	3 miles	4 miles
Hustle	3 miles	4 miles	6 miles	8 miles
One Day (Overland)				
Walk	12 miles	16 miles	24 miles	32 miles

- Tactical movement is often measured in squares on the battle grid (1 square = 5 feet) rather than feet.

MOUNTS & VEHICLES

Mount/Vehicle	Per Hour	Per Day
Mount (carrying load)		
Light horse or light warhorse	6 miles	48 miles
Light horse (151-450 lb.) ₁	4 miles	32 miles
Light warhorse (231-690 lb.) ₁	4 miles	32 miles
Heavy horse or heavy warhorse	5 miles	40 miles
Heavy horse (201-600 lb.) ₁	3.5 miles	28 miles
Heavy warhorse (301-900 lb.) ₁	3.5 miles	28 miles
Pony or warpony	4 miles	32 miles
Pony (76-225 lb.) ₁	3 miles	24 miles
Warpony (101-300 lb.) ₁	3 miles	24 miles
Donkey or mule	3 miles	24 miles
Donkey (51-150 lb.) ₁	2 miles	16 miles
Mule (231-690 lb.) ₁	2 miles	16 miles
Dog, riding	4 miles	32 miles
Dog, riding (101-300 lb.) ₁	3 miles	24 miles
Cart or wagon	2 miles	16 miles
Ship		
Raft or barge (poled or towed) ₂	0.5 miles	5 miles
Keelboat (rowed) ₂	1 miles	10 miles
Rowboat (rowed) ₂	1.5 miles	15 miles
Sailing ship (sailed)	2 miles	48 miles
Warship (sailed and rowed)	2.5 miles	60 miles
Longship (sailed and rowed)	3 miles	72 miles
Galley (rowed and sailed)	4 miles	96 miles

- Quadrupeds, such as horses, can carry heavier loads than characters can. See Carrying Capacity, above, for more information.

2. Rafts, barges, keelboats, and rowboats are used on lakes and rivers. If going downstream, add the speed of the current (typically 3 miles per hour) to the speed of the vehicle. In addition to 10 hours of being rowed, the vehicle can also float an additional 14 hours, if someone can guide it, so add an additional 42 miles to the daily distance traveled. These vehicles can't be rowed against any significant current, but they can be pulled upstream by draft animals on the shores.

CARRYING LOADS

Load	Max Dex	Check Penalty	Speed		Run
			(30 ft.)	(20 ft.)	
Medium	+3	-3	20 ft.	15 ft.	x4
Heavy	+1	-6	20 ft.	15 ft.	x3
Carrying Capacity₁					
$Max\ Load = \begin{cases} 10 * Str, & Str \leq 10 \\ 25 * 4 \frac{Str}{10}, & Str > 10 \end{cases}$					
$Medium\ Load = \frac{2 * Max\ Load}{3}$					
$Light\ Load = \frac{Max\ Load}{3}$					

- Applies to medium creatures. See **Size vs. Ac Mod & max Heavy Load** chart to modify for non-medium creatures.



NPCs

NPC ATTITUDES

Initial Attitude	New Attitude (DC to achieve)				
	Hostile	Unfriendly	Indifferent	Friendly	Helpful
Hostile	< 20	20	25	35	50
Unfriendly	< 5	5	15	25	40
Indifferent	—	< 1	1	15	30
Friendly	—	—	< 1	1	20
Helpful	—	—	—	< 1	1
Attitude	Means		Possible Actions		
Hostile	Will take risks to hurt you		Attack, interfere, berate, flee		
Unfriendly	Wishes you ill		Mislead, gossip, avoid, watch suspiciously, insult		
Indifferent	Doesn't much care		Socially expected interaction		
Friendly	Wishes you well		Chat, advise, offer limited help, advocate		
Helpful	Will take risks to help you		Protect, back up, heal, aid		



Creature Reference

Creature Improvement (By Type)

Type	Hit Die	Attack Bonus	Good Saves	Skill Points
Aberration	d8	HD x ¾	Will	2 + Int Mod/HD
Animal	d8	HD x ¾	Fort, Ref	2 + Int Mod/HD
Construct	d10	HD x ¾	-	2 + Int Mod/HD ₃
Dragon	d12	HD	Fort, Ref, Will	6 + Int Mod/HD
Elemental	d8	HD x ¾	Ref (Air & Fire) or Fort (Earth & Water)	2 + Int Mod/HD
Fey	d6	HD x ½	Ref, Will	6 + Int Mod/HD
Giant	d8	HD x ¾	Fort	2 + Int Mod/HD
Humanoid	d8	HD x ¾	Varies	2 + Int Mod/HD
Magical Beast	d10	HD	Fort, Ref	2 + Int Mod/HD
Monstrous Humanoid	d8	HD	Ref, Will	2 + Int Mod/HD
Ooze	d10	HD x ¾	-	2 + Int Mod/HD ₃
Outsider	d8	HD	Fort, Ref, Will	8 + Int Mod/HD
Plant	d8	HD x ¾	Fort	2 + Int Mod/HD ₃
Undead	d12	HD x ½	Will	4 + Int Mod/HD ₃
Vermin	d8	HD x ¾	Fort	2 + Int Mod/HD ₃

- As long as a creature has an Intelligence of at least 1, it gains a minimum of 1 skill point per Hit Die.
- As long as a creature has an Intelligence of at least 1, it gains a minimum of 1 skill point per Hit Die.
- Creatures with Intelligence score of "—" gain no skill points or feats.



COMBAT

ATTACK ROLL MODIFIERS

Attacker is . . .	Melee	Ranged
Dazzled	-1	-1
Entangled	-2 ₁	-2 ₁
Flanking defender	+2	—
Invisible	+2 ₂	+2 ₂
On higher ground	+1	+0
Prone	-4	-3
Shaken or frightened	-2	-2
Squeezing through a space	-4	-4

1. An entangled character also takes a -4 penalty to Dexterity, which may affect his attack roll.
2. The defender loses any Dexterity bonus to AC. This bonus doesn't apply if the target is blinded.
3. Most ranged weapons can't be used while the attacker is prone, but you can use a crossbow or shuriken while prone at no penalty.

ARMOR CLASS MODIFIERS

Defender is . . .	Melee	Ranged
Behind cover	+4	+4
Blinded	-2 ₁	-2 ₁
Concealed or invisible	— See Concealment	—
Cowering	-2 ₁	-2 ₁
Entangled	+0 ₂	+0 ₂
Flat-footed (such as surprised, balancing, climbing)	+0 ₁	+0 ₁
Grappling (but attacker is not)	+0 ₁	+0 _{1,3}
Helpless (such as paralyzed, sleeping, or bound)	-4 ₄	+0 ₄
Kneeling or sitting	-2	+2
Pinned	-4 ₄	+0 ₄
Prone	-4	+4
Squeezing through a space	-4	-4
Stunned	-2 ₁	-2 ₁

1. The defender loses any Dexterity bonus to AC.
2. An entangled character takes a -4 penalty to Dexterity.
3. Roll randomly to see which grappling combatant you strike. That defender loses any Dexterity bonus to AC.
4. Treat the defender's Dexterity as 0 (-5 modifier). Rogues can sneak attack helpless or pinned defenders.

SPECIAL ATTACKS

Special Attack	Brief Description
Aid another	Grant an ally a +2 bonus on attacks or AC
Bull rush	Push an opponent back 5 feet or more
Charge	Move up to twice your speed and attack with +2 bonus
Disarm	Knock a weapon from your opponent's hands
Feint	Negate your opponent's Dex bonus to AC
Grapple	Wrestle with an opponent
Overrun	Plow past or over an opponent as you move
Sunder	Strike an opponent's weapon or shield
Throw splash weapon	Throw container of dangerous liquid at target
Trip	Trip an opponent
Turn (rebuke) undead	Channel positive (or negative) energy to turn away (or awe) undead
Two-weapon fighting	Fight with a weapon in each hand

Action	Type	Attack of Opportunity ₁
5-ft. Step (only 1 per turn)	No Action	No
Activate a magic item (not potion/oil)	Standard	No
Aid Another	Standard	Maybe ₂
Attack (single melee/ranged/Unarmed)	Standard	No
Bull rush	Standard	No
Cast/Manifest a quickened spell / power	Swift	No
Cast/Manifest a spell/power	Standard	Yes
Cease concentration on a spell	Free	No
Charge ₃	Full-round	No
Concentrate to maintain an active spell	Standard	No
Control a frightened mount	Move	Yes
Delay	No Action	No
Deliver coup de grace	Full-round	Yes
Direct or redirect an active spell	Move	No
Disarm ₇	Varies	Yes
Dismiss a spell	Standard	No
Draw a weapon ₄	Move	No
Draw a hidden weapon(Sleight of Hand)	Standard	No
Drink a potion or apply an oil	Standard	Yes
Drop an item	Free	No
Drop to the floor	Free	No
Escape a grapple	Standard	No
Escape from a net	Full-round	Yes
Extinguish flames	Full-round	No
Feint	Standard	No
Full Attack	Full-round	No
Grapple ₇	Varies	Yes
Light a torch	Full-round	Yes
Light a torch with a tindertwig	Standard	Yes
Load a hand or light crossbow	Move	Yes
Load a heavy or repeating crossbow	Full-round	Yes
(Un)lock weapon in locked gauntlet	Full-round	Yes
Lower spell resistance	Standard	No
Make dying friend stable (Heal)	Standard	Yes
Mount a horse or dismount	Move	No
Move / Move a heavy object	Move	Yes
Open or close a door	Move	No
Overrun	Standard	No
Pick up an item	Move	Yes
Prepare components to cast a spell ₆	Free	No
Prepare to throw splash weapon	Full-round	Yes
Read a scroll	Standard	Yes
Ready (triggers a standard action)	Standard	No
Ready or loose a shield ₄	Move	No
Retrieve a stored item	Move	Yes
Run	Full-round	Yes
Sheathe a weapon	Move	Yes
Speak	Free	No
Stand up from prone	Move	Yes
Sunder a weapon (attack)	Standard	Yes
Sunder an object (attack)	Standard	Maybe ₃
Total defense	Standard	No
Trip an opponent ₇	Varies	No
Turn or rebuke undead	Standard	No
Use extraordinary ability	Standard	No
Use feat ₈	Varies	Varies
Use skill	Varies	Usually
Use spell-like ability	Standard	Yes
Use supernatural ability	Standard	No
Use touch spell on up to 6 friends	Full-round	Yes
Withdraw ₅	Full-round	No

1. Moving out of a threatened square usually provokes an attack of opportunity. The action itself provokes an attack of opportunity.
2. If you aid someone that provokes an attack of opportunity, then the act of aiding another also provokes an attack of opportunity.

3. If the object is being held, carried, or worn by a creature, yes. If not, no.
4. If you have a base attack bonus of +1 or higher, you can combine one of these actions with a regular move. If you have the Two- Weapon Fighting feat, you can draw two light or one-handed weapons in the time it would normally take you to draw one.
5. May be taken as a standard action if you are limited to taking only a single action in a round.
6. Unless the component is an extremely large or awkward item.
7. These attack forms substitute for a melee attack, not an action.
8. The description of a feat defines its effect.

SPECIAL ABILITY TYPES

	Extraordinary	Spell-Like	Supernatural
Dispel	No	Yes	No
Spell resistance	No	Yes	No
Antimagic field	No	Yes	Yes
Attack of opportunity	No	Yes	No
Dispel: Can dispel magic and similar spells dispel the effects of abilities of that type?	Yes		
Spell Resistance: Does spell resistance protect a creature from these abilities?	Yes		
Antimagic Field: Does an antimagic field or similar magic suppress the ability?	Yes		
Attack of Opportunity: Does using the ability provoke attacks of opportunity the way that casting a spell does?	Yes		

TWO WEAPON FIGHTING PENALTIES

Circumstances	Primary Hand	Off Hand
Normal penalties	-6	-10
Off-hand weapon is light	-4	-8
Two-Weapon Fighting feat	-4	-4
Off-hand weapon is light and Two-Weapon Fighting feat	-2	-2

TURN UNDEAD

Turning Check Result 1d20+Cha	Most Powerful Undead Affected (Maximum Hit Dice) (Dam: 2d6+cha+lv)
0 or lower	Cleric's level - 4
1-3	Cleric's level - 3
4-6	Cleric's level - 2
7-9	Cleric's level - 1
10-12	Cleric's level
13-15	Cleric's level + 1
16-18	Cleric's level + 2
19-21	Cleric's level + 3
22 or higher	Cleric's level + 4



BREAKING & ENTERING

ARMOR, WEAPONS & SHIELDS

Weapon or Shield	Hardness	HP ₁
Light blade	10	2
One-handed blade	10	5
Two-handed blade	10	10
Light metal-hafted weapon	10	10
One-handed metal-hafted weapon	10	20
Light hafted weapon	5	2
One-handed hafted weapon	5	5
Two-handed hafted weapon	5	10
Projectile weapon	5	5
Armor	special ₂	armor bonus x 5
Buckler	10	5
Light wooden shield	5	7
Heavy wooden shield	5	15
Light steel shield	10	10
Heavy steel shield	10	20
Tower shield	5	20

1. The HP value given is for Medium armor, weapons, and shields. Divide by 2 for each size category of the item smaller than Medium, or multiply it by 2 for each size category larger.

2. Varies by material; see substance hardness table.

OBJECT HARDNESS & HIT POINTS

Object	Hardness	Hit Points	Break DC
Rope (1 inch diam.)	0	2	23
Simple wooden door	5	10	13
Small chest	5	1	17
Good wooden door	5	15	18
Treasure chest	5	15	23
Strong wooden door	5	20	23
Masonry wall (1 ft. thick)	8	90	35
Hewn stone (3 ft. thick)	8	540	50
Chain	10	5	26
Manacles	10	10	26
Masterwork manacles	10	10	28
Iron door (2 in. thick)	10	60	28

SUBSTANCE HARDNESS & HITPOINTS

Substance	Hardness	Hit Points
Paper/cloth/Rope	0	2/inch of thickness
Ice	0	3/inch of thickness
Glass	1	1/inch of thickness
Leather or hide	2	5/inch of thickness
Wood	5	10/inch of thickness
Stone	8	15/inch of thickness
Iron or steel	10	30/inch of thickness
Mithral	15	30/inch of thickness
Adamantine	20	40/inch of thickness

SIZE vs. AC Mod & Max Heavy Load

Size	AC Mod	Max Heavy Load
Colossal	-8	Med x16
Gargantuan	-4	Med x8
Huge	-2	Med x4
Large	-1	Med x2
Medium	+0	Med
Small	+1	Med x3/4
Tiny	+2	Med x1/2
Diminutive	+4	Med x1/4
Fine	+8	Med x1/8

DCs TO BREAK/BURST ITEMS

Strength Check to:	DC
Break down simple door	13
Break down good door	18
Break down strong door	23
Burst rope bonds	23
Bend iron bars	24
Break down barred door	25
Burst chain bonds	26
Break down iron door	28
Condition	DC Adjustment ₁
Hold portal	+5
Arcane lock	+10

1. If both apply, use the larger number.

WALLS

Wall Type	Typical Thickness	Break Hardness DC	Hit points ¹	Climb DC
Masonry	1 ft.	35	8	90 hp
Superior Masonry	1 ft.	35	8	90 hp
Reinforced Masonry	1 ft.	45	8	180 hp
Hewn Stone	3 ft.	50	8	540 hp
Unworked Stone	5 ft.	65	8	900 hp
Iron	3 in.	30	10	90 hp
Paper	Paper-thin	1	--	1 hp
Wood	6 in.	20	5	60 hp
Magically Treated ₂	-	+20	X2	X2 ₃

1. Per 10 ft. by 10 ft. section.

2. These modifiers can be applied to any of the other wall types

3. Or an additional 50 hit points, whichever is greater.

DOORS

Door Type	Typical Thickness	Hardness	Hit points	Break DC	Stuck Locked
Simple Wooden	1 in.	5	10 hp	13	15
Good Wooden	1-1 1/2 in	5	15 hp	16	18
Strong Wooden	2 in.	5	20 hp	23	25
Stone	4 in.	8	60 hp	28	28
Iron	2 in.	10	60 hp	28	28
Portcullis, Wooden	3 in.	5	30 hp	25 ₁	25 ₁
Portcullis, Iron	2 in.	10	60 hp	25 ₁	25 ₁
Lock	--	15	30 hp	--	--
Hinge	--	10	30 hp	--	--

1. DC to lift, Use appropriate door figure for breaking



WEATHER, AIRBORNE & AQUATIC

RANDOM WEATHER

d%	Weather	Cold Climate	Temperate Climate ₁	Desert
01	Normal	Cold, calm	Normal for season ₂	Hot, calm
69				
70	Abnormal	Heat wave(30-) cold snap(31+)	Heat wave(50-) cold snap(51+)	Hot, windy
84				
85	Inclement	Precipitation (snow)	Precipitation (for season)	Hot, windy
94				
95	Storm	Snowstorm	Thunderstorm, snowstorm	Dust storm
99				
100	Powerful storm	Blizzard	Windstorm, blizzard, hurricane, tornado	Downpour

1. Temperate includes forest, hills, marsh, mountains, plains, and warm aquatic.

2. Winter is cold, summer is warm, spring, and autumn are temperate. Marsh regions are slightly warmer in winter.

AIRBORNE MANEUVERABILITY

	Perfect	Good	Average	Poor	Clumsy
Minimum Speed	None	None	Half	Half	Half
Hover	Yes	Yes	No	No	No
Move Backward	Yes	Yes	No	No	No
Reverse	Free	- 5ft	No	No	No
Turn in place	Any	90°/ -5 ft.	45°/ -5ft.	45°/ -5ft.	45°/ -10ft.
Turn	Any	90°/ -5 ft.	45°/ -5ft.	No	No
Maximum Up Angle	Any	Any	90°	45°	45°
Up Speed	Full	Half	Half	Half	Half
Down Angle	Any	Any	60°	45°	45°
Down Speed	Double	Double	Double	Double	Double
Between up & down	0	0	5 ft	10 ft	20 ft

UNDERWATER COMBAT

Condition	Attack/Damage			
	Slashing or Bludgeoning	Tail	Movement	Off Balance? ₄
Freedom of movement	normal/normal	normal	normal	No
Has a swim speed	-2/half	normal	normal	No
Successful Swim check	-2/half ₁	-2/half	quarter or half ₂	No
Firm footing ₃	-2/half	-2/half	half	No
None of the above	-2/half	-2/half	normal	Yes

1. A creature without a freedom of movement effects or a swim speed makes grapple checks underwater at a -2 penalty, but deals damage normally when grappling

2. A successful Swim check lets a creature move one-quarter its speed as a full-round action.

3. Creatures have firm footing when walking along the bottom, braced against a ship's hull, or the like. A creature can only walk along the bottom if it wears or carries enough gear to weigh itself down—at least 16 pounds for Medium creatures, twice that for each size category larger than Medium, and half that for each size category smaller than Medium.

4. Creatures flailing about in the water (usually because they failed their Swim checks) have a hard time fighting effectively. An off-balance creature loses its Dexterity bonus to Armor Class, and opponents gain a +2 bonus on attacks against it.



Encounter Level & Experience

EL, CR and Exp

Variables	
CR_i = Creature rating of type	
n_i = Number of creature of type (same CR)	
N = Total number of types	
$EL = 2 / \ln 2 \sum_{i=0}^N CR_i \ln n_i - N$	
\overline{CL} = Average Character Level	
Discrete	Continuous
$x = \lfloor EL - \overline{CL} \rfloor$	$x = EL - \overline{CL}$
$f(x) = \begin{cases} 2(2^{x+1/2}), & x \text{ is odd} \\ 3(2^{x/2}), & x \text{ is even} \end{cases}$	$f(x) = 3(2^{x/2})$
$Exp = 100 F(x) EL$	