[30.9] HIT TABLE

ONE DIE PLUS HIT STRENGTH	PHYSICAL CHARACTERISTIC RATING POINTS LOST	Armor Result (NUMBER OF FIRES) 1	2*	3,4	5 or more	DAMAGE TO EQUIPMENT
1 or less	No effect	–	–	–	–	NE
2	1 Strength	–	–	–	–	NE
3	1 Dexterity	–	–	–	–	NE
4	2 Endurance	1	–	–	–	NE
5	2 Agility	1	–	–	–	NE
6	3 Endurance	1	1	–	–	NE
7	3 Strength	2	1	–	–	S
8	4 Endurance	2	1	1	–	S
9	4 Agility	2	1	1	–	S
10	5 Endurance	2	1	1	–	S
11	5 Strength	2	1	1	1	S
12	6 Endurance	3	2	1	1	S
13	6 Dexterity	3	2	1	1	S
14	7 Endurance	3	2	1	1	S
15	7 Agility	3	2	1	1	L
16	8 Endurance	3	2	2	1	L
17	8 Strength	4	3	2	1	L
18	9 Endurance	4	3	2	2	L
19	9 Agility	4	3	2	2	L
20	10 Endurance	4	3	3	2	L
21	10 Strength	4	3	3	2	L
22	11 Endurance	5	4	3	2	L
23	11 Dexterity	5	4	3	2	H
24	12 Endurance	5	4	3	3	H
25-26	13 Strength	5	4	3	3	H
27-28	14 Endurance	5	4	4	3	H
29-30	15 Agility	5	4	4	3	H
31-33	16 Endurance	6	5	4	4	P
34-37	17 Strength	6	5	5	4	P
38 or more	18 Endurance	6	6	5	5	T

*Use this column when involved in any close combat or accident. **NE**: No effect. **S**: Superficial damage. **L**: Light damage. **H**: Heavy damage. **P**: Partially destroyed. **T**: Totally destroyed. See 30.1 for explanation of use.

[32.3] HYPERJUMP TABLE

PERCENTILE DICE MINUS HYPERJUMP CHANCE	PSIONIC BACKLASH CHECK	JUMP OUTCOME AND SPACESHIP LOCATION
–40 or less	**No**	*Perfect jump;* perpendicular to the plane of the system ecliptic, directly above destination planet at the closest safe *jump point.*
–39 to –20	**–50**	*Perfect jump;* as above.
–19 to 0	**–40**	*Perfect jump;* as above.
+1 to +10	**–30**	*Good jump;* as above *plus one die* roll AU's beyond closest jump point.
+11 to +20	**–20**	*Good jump;* as above *plus two dice* roll AU's beyond closest jump point.
+21 to +30	**–10**	*Slight jump error;* as above *plus percentile dice* roll AU's beyond closest jump point.
+31 to +40	**0**	*Minor jump error;* as above *plus* **10×** percentile dice roll AU's beyond closest jump point.
+41 to +50	**+10**	*Major jump error;* a perfect jump to the star nearest the destination star with the same Spectral Class letter.
+51 to +60	**+20**	*Major jump error;* the GM uses *one die* to determine the *random destination.* The destination star is used as the zero point.
+61 to +70	**+30**	*Jump randomized;* the GM uses *two dice* to determine the random destination. *Sol* is used as the zero point.
+71 to +80	**+40**	*Jump failure;* the hyperjump does not occur and the spaceship's jump engine suffers *heavy damage.*
+81 to +90	**+50**	*Jump randomized;* the GM uses *percentile dice* to determine the random destination. *Sol* is used as the zero point.
+91 or more	**+60**	*Jump disaster;* within the gravity wells of the destination star system. Use the Equipment Damage column of the Hit Table (30.9) to check for spaceship damage; roll *two dice* and *add* **15** to the dice result.

See 10.0 and 32.2 for explanation of use.

Random Destination: The GM secretly rolls the indicated die or dice three times to determine three coordinates. The first roll determines the **X** coordinate; the second roll the **Y** coordinate; and the third roll the **Z** coordinate. If the result of a roll is an even number, the coordinate is positive; if the result is an odd number, the coordinate is negative. The GM secretly locates the three coordinate results on the Interstellar Display and informs the characters that they are lost in space. A character may attempt an astronomy skill task to determine their location (see 12.0). It is possible that a random destination will lie off the Interstellar Display.

[32.5] INTERSTELLAR ROUTE CHART

	DESTINATION STARPORT ½	1	2	3	4	5 EARTH
½	None	None	0/0/2	0/0/6	0/0/10	0/0/15
1	None	0/0/5	0/0/10	0/2/15	0/6/20	2/10/15
2	0/0/2	0/0/10	0/10/20	2/15/25	6/20/30	10/25/35
3	0/0/6	0/2/15	2/15/25	10/20/30	15/25/35	20/30/45
4	0/0/10	0/6/20	6/20/30	15/25/35	20/35/45	30/40/50
5 EARTH	0/0/15	2/10/25	10/25/35	20/30/45	30/40/50	–

If the distance (in light years) is equal to or less than the first number, a **green** jump route exists. If the distance is greater than the first number but less than or equal to the second number, an **amber** jump route exists. If the distance is greater than the first and second numbers, but less than or equal to the third number, a **red** jump route exists. See 32.4 for details.

[33.5] INTERPLANETARY ROUTE CHART

	DESTINATION SPACEPORT ½	1	2	3	4
½	–	R	R	R	A
1	R	R	A	A	A
2	R	A	A	G	G
3	R	A	G	G	G
4	A	A	G	G	G

R: Course Red. **A**: Course Amber. **G**: Course Green. **(–)**: No route. See 33.5 for details.

UNIVERSE

Charts & Tables

Note that pages 49 through 65 contain all the Charts and Tables required by the Gamesmaster to run a game of *Universe.* Duplicate copies of many of these Charts and Tables, suitable for use by the players during a game, can be found on pages 99 through 106.

UNIVERSE GAMEMASTERS' GUIDE

CHARTS & TABLES

This complete set of Charts and Tables for use with *Universe* is provided for the exclusive use of the Gamesmaster. A set of selected duplicate Charts and Tables, suitable for player use, can be found in Appendix B on pages 99 through 106 of this book.

[5.1] CHARACTER HERITAGE
Potential Multiplier and Study Points

DIE	POTENTIAL MULTIPLIER	SUM OF POTENTIAL MULTIPLIERS	STUDY POINTS RECEIVED
1	½ (Poor)	4 or fewer	6
2-3	1 (Below Average)	4½ to 6½	5
4-6	2 (Average)	7 to 9½	4
7-9	3 (Above Average)	10 to 11½	3
10	4 (Exceptional)	12 or more	2

To determine potential multiplier for physique, coordination, intellect, and social background, roll one die and locate the result under "Potential Multiplier." After all four potentials are determined, add all four multipliers together to determine how many Study Points the character receives under the "Study Points Received" column.

[5.3] HABITAT TABLE

SECOND DIE ROLL PLUS PHYSIQUE POTENTIAL MINUS COORDINATION POTENTIAL ↓ / FIRST DIE RESULT →

	1	2	3	4	5	6	7	8	9	10
-3	4:HL-VO NW-HO	6:SF HY-NL	4:FL-CR LT-NL	4:HL-IC NW-NL/1	2:HL-CR NW-NL/2	2:HL-CR HY-NL/2	3:FL-CR LT-NL/1	2:HL-BN HY-CD/2	4:FL-MA HY-NL/1	3:HL-IC NW-NL/3
-2	3:HL-WD LT-NL/1	4:HL-LV NW-NL	4:FL-CR NW-CD/1	3:FL-BN LT-HO/1	4:SF LT-NL/4	2:HL-CR HY-NL/1	3:HL-FT LT-NL/1	4:MN-VO NW-HO/1	3:HL-VO LT-HO/1	2:HL-WD LT-HO/4
-1	4:HL-JU EX-NL	6:FL-LV NW-HO	3:HL-WD LT-NL	3:HL-LV HY-NL/1	4:HL-IC HY-CD/1	2:HL-WD LT-NL/1	4:FL-BN LT-CD	3:PK-WD LT-NL/1	3:MN-LV LT-NL/1	5:SF LT-NL/2
0	5:FL-IC HY-NL	3:HL-CR HY-NL/1	3:FL-JU LT-HO/1	3:HL-VO NW-CD/1	2:MN-LV NW-NL/2	3:MN-CR HY-NL/1	3:MN-WD HY-NL/1	3:FL-WD LT-NL/1	3:MN-VO HY-NL/2	3:HL-VO LT-NL/2
1	4:MN-WD HY-NL	3:MN-LV HY-NL/1	4:PK-FT HY-HO	5:FL-IC HY-CD	2:HL-BN EX-NL/2	4:FL-WD EX-NL	3:HL-BN LT-HO	3:HL-JU LT-NL/2	3:MN-FT LT-NL/1	2:FL-JU HY-NL/3
2	4:MN-WD HY-NL	6:SB HY-NL	3:HL-LV HY-HO/1	2:MN-BN LT-HO/1	4:FL-BN LT-NL	2:FL-LV LT-NL/1	2:FL-LV LT-NL/1	3:MN-FT HY-NL/1	4:FL-WD HY-CD/1	3:MN-CR NW-HO/3
3	5:MN-JU EX-NL	4:HL-LV LT-NL	4:HL-JU HY-HO	3:HL-BN NW-NL/1	6:FL-IC EX-CD	5:IN HY-NL	4:FL-MA HY-NL/2	2:MN-LV LT-NL/1	4:FL-IC HY-NL/1	2:HL-CR LT-NL/2
4	5:HL-IC LT-NL	4:FL-WD HY-HO	2:MN-BN LT-NL/1	4:HL-WD LT-NL	3:FL-CR LT-NL/1	3:FL-WD HY-NL/1	2:HL-BN LT-HO/2	3:HL-LV LT-NL/1	4:MN-VO EX-CD/2	2:HL-LV HY-NL/1
5	4:HL-LV HY-NL	4:FL-BN HY-NL	3:HL-WD LT-NL/1	5:FL-IC HY-NL	3:HL-CR HY-CD/1	5:IN LT-NL/1	3:HL-VO HY-NL/1	2:FL-LV EX-HO/3	3:MN-WD EX-NL/2	1:HL-WD HY-NL/4
6	4:FL-LV HY-CD	4:FL-LV LT-HO	4:PK-LV HY-NL	4:IN LT-NL/1	3:PK-BN HY-HO/1	3:FL-FT LT-CD/2	3:MN-VO EX-NL/1	3:FL-JU HY-HO/1	5:FL-MA EX-HO/2	2:FL-LV NW-HO/4
7	4:MN-WD LT-HO	3:HL-VO LT-NL/1	4:MN-FT HY-NL	2:FL-WD HY-HO/1	3:SB EX-NL/3	3:HL-FT HY-NL/1	3:MN-FT LT-NL/2	3:PK-LV HY-NL/1	3:HL-JU LT-HO/2	2:HL-CR LT-HO/4
8	4:FL-BN HY-NL	4:MN-FT HY-NL	3:FL-FT HY-NL/1	3:MN-FT HY-NL/1	4:HL-WD EX-HO	3:FL-FT LT-CD/1	4:FL-IC HY-NL/1	4:HL-FT EX-CD/1	2:HL-CR HY-NL/1	1:HL-LV HY-NL/2
9	5:SB EX-NL	3:HL-WD HY-NL	4:HL-LV LT-HO	3:HL-LV HY-HO/1	4:FL-IC HY-NL/1	4:FL-IC LT-NL/1	4:SF HY-NL/1	4:MN-JU EX-NL/1	3:HL-VO HY-HO/1	3:HL-FT HY-NL/1
10	5:FL-MA EX-NL	4:FL-JU LT-NL	4:HL-JU LT-HO	4:HL-LV LT-HO	3:FL-WD LT-NL/1	2:MN-LV LT-NL/1	3:HL-WD LT-HO	3:MN-FT NW-NL/1	4:HL-FT EX-HO/2	2:MN-BN HY-NL/2
11	4:FL-JU LT-NL	4:FL-WD HY-CD	3:HL-BN LT-CD/1	4:FL-BN HY-CD	3:HL-FT EX-NL/1	4:MN-LV HY-NL	3:PK-BN LT-NL/1	3:FL-WD LT-CD/1	2:HL-CR EX-NL/2	1:FL-LV LT-CD/3
12	3:HL-BN HY-NL	5:MN-FT EX-CD	3:HL-CR HY-NL/1	3:MN-CR HY-HO/1	5:FL-CR EX-CD	4:FL-WD LT-NL	3:FL-FT HY-HO/1	3:HL-FT LT-CD/1	4:HL-FT EX-HO/1	2:FL-CR LY-CD/3
13	4:MN-CR HY-NL	3:MN-BN LT-NL	3:PK-CR LT-CD/1	3:FL-BN EX-NL/1	4:FL-MA EX-NL/1	3:PK-CR HY-HO/1	2:MN-BN EX-NL/2	4:MN-JU HY-NL/1	2:HL-BN HY-NL/1	3:FL-MA HY-HO/4
14	3:MN-LV EX-NL/1	4:MN-BN EX-NL	4:MN-FT EX-NL	3:MN-VO EX-NL/1	2:HL-WD HY-HO/1	3:HL-LV EX-NL/1	4:HL-VO EX-NL/1	2:FL-LV LT-NL/1	3:FL-WD HY-NL/2	3:FL-LV EX-HO/1

Environ Skill Level:Contour-Feature
Gravity-Temperature/Urban Skill Level (if any)

All abbreviations are explained in the Environ, Gravity, and Temperature sections of Character Record. See 5.2 for explanation of use.

[28.8] NPC REACTION TABLE

ROLL DIFFERENCE	KEY WORD	NPC REACTION
-111 to -120	Attack	Viciously tries to kill the party.
-101 to -110	Attack	Tries to grievously hurt the party.
-91 to -100	Attack	Attacks party to stop them.
-81 to -90	Attack	Takes the offensive to warn the party.
-71 to -80	Attack	Tries to stop party without bloodshed.
-61 to -70	Attack	Aims weapons at the party.
-51 to -60	Attack	Draws weapons on party.
-41 to -50	Hesitant	Prepares to take offensive action.
-31 to -40	Cautious	Distrustful and will wait and see.
-21 to -30	Wary	Doubts party's word, but remains patient.
-11 to -20	Suspicious	Needs more knowledge to act.
-01 to -10	Suggestable	Will listen to party's story.
0	Friendly	Will aid the party if possible.
+01 to +10	Suggestable	Will hear the party out.
+11 to +20	Suspicious	Thinks party is here to make trouble.
+21 to +30	Wary	Nervous because party could cause harm.
+31 to +40	Cautious	Party intimidating and fear is growing.
+41 to +50	Hesitant	Party causing great fear.
+51 to +60	Flee	Backs away from party slowly.
+61 to +70	Flee	Tries to hide from party.
+71 to +80	Flee	Moves quickly away from party.
+81 to +90	Flee	Runs frantically away from party.

If the actions of the party cause a shift into Flee or Attack reaction from a less extreme reaction, the NPC receives the Initiative in the first Action Round. Upon reaching **0** (Friendly), no further shifting can occur for the party's benefit. If the die roll matches the NPC's Aggression × **10** exactly, interpret it to mean extreme interest, and sexual attraction if possible. A party can ruin this reaction by taking harmful actions. See 28.7 for explanation of use.

Friendly Shifts (TOWARDS 0)

No weapons showing.	Shift **2**
Character has military rank and NPC was/is in military	Shift **1**
Party spokesman's social standing within ± **1** of NPC's[A]	Shift **1**
Characters are disguised as allies or *are* allies.	Shift **2**
Characters have correct papers/ID or forgeries which pass inspection.	Shift **1**
NPC party outnumbers characters	Note[B]
Characters adopt friendly attitude toward NPC's[C]	Shift **1**
Characters adopt helpful attitude toward NPC's[C]	Shift **2**

Hostile Shifts (AWAY FROM 0)

Weapons showing.	Shift **1**
Weapons ready.	Shift **2**
Weapons aimed.	Shift **4**
Party spokesman's social standing beyond ± 1 of NPC's[A]	Shift **1**
Characters' disguise is seen through.	Shift **2**
Characters' false papers/ID are discovered.	Shift **3**
Characters appear to be the enemy or *are* the enemy.	Shift **4**
Characters outnumber the NPC party.	Note[B]
Characters cannot speak the NPC's language.	Shift **2**
Characters adopt an angry or disdainful attitude[C]	Shift **1**
Character(s) revealed as psionic; no NPC's psionic.	Shift **2**
Characters actually threaten NPC's[C]	Shift **2**

A. If the characters have not designated a spokesman, these shifts are ignored. **B.** The GM should shift **1** for every two characters or NPC's, rounding fraction up. **C.** These actions are verbally enacted by the players in their interplay with the GM.

[29.6] FIRE MODIFIER SUMMARY

Chance to Hit Target...

Base Hit Chance *minus*
(Terrain Value × Terrain Multiplier) *plus*
character's Dexterity Rating (if skilled) *plus*
square of character's Skill Level

Any of the following modifiers that apply are also considered and are cumulative.

(Modifier) if the Firing Character...

(-20) ...moves on foot in same Action Round.
(-30) ...is driving a vehicle.
(-5) ...is in a moving vehicle.
(-10) ...is firing at more than one target in the same Action Round. Apply modifier to all fires for each target beyond one (e.g., if 3 different targets are fired at, all hit chances are reduced by 20).
(-5) ...is firing more than one shot with a *recoil* weapon in the same Action Round. Apply modifier to all fires for each fire beyond one (e.g., if 4 fires are made, reduce all hit chances by 15).

(Modifier) if the Target is...

(-45)...Very small **(-30)**...Small **(+20)**...Large
(+40)...One hex **(+20)**...Immobile
(Double Terrain Value)...Prone **(Hit impossible)**...Miniscule

The GM may apply further subtractions if the target is partially obstructed by a distinct object (remember, natural terrain features are accounted for by the Terrain Value and Multiplier). The Base Hit Chance and the Terrain Multiplier are listed on the Weapon Chart. The Terrain Value is listed on the Terrain Effects Chart. See 29.4 for additional weapon fire restrictions.

[30.8] TOXIN EFFECTS MATRIX

COMPOSITION ↓ / TOXIN TYPE →	NERVE	POISON	KNOCK-OUT	ACETIC	ALKALOID
Human/Humanoid	20t	P	15s	Ne	Ne
Mammalian	10t	15c	5s	Ne	R
Terran-Like	15s	P	10c	R	Ne
Protein	P	D	Ne	15s	10t
Carbon	D	Ne	15t	P	5c
Non-Carbon	Ne	10s	R	10c	P

Number results indicate Hit Strength (see 30.1 and 30.2). **Ne:** No effect. **R:** Creature raging; will attack for remainder of current Action Round and entirety of next Action Rounds with its Combat Rating doubled. **D:** Creature dazed; blacks out for a number of Action Rounds equal to the roll of one die. When the creature regains consciousness, it will be raging (result **R**). **P:** The individual loses one point from his Endurance Rating (Combat Rating, if creature) each Action Round. When the rating reaches **0**, he loses one point from his Strength Rating (Agility, if creature) each Action Round. When that rating reaches **0**, the individual is dead. **c:** Apply any hits received to creature's Combat Rating only. **s:** Treat as stun strength (see 30.4). **t:** Apply hits in accordance with Hit Table. However, after a number of minutes (four Action Rounds apiece) equal to the roll of one die, the effects of the hits disappear (unless the individual dies as a result of the hits). See 30.7 for explanation of use.

[28.5] CREATURE REACTION TABLE

ONE DIE PLUS CREATURE'S AGGRESSION	REACTION
2-8	Flee (J)
9-10	Leave Slowly*
11	Watch Warily*
12	Ignore
13	Watch Warily*
14, 15	Protect*
16-22	Attack (D)

Notes: * If the creature possesses an Intelligence Rating, its reaction is to communicate (instead of the listed result). **J.** If the party is unaware of the creature, immediately conduct Interaction **J. D.** If the party is unaware of the creature, immediately conduct Interaction D. This table is not used if the creature is unaware of the party. See 28.4 for explanation of use.

[28.6] CREATURE INTERACTION MATRIX

CHARACTER STRATEGY► / CREATURE REACTION	ATTACK	MANEUVER	WATCH WARILY	IGNORE/ UNAWARE	FLEE	COMMUNICATE
Attack	A	B	C	D	E	F
Protect	A	G	H	I	J	K
Watch Warily	L	M	N	N	J	P
Ignore/Unaware	Q	M	N	N	J	R
Leave Slowly	S	T	U	J	J	V
Flee	W	X	Y	J	J	Y
Communicate	Z	AA	BB	N	J	CC

See 28.4 for explanation of use.

A. Conduct Action Rounds until one side or the other is dead, captured, or escaped (thus concluding the encounter). **B.** Conduct an Action Round. The characters have the initiative but may not attack the creature in any manner. **C.** Conduct an Action Round, adding *five* to the creature's initiative die roll. **D.** Conduct an Action Round. The creature has the initiative. Skip Step 4 of the Action Round. **E.** Each character may move as far as would be allowed in one Action Round (see 29.2). Then, conduct an Action Round, adding *eight* to the creature's initiative die roll. **F.** Conduct an Action Round. The creature has the initiative. **G.** Each character may move as far as would be allowed in one Action Round (see 29.2). then conduct interaction **H.** **H.** If the creature is able to attack without moving, conduct an Action Round, adding *five* to the creature's initiative die roll. Otherwise, return to Encounter Step 5. **I.** If the creature is able to attack without moving, conduct interaction F. Otherwise, return to Encounter Step 5. **J.** The encounter is over (the creature, the characters, or both have left the area). **K.** The GM rolls one die and adds the creature's *Intelligence Rating* (if any) to the result. If the modified die result is *less than* the creature's *Aggression Rating*, conduct interaction F (the creature has mistaken the character's actions for an attack). Otherwise, after time passes without incident, return to Encounter Step 5. **L.** Conduct an Action Round, adding *five* to the party's initiative die roll. **M.** Each character may move as far as would be allowed in one Action Round (see 29.2). **N.** Time passes as neither side takes any action. **P.** The characters' communication efforts seem to have no effect. If the creature has no Intelligence Rating, or the following check is not successful, time passes without incident; return to Encounter Step 5. The GM rolls percentile dice. If the result is less than the creature's *Intelligence Rating* plus the highest *Empathy Rating* of those characters attempting communication, roll one die and refer to the Creature Reaction Table to see if the creature changes its reaction (the party retains the communicate strategy). If the creature possesses psionic powers, the *square* of one character's *Psionic Communication Skill Level* may be used *instead of an Empathy Rating.* **Q.** Conduct an Action Round. The party has the initiative. Skip Step 4 of the Action Round. **R.** The creature shows no interest as time passes; return to Encounter Step **5.** *Exception:* If the characters are attempting to communicate with a creature that is unaware of them, and the GM feels that the creature has been made aware by the character's actions, he may roll one die and refer to the Creature Reaction Table to determine the creature's reaction (the party retains the communicate strategy). **S.** Move the creature two hexes away from the characters. Then conduct an Action Round, giving the characters the initiative. **T.** Each character may move as far as would be allowed in one Action Round (see 29.2). At some point during the character's movement, move the creature two hexes away from them. **U.** Move the creature two hexes away from the party. **V.** The party's communication efforts have no effect. If the creature has no Intelligence Rating, or if the following check is not successful, it wanders away and the encounter is over. The GM rolls percentile dice. If the result is *less* than the creature's *Intelligence Rating* plus the highest *Empathy Rating* of those characters attempting communication, roll one die and refer to the Creature Reaction Table again to see if the creature changes its reaction (the party retains the communicate strategy). If the creature possesses psionic powers, the *square* of one character's *Psionic Communication Skill Level* may be used instead of an Empathy Rating. **W.** Move the creature away from the characters a number of hexes equal to its Agility Rating. Then conduct an Action Round, giving the characters the initiative. **X.** Move the creature away from the characters a number of hexes equal to its Agility Rating. Then each character may move as far as would be allowed in one Action Round (see 29.2). Finally, move the creature again (as above). **Y.** Move the creature away from the characters a number of hexes equal to its Agility Rating. **Z.** Conduct Interaction Q. Before returning to Encounter Step 5, roll percentile dice. If the result is *equal* to or less than the highest *Intelligence* or *Empathy Rating* among the characters, inform them that the creature has been attempting to communicate. If the creature possesses psionic powers, the *square* of one character's *Mental Power Rating* may be used instead of an Intelligence or Empathy Rating. **AA.** Each character may move as far as would be allowed in one Action Round (see 29.2). Then check to see if the characters become aware of the creature's communication attempt in accordance with Interaction Z, before returning to Encounter Step 5. **BB.** Time passes as neither side moves. Before returning to Encounter Step 5, roll *two* dice. If the result is *less* than the highest *Intelligence* or *Empathy Rating* among the characters, inform them that the creature is attempting to communicate. If the creature possesses psionic powers, the *square* of one character's *Mental Power Rating* may be used instead of an Intelligence or Empathy Rating. **CC.** The party and the creature are attempting to communicate. *Multiply* the creature's *Intelligence Rating* by the highest *Linguistics Skill Level* among the characters (minimum of one) *or,* if the creature has psionic powers, multiply its Intelligence Rating by the highest *Psionic Communication Skill Level* plus the highest *Mental Power Rating* possessed by *one* character. Roll percentile dice. If the result is equal to or less than the product calculated above, a successful means of communication has been established; the GM should play the creature as an NPC. If the dice result is greater than the product, return to Encounter Step 5. Only one dice roll is allowed per attempt, but as long as both sides choose to continue communicating, one dice roll may be made each time. However, the chance of success is *reduced* by *10* percentage points for each additional attempt (this is cumulative). The passage of about three hours should be noted for each attempt.

[5.7] SOCIAL STANDING TABLE

MODIFIED DIE RESULT	SOCIAL STANDING	WEALTH: ONE DIE TIMES...	INITIAL SKILL POINT MODIFIER
−1 or less	Unfostered orphan	1 Mil	+3
0	Oppressed minority	10 Mils	0
1,2	Poor colonist family	10 Mils	+1
3	Family fallen on hard times	100 Mils	+1
4	Communal colony	10 Mils	+2
5-7	Lower middle class family	100 Mils	0
8-10	Skilled tech family	1 Tran	+1
11-13	Local establishment (business or farm run by family)	1 Tran	−1
14-15	Independent trading family	10 Trans	+2
16-17	Family runs planetary corp	10 Trans	−1
18	Family dominates planet	100 Trans	−2
19	Family dominates star system	100 Trans	−2
20	Family influences entire federation	200 Trans	−3
21	Wealthy dilettante	200 Trans	−4

See 5.6 for explanation of use.

[6.6] CHARACTERISTIC GENERATION TABLE

PERCENTILE DICE RESULT +MODIFIER	CHARACTERISTIC RATING
7 or less	1
8-15	2
16-24	3
25-34	4
35-57	5
58-83	6
84-96	7
97-108	8
109-119	9
120-129	10
130-139	11
140 or more	12

When generating the Mental Power Rating, divide rating by **2** (rounding fractions down). An Agility Rating of less than **5** is considered a **5.** See 6.4 for explanation of use.

[5.8] INITIAL SKILL POINTS

IF THE MODIFIED RESULT IS...	THE CHARACTER RECEIVES...
0 or less	1 Initial Skill Point
1-3	2 Initial Skill Points
4-6	3 Initial Skill Points
7-9	4 Initial Skill Points
10 or more	5 Initial Skill Points

Roll one die and add the Initial Skill Point Modifier (listed with character's social standing on the Social Standing Table) to the die result.

[7.8] PROFESSION TABLES

Employment Table

DIE	DECLARED YEARS OF EMPLOYMENT 4	8	12	16	20
1-2	4	4	8	12	12
3-5	4	8	8	12	16
6-8	4	8	12	12	16
9-10	4	8	12	16	20

A character in the thinker or colonist profession does not use this table. See 7.3 for explanation.

Effects of Age Table

DIE +AGE	PHYSICAL CHARACTERISTIC POINTS LOST
34 or less	0
35, 36	1
37, 38	2
39, 40	3
41, 42	4
43, 44	5
45, 46	6
47 or more	7

See 7.4 for explanation.

[6.5] CHARACTERISTIC MODIFIER CHART

CHARACTERISTIC► / FIELD OF STUDY	STRENGTH	ENDURANCE	DEXTERITY	AGILITY	INTELLIGENCE	MENTAL POWER	LEADERSHIP	EMPATHY	AGGRESSION
Theoretical Science	0	0	0	0	8	2	0	0	0
Applied Science	0	0	4	0	8	0	0	0	0
Business	0	0	0	0	0	0	2	4	0
Humanities	0	0	0	0	6	2	0	4	−15
The Mind	0	2	0	0	4	6	0	0	−25
The Body	8	4	4	4	0	0	0	0	+15
The Military	4	5	0	4	0	0	5	0	+25
General	1	1	1	1	1	1	1	1	0
TOTAL CALCULATED IN ABOVE COLUMN IS MULTIPLIED BY THESE POTENTIALS►	PHYSIQUE, COORDINATION	PHYSIQUE	COORDINATION, INTELLECT	PHYSIQUE, COORDINATION	INTELLECT	INTELLECT	INTELLECT, SOCIAL BACKGROUND	INTELLECT	

Modifiers are applied to the percentile dice roll for the listed characteristic if the character studied the listed field. All applicable modifiers for a single characteristic are added together. Then the total is multiplied by the Potential Multipliers that apply to that characteristic. See 6.4 for further explanation.

Skill Point Table

MODIFIED DIE RESULT	YEARS OF EMPLOYMENT 4	8	12	16	20
2-5	1	4	6	7	7
6-9	2	5	7	8	8
10-13	2	6	8	9	10
14-17	3	6	8	10	11
18-21	3	7	9	11	12
22-26	4	7	10	12	14
27-32	4	8	11	13	15

Roll one die and add the character's Intelligence Rating and the Skill Point Modifier for his profession to the die result. See 7.5 for explanation of use.

Benefits Table

1 DIE + ACTIVE YEARS IN PROFESSION	BENEFIT LEVEL
5-10	A
11-14	B
15-18	C
19-23	D
24-28	E
29-30	F

Explanation of each result is listed in appropriate profession. See 7.7 for explanation of use.

[10.4] PSIONIC BACKLASH TABLE

PERCENTILE DICE RESULT MINUS CHANCE*	EFFECT ON PSIONIC CHARACTER
+10 or less	No effect.
+11 to +20	Shock check (see 30.3).
+21 to +30	Character is automatically shocked.
+31 to +40	Character is shocked; loses one die roll of points from his Endurance Rating.
+41 to +55	Character passes out; Endurance Rating reduced to **0**. Psionic rig suffers superficial damage.
+56 to +70	Character passes out; Endurance Rating reduced to **0**. Mental Power Rating reduced by **1** (see 10.3). Psionic rig suffers light damage.
+71 to +85	Character passes out; Endurance Rating reduced to **0**. Mental Power Rating reduced by **2** (see 10.3). Psionic rig suffers heavy damage.
+86 to +100	Character passes out; Endurance Rating reduced to **0**. Mental Power Rating reduced to **1** (see 10.3). The character may use no psionic skills until cured (see 10.5). Psionic rig partially destroyed.
+101 or more	Character is dead. Psionic rig destroyed.

*When checking for psionic backlash after a hyperjump attempt, roll percentile dice and add the modifier from the Hyperjump Table to the dice result. See 10.3 for detailed explanation of use.

[12.3] TREATMENT RESULTS TABLE

TOTAL POINTS LOST	DAYS REQUIRED TO REGAIN ONE CHARACTERISTIC POINT
1, 2	1 Day
3, 4	3 Days
5-7	6 Days
8-10	10 Days
11-14	16 Days
15 or more	24 Days

[13.1] DAMAGE REPAIR TABLE

TYPE OF DAMAGE	BASE REPAIR CHANCE	REPAIR TIME MULTIPLIER
Superficial	50%	×1
Light	20%	×2
Heavy	−10%	×4
Partially Destroyed	−40%	×8
Totally Destroyed	Repair Impossible	

[16.4] ROBOT CHASSIS CHART

ROBOT TYPE	STRENGTH	DEXTERITY	AGILITY	PORT CAPACITY	PROJECTILE ARMOR	BEAM ARMOR	HARDWARE POINTS	SOFTWARE SIZE	COST	WEIGHT
CIV LEVEL 7										
Brummagen I	17	5	1	350	2	2	2	1	75	800
Brummagen II	8	2	3	35	1	1	3	1	110	150
Manner 31b	20	3	5	200	4	4	1	1	70	520
Manner 36sd	9	8	8	90	2	1	2	2	125	300
Manner 38sdf	5	1	10	8	2	3	1	2	90	120
Frazette Blue	1	6	11	3	0	0	1	1	50	45
CIV LEVEL 8										
Brummagen III	38	12	2	450	5	4	5	6	600	580
Manner 44	33	4	5	900	5	5	5	4	450	1020
Manner 50sd	20	12	6	60	4	4	2	4	200	140
Manner 51sdf	18	7	9	15	4	2	5	7	770	140
Frazette Green	22	9	10	250	4	5	6	4	600	370
Frazette Amber	18	14	12	150	3	3	4	4	280	240
Soldistant RAR	21	11	13	550	2	1	6	6	850	660
Soldistant V-201	8	13	14	5	2	3	3	6	400	85
Soldistant V-202	32	15	15	700	5	5	6	7	1200	850

Port Capacity and weight are in kilograms. Port Capacity is the weight that may be carried. Cost (in Trans) includes cost of the listed hardware and software systems.

[18.0] ACTUAL PRICE TABLE

PERCENTILE DICE RESULT	ACTUAL PRICE OF GOODS (Compared to listed price)
0 or less	50%
1-10	65%
11-20	75%
21-30	85%
31-40	90%
41-50	95%
51-60	100%
61-70	110%
71-80	125%
81-90	145%
91-100	170%
101 or more	200%

MODIFIERS:

−30 if good is abundant on world or is exported from world.

+30 if good does not exist or is not manufactured on world. (See the World Resource Table, pages 48 and 49, for explanation of above modifiers.)

+50 if item is one Civ Level higher than that of the world.

- Multiply percentage by **10** if item is two Civ Levels higher than that of the world.
- Multiply percentage by the Law Level of the world if item is illegal (or restricted, if purchaser does not have permit).
- Variable modifier may be applied when using trading skill.

RESOURCE DEVELOPMENT

If a resource is not rolled, it does not exist on the world; if rolled once, the resource is in **limited** supply on the world; if rolled twice,the resource is in **abundant** supply on the world; if rolled more than twice, reroll the extra rolls.

After the resources of a world are determined, the Civ Level of the world is used to determine the development of those resources. Any letter codes listed under the Civ Level and lesser Civ Levels apply to the resource; locate the applicable letter codes below and note the information on the World Log.

Many letter code results indicate that a specific type of product is manufactured on the world. Such results do not automatically mean that all products of that type are readily available; the Civ Level of product must still be less than or equal to the Civ Level of the world. **Example:** Result **G** indicates that simple aircraft are manufactured; however, if the Civ Level of the world was less than 6, a Dragonfly glider would not be manufactured there. Also, many results indicate that more than one resource is required to manufacture a product.

All types of equipment, robots, spaceships, and vehicles are covered in these results, individually or in groups. Each result indicates that a product is **manufactured** or **exported** (that is, manufacture exceeds local demand) if the requisite resources are in limited or abundant supply. A product that is not manufactured on a world will generally cost more there than its base price (a +30 modifier is applied to the Actual Price Table, 18.0). A product that is manufactured will generally cost the same as its base price (no modifier is applied to the Actual Price Table). A product that is exported will generally cost less than its base price (a −30 modifier is applied to the Actual Price Table).

If the players are selling or buying large quantities of **resources**, the Actual Price Table may be used in the same way. If the resource does not exist on the world, apply a +30 modifier; if the resource is limited, apply no modifier; if the resource is abundant, apply a −30 modifier.

A. The resource has been discovered in every environ and site in which it exists on the world (ignore result D).

B. Vegetables and Fruit. Manufactured if edible plants or arable land limited. Exported if edible plants abundant.

C. Chemistry Equipment (Chem Labs and Chem Synthesizers). Manufactured if platinum limited. Exported if platinum abundant and iron limited (or abundant).

D. The resource has been discovered in about half the environs and/or sites in which it occurs; specific locations are up to the GM.

E. Psionic Equipment (Psionic Rigs, Jump Pods, Augmented Jump Pods, Hunter Pods and Explorer Pods). Psionic Rigs manufactured if magnetic monopoles limited. Psionic Rigs exported and psionic pods manufactured if magnetic monopoles, other metals, and iron limited. Psionic pods exported if magnetic monopoles, other metals, iron abundant.

F. Energy for sub-light spaceship drives and fission power plants. Manufactured if radioactives limited. Exported if radioactives abundant. The availability of spaceship energy also depends on the Spaceport Class (see 25.5).

G. Simple Aircraft (Dragonfly, Ornithopter, Propeller Plane, Helicopter). Manufactured if aluminum and iron limited. Exported if aluminum and iron abundant.

H. Holographic Equipment (Superoid Camera, Holographer, Robot Holographer System). Manufactured if other non-metals or cesium limited. Exported if iron, other non-metals, and cesium limited (or abundant).

J. Jet Aircraft (Jetpack, Jet, Air Car, Shuttle). Manufactured if titanium and iron limited. Exported if titanium and iron abundant.

K. Fertilizers. Manufactured if ammonia limited. Exported if ammonia abundant.

L. Land and Marine Vehicles (vehicles in 21.1 and 21.2 except those with an armor rating above 4). Manufactured if aluminum and iron limited. Exported if aluminum and iron abundant.

M. Tech Kits (all those listed in 22.0 and Rock Blaster). Manufactured if iron limited. Exported if iron abundant and any resource required to manufacture product repaired by kit abundant.

N. Unarmored Spaceship Hulls and Pods. Manufactured if iron and other metals limited. Exported if iron and other metals abundant. Available only on worlds with Class 3, 4, or 5 spaceports.

P. Recording Equipment (Audio Recorder, Still Camera, Robot Recorder System). Manufactured if silver limited. Exported if silver abundant and iron limited.

Q. Wood Products and Structures. Manufactured if wood-like plants limited. Exported if wood-like plants abundant.

R. Facilities exist to refine resource wherever it has been discoverd. If iron is refined, simple tools, bows, blades and metal cages are manufactured (but not exported).

S. Impact Body Armor (Impact Armor, Armor Vest, Civ Level 6 Respirator Helmet). Manfactured if chromium limited. Exported if chromium abundant and iron limited.

T. Textiles and clothes. Manufactured if light fiber plants limited. Exported if light fiber plants abundant.

U. Vision equipment and plastics (Internal Gravity Web, Plastic Pistols, Super Cage, and all Vision Equipment in 22.0). Manufactured if organic chemicals (carbon) limited. Exported if organic chemicals (carbon) abundant and iron limited.

V. Robot Systems (except those in H, P, BB). Manufactured if magnetic monopoles or other non-metals limited. Exported if magnetic monopoles, other non-metals, and iron limited.

W. Artillery and heavy ammunition (spaceship weapons and missiles). Manufactured if phosphorous and iron are limited. Exported if phosphorous, radioactives, and iron are abundant.

X. Robot Chassis. Manufactured if copper and iron limited. Exported if copper and iron abundant, and other non-metals limited.

Y. Armored Spaceship Hulls and Pods. Manufactured if iron and titanium limited. Exported if iron, titanium and other metals abundant. Available only on worlds with Class 3, 4, or 5 spaceports.

Z. Armored Land Vehicles (all vehicles in 21.1 with an armor rating above 4). Manufactured if iron and titanium limited. Exported if iron, titanium, and aluminum abundant.

AA. All Body Armor (all armor in 20.0). Manufactured if gold and iron limited. Exported if gold limited, iron limited, and chromium limited.

BB. Computer systems (Business Computer, Audio-sealed Case, and all robot systems composed only of software). Manufactured if other non-metals limited. Exported if other non-metals abundant and iron limited.

CC. Communications equipment (Identity and False Identity papers, all communications equipment in 22.0). Manufactured if silicon limited. Exported if silicon abundant and iron limited.

DD. Meat. Manufactured if edible game limited. Exported if edible game abundant.

EE. Scientific Equipment (all labs and scanners in 22.0 except Chem Labs and Synthesizers). Manufactured if Germanium limited. Exported if Germanium abundant and iron limited.

FF. Fossil Fuels. Manufactured if woodlike plants or organic chemicals (carbon) limited. Exported if woodlike plants and organic chemicals (carbon) abundant.

GG. Grain. Manufactured if arable land or edible plants limited. Exported if edible plants abundant.

HH. Explosives and Ammunition (plastic explosives, all grenades, projectile bullets, needle bullets). Manufactured if organic chemicals (nitrogen) limited. Exported if organic chemicals (nitrogen), phosphorous and iron limited.

JJ. Projectile Weapons (Pistol, Needle Pistol, Machinegun, Submachinegun, Rifle, Carbine, Needle Rifle). Manufactured if iron limited; exported if abundant.

KK. Force Fields (Stun Pistol, Force Cage, Personal Force Field and energy pack, Spaceship Forcefield). Pistols, Cages and Personal Fields manufactured if copper or other metals limited. Pistols, Cages and Personal Fields exported, and Spaceship Fields manufactured if copper, other metals and iron limited. Spaceship Fields exported if copper, other metals and iron abundant.

LL. Medicines, drugs and poisons. Manufactured if exotic spices or ammonia limited. Exported if exotic spices or ammonia abundant.

MM. Beam Weapons (Paint Gun, Arc Gun, Needle Pistol, energy packs for same). Manufactured if other non-metals or crystals limited. Exported if other non-metals, crystals and iron abundant.

NN. Expedition Suits. Manufactured if chromium limited. Exported if chromiun abundant and iron limited.

PP. Direct Lift Aircraft (Levitator, Floater, Skimmer). Manufactured if magnetic monopoles and iron limited. Exported if magnetic monopoles limited, aluminum limited and iron abundant.

[25.8] WORLD RESOURCE TABLE

PERCENTILE DICE	PRICE	RESOURCE	CIV LEVEL OF WORLD 1	2	3	4	5	6	7	8	NR. OF ENVIRONS EARTHLIKE	TOLERABLE	HOSTILE
1-8	0.5/T	Iron	A	R	JJ	–	M	–	–	–	–	–	7
9-14	2.0/T	Aluminum	–	–	A,R	L,G	–	–	–	–	–	–	6
15-19	40.0/T	Radioactives	–	–	–	D	A,F	–	–	–	–	–	5
20-23	3.5/T	Copper	D,R	–	A	–	–	X	–	KK	–	–	4
24-26	10.0/T	Chromium	–	–	D	S,R	A	NN	–	–	–	–	3
27-29	0.5/K	Silver	D	–	A	P	–	–	–	–	–	3	3
30	1.0/G	Gold	D	–	–	–	–	AA	–	–	–	1	1
31	1.0/G	Platinum	–	D	A	R	C	–	–	–	–	1	1
32-33	10.0/T	Titanium	–	–	–	D	Z,J	A,Y	–	–	–	2	2
34-35	50.0/T	Cesium	–	–	–	D	F,H	A	–	–	–	1	1
36-37	to 21/T	Other Metals[1]	–	–	D	–	–	A,N	–	KK	–	2	2
38-40	15.0/T	Ammonia	A	–	–	K	LL	–	–	–	–	1	1
41	2.0/G	Magnetic Monopoles	–	–	–	–	–	D,E	V,PP	A	–	S	S
42	1.0/G	Crystals	–	D	–	–	–	A,MM	–	–	–	S	S
43-45	1.0/T	Phosphorus	–	–	–	D,R	A,W	–	–	–	–	3	3
46-47	2.0/T	Germanium	–	–	–	D,R	–	A,EE	–	–	–	2	2
48	2.0/T	Silicon	–	–	D	R,CC	A	–	–	–	–	2	2
49-50	to 4/T	Other Non-Metals[2]	–	–	–	D,R	BB	H,MM	A,V	–	–	3	3
51-57	0.5/T	Iron	A	R	JJ	–	M	–	–	–	4	4	7
58-63	2.0/T	Aluminum	–	–	A,R	L,G	–	–	–	–	3	3	6
64-68	40.0/T	Radioactives	–	–	–	D	A,F	–	–	–	2	2	5
69-72	3.5/T	Copper	D,R	–	A	–	–	X	–	KK	2	2	4
73-75	10.0/T	Chromium	–	–	D	S,R	A	NN	–	–	1	2	3
76-78	0.5/K	Silver	D	–	A	P	–	–	–	–	1	3	3
79	1.0/G	Gold	D	–	–	–	–	AA	–	–	S	1	1
80	1.0/G	Platinum	–	D	A	R	C	–	–	–	S	1	1
81-82	10.0/T	Titanium	–	–	–	D	Z,J	A,Y	–	–	1	2	2
83	50.0/T	Cesium	–	–	–	D	F,H	A	–	–	S	1	1
84-85	to 21/T	Other Metals[1]	–	–	D	–	–	A,N	–	KK	1	2	2
86-88	1.0/T	Phosphorus	–	–	–	D,R	A,W	–	–	–	1	3	3
89-90	2.0/T	Germanium	–	–	–	D,R	–	A,EE	–	–	1	2	2
91-93	2.0/T	Silicon	–	–	D	R,CC	A	–	–	–	1	2	2
94-98	to 4/T	Other Non-Metals[2]	–	–	–	D,R	BB	H,MM	A,V	–	2	3	3
99	1.0/G	Exotic Spices	–	A	D	LL	–	–	–	–	S	S	S
100-104	5.0/T	Organic Chemicals CARBON	–	–	D,FF	A,U	–	–	–	–	3	3	S
105-109	1.0/T	Organic Chemicals NITROGEN	–	D	A,HH	–	–	–	–	–	3	3	–
110-113	3.0/T	Light Fiber Plants	D,T	A	–	–	–	–	–	–	2	2	–
114-119	0.8/T	Woodlike Plants	D,Q	A	FF	–	–	–	–	–	3	3	–
120-122	VARIABLE	Arable Land	D	A,GG	–	B	–	–	–	–	7	2	–
123-124	to 5/T	Edible Plants	–	D,GG	A,B	–	–	–	–	–	5	1	–
125	to 1/T	Edible Game	D,DD	–	A	–	–	–	–	–	3	S	–
126-137	VARIABLE	Arable Land	D	A,GG	–	B	–	–	–	–	7	–	–
138-146	to 5/T	Edible Plants	–	D,GG	A,B	–	–	–	–	–	5	–	–
147-150	to 1/T	Edible Game	D,DD	–	A	–	–	–	–	–	3	–	–

Modifiers: Add **25** if world is Tolerable; add **50** if world is Earth-like.

Roll a number of times *equal to* the World size if resource poor; roll a number of times *equal to* the World size **+8** if resource rich.

Price: Given in Trans per refined gram, kilo, or ton. **To#/T:** Price fluctuates from that figure, down 50%. **Variable:** Price varies extremely, depending on availability on world.

Notes: 1. These include such metals as adamantine, beryllium, erbium, gadolinium, lead, manganese, mercury, nickel, potassium, rubidium, strontium, tin, and zinc. **2.** These include such non-metals as argon, barium, chlorine, cobalt, fluorine, helium, iodine, krypton, sulfur, and xenon. **S:** Site.

See 25.7 for detailed explanation of use.

[19.0] WEAPON CHART

WEAPON	RATE OF FIRE	HIT STRENGTH	CIV LEVEL	TERRAIN MULTIPLIER▸ RANGE IN HEXES▸ 0	2 1-4	4 5-13	6 14-25	8 26-40	WEIGHT IN KILOGRAMS	PRICE IN TRANS
				BASE HIT CHANCE						
Paint Gun	2	8	6	35	25	10	–10	–25	12	7
Paint Gun	6	8	8	35	25	10	–10	–25	3	9
Arc Gun	4	10	8	20	15	5	–10	–25	4	12
Pistol[10]	4	5	5	60	40	0	P	P	2	.08
Plastic Pistol[9,10]	4	5	6	60	40	0	P	P	1	.2
Needle Pistol[3,10]	2	1	8	55	35	–10	P	P	2	2
Laser Pistol	1	6	6	60	40	20	0	–20	4	1
Laser Pistol	3	6	8	60	40	20	0	–20	2	2
Stun Pistol[4]	1	8	7	65	30	P	P	P	2	1
Stun Pistol[4]	2	9	8	65	30	P	P	P	1	2
Machine Gun[1]	15	7	5	P	40	20	0	–20	12	3
Submachine Gun[10]	10	5	6	40	35	10	0	P	5	2
Musket[10]	2	4	2	P	0	–20	–40	P	5	.3
Rifle[10]	6	7	6	30	35	20	0	–15	3	.8
Carbine[10]	4	6	5	45	35	15	–5	–25	3	.6
Needle Rifle[3,10]	1	1	5	40	30	10	–20	P	5	2
Needle Rifle[3,10]	2	1	7	40	30	10	–20	P	3	3
Short Bow[2,10]	3	4	1	15	25	0[11]	P	P	1	.2
Long Bow[2,10]	2	6	1	P	20	10	5[11]	–55[11]	3	.6
Crossbow	1	1	3	0	30	10	–15	P	4	.5
Fragmentation Grenade	1	25	4	P	50	–10	–60[11]	P	.5	.1
Smoke Grenade[7]	1	4	4	P	50	–10	–60[11]	P	.5	.1
Illumination[8] Grenade	1	4	4	P	50	–10	–60[11]	P	.5	.1
Gas Grenade[5]	1	4	4	P	50	–10	–60[11]	P	.5	.1
Dagger[6]	1	6	1	P	10	–30[11]	P	P	.2	.01
Sword[6]	na	10	1	P	P	P	P	P	2	.3

NOTES:

1. Must be emplaced before first fire. **2.** May not be fired by prone character. **3.** The target may be affected by substance in needle; see 30.7. **4.** The strength of weapon used to check for stun only; see 30.4 (Terrain Value considered **0**). **5.** Target hex and all adjacent hexes are filled with gas for six Action Rounds; all beings there which do not have their own air supply suffer the effects of the appropriate poison (see 30.7). **6.** Hit Strength is used in close combat; Hit Strength is **3** if thrown. **7.** Target hex and all adjacent hexes are treated as if it were dark for six Action Rounds. **8.** Target hex and all adjacent hexes are treated as if it were light for six Action Rounds. **9.** Will not be detected by metal detector. **10.** Weapon produces recoil with each shot (see 29.6). **11.** Strength Rating of firing (or throwing) character added to hit percentage. **P:** Prohibited.

[20.0] PROTECTIVE ATTIRE CHART

TYPE	CIV LEVEL	WEIGHT (Kilograms)	PRICE (Trans)	AIR SUPPLY (Hours)	ENCUMBRANCE	PROJECTILE DEFENSE	BEAM DEFENSE	HIT STRENGTH
ARMOR								
Reflective	6	11	15w	12	2	1	3	2
Reflective	8	9	28w	24	1	2	5	5
Impact	5	22	9	None	5	2	1	9
Impact	7	18	31w	18	3a	4	2	18
Reflective/Impact	7	20	31w	18	4a	3	4	11
Reflective/Impact	8	16	46w	24	2a	5	5	20
Armor Vest	6	2	1.5	None	None	2p	2p	None
Respirator Helmet	6	6	4	12	None	2p	2p	None
Respirator Helmet	8	4	10	24	None	4p	4p	None
Battle Sleeve	8	4	15w	None	None	5p	5p	25
FORCE FIELD								
Force Field On	8	2	55	None	Imm	6	0	Imm
Force Field Off	8	2	55	None	None	0	0	None
EXPEDITION SUIT								
Expedition Suit	6	11	6	12	2	1	1	None
Expedition Suit	7	7	11w	24	1	1	1	None

w: Waiting period of one week required upon purchase. *Exception:* Waiting period for battle sleeve is two days. **a:** Movement of wearer may be augmented, depending on type of weapon excepi a beam weapon.

Body Armor Skill Level. **p:** Provides partial protection only. **Imm:** Wearer may not move at all. He may not attack or fire any

[21.2] MARINE VEHICLE CHART

VEHICLE ASSOCIATED SUB-SKILL	CIV LEVEL	PRICE (Trans)	RANGE (× 100km)	SPEED (km/hr)	SPEED (Meters/Action Round)	PASSENGERS	CARGO CAPACITY (× 100kg)	PERFORMANCE MODIFIER	REPAIR TIME (Days)	ARMOR (Projectile/Beam)	LENGTH (Meters)
Sailing Ship	3	90	U	10	5	8	4	–20	1	3/2	12
Mini Submarine	6	300	15	25	15	3	1	+5	1	3/2	4
Flexicraft MOTORBOAT	6	1000	150	100	60	20	50	+15	6	2/4	40
Reef Walker SUBMARINE	7	600	20	20	10	6	15	+5	2	3/3	18
Water Scooter MOTORBOAT.SUB	7	5	1	15	10	1	.2	+15	1	1/1	2
Amphibiart MOTORBOAT.SUB	6	180	20	25	15	4	3	–15	1	3/2	5

L: See Land Vehicle Chart for further details. **U:** Unlimited range. Where more than one associated sub-skill is listed, use the one appropriate to current use of vehicle.

[27.2] ENCOUNTER TABLE

ENCOUNTER		ENVIRON HUMAN POPULATION: DEEP SPACE	PLANET SPACE	SPACEPORT	URBAN	SUBURBAN, TOWN	10 MILLION OR MORE	100 THOUSAND TO 10 MILLION	100 THOUSAND OR FEWER
Spaceship[1]	**C**	1-3	1-12	–	–	–	–	–	–
Spaceship	**R**	4-5	13-18	–	–	–	–	–	–
Spaceship	**U**	6	19-20	–	–	–	–	–	–
Federation[2]		–	–	1-15	1-5	1	–	–	–
NPC	**C**[3]	–	–	16-47	6-41	2-31	1-21	1-12	1-3
NPC	**R**	–	–	48-64	42-59	32-46	22-32	13-18	4-5
NPC	**U**	–	–	65-70	60-65	47-51	33-35	19-20	6
Creature	**C**[4] **1**	–	–	–	–	–	36-37	21-24	7-12
	2	–	–	–	–	52	38-39	25-28	13-19
	3	–	–	–	–	–	40-41	29-32	20-25
	4	–	–	–	–	53	42-43	33-36	26-32
	5	–	–	–	–	–	44-45	37-40	33-38
	6	–	–	–	–	54	46-47	41-44	39-45
Creature	**R 1**	–	–	–	–	–	48	45-46	46-48
	2	–	–	–	–	55	49	47-48	49-51
	3	–	–	–	–	–	50	49-50	52-54
	4	–	–	–	–	–	51	51-52	55-58
	5	–	–	–	–	56	52	53-54	59-61
	6	–	–	–	–	–	53	55-56	62-64
Creature	**U 2**	–	–	–	–	–	54	57	65-66
	4	–	–	–	–	57	–	58-59	67-69
	6	–	–	–	–	–	55	60	70-71
Accident[5]	**C**	7-9	21-26	71-73	66-71	58-63	56-61	61-66	72-77
Accident	**R**	10-11	27-29	74-75	72-74	64-66	62-64	67-69	78-80
Accident	**U**	12	30	76	75	67	65	70	81
No Encounter		13+	31+	77+	76+	68+	66+	71+	82+

C: Common. **R**: Rare. **U**: Unique. Note that creatures are sub-divided into Creature Value categories which affects their likelihood of occurrence (see 27.1). **1.** Treat as no encounter if the characters are not involved in controlling or maintaining the spaceship, or if within the planet space of a world that has no human population. **2.** Treat as no encounter if the Law Level is 0 or 1. **3.** Treat as no encounter if the party is in an environ with no known human population, or if the party is travelling faster than 20 km per hour and have declared that they are not interested in passers-by. **4.** Treat as no encounter if the party has declared no interest in the wildlife of the area, or if there is no known life on the world. **5.** Treat as no encounter if the characters are travelling in a vehicle which they do not control.

[27.7] TERRAIN EFFECTS CHART

ENVIRON TYPE	TERRAIN VALUE	ACTION ROUND MOVEMENT MODIFIER	CREATURE VALUE	CREATURE LOCATIONS: COMMON	RARE	UNIQUE
Vol/Hills	2	−4	6	9,13,15,17,18	21,27,29,31	38,39,40
Vol/Mount	3	−6	6	9,13,15,17,18	21,27,29,31	38,39,40
Vol/Peaks	4	−8	6	9,13,15,17,18	24,27,29,30	38,39,40
Crater/Flat	1.5	−2	6	9,11,13,14,17,18	23,27,29,30	38,39,40
Crater/Hills	2	−4	6	9,11,13,14,17,18	21,27,29,31	38,39,40
Crater/Mount	3	−6	6	9,11,13,14,17,18	21,27,29,31	38,39,40
Crater/Peaks	4	−8	6	9,11,13,14,17,18	27,29,30,31	38,39,40
Barren/Flat	1	0	5	9,11,14,15,17,18	21,23,25,27	37,39,40
Barren/Hills	1.5	−2	5	9,11,14,15,17,18	21,23,25,27	37,39,40
Barren/Mount	2	−4	5	9,11,14,15,17,18	21,25,27,29	37,39,40
Barren/Peaks	3	−6	5	9,11,14,15,17,18	24,27,29,30	37,39,40
Lt Veg/Flat	1	0	4	1,4,5,6,7,13	23,24,29,30	32,34,37
Lt Veg/Hills	1.5	−2	4	1,4,5,6,13,16	23,24,29,30	32,34,37
Lt Veg/Mount	2	−4	4	1,4,5,6,7,13	24,29,30,31	32,34,37
Lt Veg/Peaks	3	−6	4	1,4,5,6,9,11	24,29,30,31	32,34,37
Woods/Flat	1.5	−2	3	1,2,4,7,8,16	19,20,24,26	32,33,36
Woods/Hills	2	−4	3	2,4,5,7,8,16	19,20,24,26	32,33,36
Woods/Mount	3	−6	3	1,2,4,5,6,7	19,20,24,26	32,33,36
Woods/Peaks	4	−8	3	1,2,4,5,6,8	19,20,24,26	32,33,36
Forest/Flat	2	−4	2	1,2,4,5,7,8	19,20,24,29	34,35,37
Forest/Hills	3	−6	2	1,2,4,5,8,17	19,20,24,29	34,35,37
Forest/Mount	4	−8	2	2,4,5,7,8,18	19,20,24,29	34,35,37
Forest/Peaks	5	−10	2	1,2,4,5,7,8	19,20,24,29	34,35,37
Jungle/Flat	3	−6	1	3,4,5,7,17,18	28,29,30,31	37,38,39
Jungle/Hills	4	−8	1	3,4,5,7,17,18	28,29,30,31	37,38,39
Jungle/Mount	5	−10	1	3,4,5,7,17,18	28,29,30,31	37,38,39
Marsh/Flat	1.5	−4	2	2,3,4,5,7,17	19,24,29,30	38,39,40
Marsh/Hills	2	−6	2	2,3,4,5,7,17	19,24,29,30	37,38,40
Ice/Flat	1	−4	5	13,15,16,17,18	24,29,30,31	37,38,40
Ice/Hills	3	−6	5	13,15,16,17,18	24,29,30,31	37,38,40
Water	A	−10	2	10,12,18	22,24,31	32,33

Terrain Value: Affects daily and hourly movement rates of characters and vehicles (see 26.4), Action Round movement rates of vehicles (see 21.0), range of vision (28.3), and Hit Chance of weapon fire (29.5). **Action Round Movement Modifier**: Affects movement rate of characters in an Action Round (see 29.2). **Creature Value**: Affects likelihood of a creature encounter (see 27.1). **Creature Location**: Identifies creatures (by identity number) which may be encountered (see 27.6). **A**: Terrain on water surface ranges from **1** to **3**, depending on choppiness of surface. Terrain Value when submerged ranges from **1.5** to **5**, depending on depth and opacity of liquid. A Terrain Value of **1** is considered **0** when calculating Hit Chance of weapon fire.

[21.1] LAND VEHICLE CHART

VEHICLE / ASSOCIATED SUB-SKILL	CIV LEVEL	PRICE (Trans)	RANGE (× 100km)	SPEED (km/hr)	SPEED (Hexes/Action Round)	TERRAIN VALUE LIMIT	TERRAIN VALUE MODIFIER	PASSENGERS	CARGO CAPACITY (× 100kg)	PERFORMANCE MODIFIER	REPAIR TIME (hours)	ARMOR (Projectile/Beam)	LENGTH (Meters)	WEIGHT (Metric Tons)
Scout Car ATV	5	35	12.5	25	15	3	0	5	4	−10	6	2/2	5	2
Crawler ATV														
Wheeled	8	200	100	45	25	3	−1	8	5	+25	24	4/3	7	4
Legs	8	200	100	10	5	N	N	8	5	+25	24	4/3	7	
Rover ATV	8	150	300	75	45	4	−2	2	1	+25	24	3/3	5	0.5
Mobile Lab ATV	8	250	100	50	30	2	+1	9	25	+15	24	4/3	10	6
Amphibian[m] ATV	6	180	20	25	15	3	+1	4	3	−15	24	3/2	5	3
Van Rig TRUCK	6	240	24	100	65	1	+2	5	150	−10	12	3/2	8	6
Car AUTOMOBILE	5	40	10	200	120	1.5	0	3	1	−25	6	1/1	5	1
Horse Cart ANIMAL DRAWN	1	1	U	10a	15a	2	+2	6	2	−15	2	1/1	4	0.5
AutoSled	6	60	15	25	15	3	0	2	1	0	6	2/2	4	0.5
Tractor	5	35	5	15	10	4	−1	1	100	−20	6	1/1	5	3
Half-Track	7	1000	50	25	15	2	−2	8	4	0	24	4/4	7	7
Loricate APC	6	700	50	50	30	1.5	+1	12	6	+5	24	5/4	8	18
Armored ATV	6	200	15	75	45	3	−1	6	1	+15	24	5/5	5	10
Tank	6	2000	50	50	30	3	0	4	2	+20	24	6/6	6	20
Self-Propelled Artillery	5	2000	10	25	15	2	+1	3	1	0	24	6/5	7	20

a: Speed in km/hr represents a pace which the animal may maintain over a long period of time. Speed in hexes/Action Round represents the maximum speed which can be maintained for a short period of time.

m: See Marine Vehicle Chart for further details.
U: Unlimited range.
N: None.

[21.3] AIR VEHICLE CHART

VEHICLE / ASSOCIATED SUB-SKILL	CIV LEVEL	PRICE (Trans)	RANGE (× 100km)	SPEED (× 100km/hr)	MAXIMUM WORLD SIZE BY ATMOSPHERE: TRACE OR NONE	THIN	OTHERS	PASSENGERS	CARGO CAPACITY (× 100kg)	PERFORMANCE MODIFIER	REPAIR TIME (Days)	ARMOR (Projectile/Beam)	LENGTH (Meters)
Dragonfly GLIDER	6	5	1	.1	P	3	5	1	.1	−25	.5	1/1	2
Ornithopter GLIDER	8	300	200	15	P	4	7	12	12	0	1	1/1	20
Propeller Plane	5	200	40	5	P	3	7	5	25	−5	.5	2/2	8
Jet	7	1000	600	9	P	3	9	8	50	+25	2	3/3	25
Air Car JET	8	1300	10	7	P	6	9	3	2	+20	1	3/2	5
Levitator DIRECT LIFT	7	4000	U	.3	6m	6m	6m	100	100	0	10	4/4	40
Floater DIRECT LIFT	8	600	U	.4	6m	6m	6m	10	5	+25	6	1/1	8
Skimmer* DIRECT LIFT	8	500	U	.6	7m	7m	7m	5	3.5	+10	7	1/1	5
Helicopter	6	150	20	1	P	3	6	6	5	−20	1	2/3	5
Shuttle SHUTTLE OR PILOT	7	8000	640	20	8	8	8	40	200	+10	5	4/4	120

P: Prohibited.
U: Unlimited range; overhaul required once per year at a cost of 100 Trans.
m: Cannot be used on a world Size 3 or less.
May not be used in an environ with a Terrain Value greater than 2.

[25.2] WORLD DEVELOPMENT TABLE

TWO DICE	SETTLEMENT STATUS	HUMAN POP.	LAW LEVEL	SPACE PORT	CIV LEVEL RANGE
0	Uncharted	0	0	0	None
1	Unexplored	0	0	0	None
2	Unexplored	0	0	0	None
3	Unexplored	0	0	0	None
4	Explored and Abandoned	10	0	0	1-2
5	Explored and Abandoned	100	0	0	1-2
6	Abandoned Pioneer Colony	200	0	0	1-3
7	Active Exploration	100	0	0	1-4
8	Active Exploration	1,000	1	0	2-4
9	Active Exploration	2,000	1	½	2-4
10	Pioneer Colony	1,000	1	0	1-4
11	Pioneer Colony	10,000	1	½	2-5
12	Pioneer Colony	20,000	2	½	2-5
13	Subsidized Scientific Colony	10,000	1	½	4-6
14	Subsidized Scientific Colony	100,000	2	1	4-6
15	Subsidized Scientific Colony	200,000	2	1	5-7
16	Subsidized Working Colony	100,000	2	1	3-5
17	Subsidized Working Colony	1 million	2	2	4-6
18	Subsidized Working Colony	2 million	3	2	4-6
19	Self-Sufficient Colony	1 million	2	2	4-7
20	Self-Sufficient Colony	10 million	3	2	5-7
21	Self-Sufficient Colony	20 million	3	3	5-7
22	Full-Tech Colony	10 million	3	2	5-8
23	Full-Tech Colony	100 million	3	3	6-8
24	Full-Tech Colony	200 million	4	3	6-8
25	Minor State	100 million	4	3	6-8
26	Minor State	1 billion	4	3	6-8
27	Minor State	2 billion	4	4	7-8
28	Major State	1 billion	4	4	7-8
29	Major State	3 billion	4	4	8

See 25.1 for explanation of use.

MODIFIERS:

WORLD ATMOSPHERE		WORLD TEMPERATURE		WORLD HYDROGRAPH		WORLD SIZE	
None	0	−75, −50	0	0%	−1	0, 1, 2	+3
Thin, Con.	2	−25	1	20%	2	3, 4	+2
Normal, Con.	3	0	3	40%	4	5	+1
Thin	4	25	4	60–80%	5	6	0
Normal	5	50, 75	5	100%	2	7	−1
Poison	1	100	4			8, 9	−2
Corrosive	−1	125	3				
		150	1				
		175, 200	−1				

Procedure: Take the appropriate number from each of the columns and add them together. If the world is resource rich, double this total. (**0xception:** If the total is negative, and the world is resource rich, divide the total by two, rounding toward zero.) Subtract the world's star's distance from Sol from this new total. The result is the Development Value. Roll two dice and add the Development Value to the roll, and apply this result to the Table. **Exception:** A resource poor asteroid belt has a Development Value of 1; a resource rich asteroid belt has a Development Value of 6 (minus the LY distance from Sol). Remember that a modified dice roll result that is less than zero is treated as zero.

[24.4B] LAND AND WATER DISTRIBUTION CHART

WORLD SIZE	HYDROGRAPH PERCENTAGE	WATER	WATER/ MINOR ISLANDS	WATER/ MAJOR ISLANDS	WATER/ LAND	LAND/ MAJOR WATER	LAND/ MINOR W
2	20	0	0	0	0	2	2
3	20	0	0	0	1	3	2
3	40	0	0	3	2	2	2
4	20	0	0	0	1	6	4
4	40	0	0	5	4	4	4
4	60	1	4	6	4	2	1
4	80	7	6	4	1	0	0
5	20	0	0	0	3	8	5
5	40	0	1	6	6	5	5
5	60	3	5	7	5	3	3
5	80	10	8	5	3	0	0
5	100	23	3	0	0	0	0
6	20	0	0	0	4	11	8
6	40	0	1	8	9	8	8
6	60	4	8	10	8	4	4
6	80	15	11	8	4	0	0
6	100	34	4	0	0	0	0
7	20	0	0	1	4	14	11
7	40	0	1	13	11	10	10
7	60	5	11	14	10	5	4
7	60	5	11	14	10	5	4
7	80	20	16	9	4	1	0
7	100	45	5	0	0	0	0
8	20	0	0	1	6	19	14
8	40	0	1	18	14	13	13
8	60	7	14	18	13	7	6
8	80	26	21	12	6	1	0
8	100	60	5	1	0	0	0
9	20	0	0	1	7	24	17
9	40	0	1	23	17	17	16
9	60	8	17	24	17	8	7
9	80	33	26	15	7	1	0
9	100	75	6	1	0	0	0

See 24.4 for explanation of use.

[25.4] ENFORCER ENCOUNTER TABLE

LAW LEVEL	FREQUENCY
0	No authorities
1	1 out of 8 encounters
2	1 out of 5 encounters
3	1 out of 4 encounters
4	1 out of 3 encounters
5	1 out of 2 encounters

[24.4A] WORLD HYDROGRAPH TABLE

Results represent percentage of the world's surface covered with water. This table is not used for worlds which possess no atmosphere, or possess average temperatures below **0** or above **125**. Such worlds automatically have no water. See 24.4 for detailed explanation of use.

	WORLD TEMPERATURE								
	50,75				0,25,100,125				
ONE DIE	WORLD SIZE				WORLD SIZE				
	3	4	5	6-9	2	3	4	5	6-9
1	0	0	20	20	0	0	0	0	0
2	0	20	20	40	0	0	0	0	20
3	0	20	40	40	0	0	0	20	20
4	20	20	40	40	0	0	0	20	20
5	20	40	60	60	0	0	20	20	40
6	20	40	60	60	0	20	20	40	40
7	20	40	60	80	0	20	20	40	60
8	40	60	80	80	20	20	40	40	60
9	40	60	80	100	20	40	40	60	80
10	40	80	100	100	20	40	60	60	80

[22.0] PERSONAL EQUIPMENT CHART

	CIV LEVEL	WEIGHT (Kilograms)	PRICE (Trans)	SKILL PLUS	TIME NEEDED FOR USE	BASE REPAIR TIME
SCIENTIFIC						
Geo Lab	5	15	1	0	2 hr	1 hr
Geo Scanner	6	25	6	0	1 hr	1 hr
Geo Scanner	8	7	15	+2	.5 hr	2 hr
First Aid Kit	4	5	1	0	1 hr	1 hr
Medi Scanner	6	10	12	+1	.5 hr	1 hr
Medi Scanner	8	5	10	+2	.3 hr	2 hr
Bio Scanner	7	7	8	0	(a)	1 hr
Bio Scanner	8	2	12	+1	(a)	2 hr
Neuro Scanner	8	5	18	na	None	2 hr
Chem Lab	5	20	2	0	1 hr	1 hr
Chem Lab	7	15	7	+1	.5 hr	1 hr
Chem Synthesizer	6	25	2	0	4 hr	1 hr
Chem Synthesizer	8	22	6	+2	2 hr	2 hr
Energy Scanner	7	5	10	0	(a)	1 hr
TECH KITS						
Basic Repair Kit	5	5	1	0	(b)	na
Suit Kit	7	2	2	0	(b)	na
Armor Kit	7	15	20	+1	(b)	na
Armor Kit	8	15	30	+2	(b)	na
Weapon Kit	6	7	2	+1	(b)	na
Weapon Kit	8	7	4	+2	(b)	na
Electro Kit	7	5	11	+1	(b)	na
Electro Kit	8	5	15	+2	(b)	na
Robot Kit	8	15	30	+1	(a)	na
Vehicle Kit	6	30	25	+1	(b)	na
Vehicle Kit	8	30	35	+2	(b)	na
Spaceship Kit	6	100	60	0	(b)	na
Spaceship Kit	7	100	75	+1	(b)	na
Spaceship Kit	8	100	100	+2	(b)	na

	CIV LEVEL	WEIGHT (Kilograms)	PRICE (Trans)	SKILL PLUS	TIME NEEDED FOR USE	BASE REPAIR TIME
COMMUNICATIONS						
Headset Radio	5	1	.2	0	na	1 hr
Planetary Shortwave	5	20	.4	0	na	1 hr
Interplanetary Radio Dish	7	5	2	0	na	1 hr
Planetary Headset	8	1	2	0	na	2 hr
Interstellar Commlink	8	1	2	na	na	2 hr
Translator	7	2	16	+1	None	1 hr
Translator	8	1	48	+2	None	2 hr
RECORDING EQUIPMENT						
Audio Recorder	5	2	.1	na	AR	1 hr
Still Camera	4	3	.1	na	AR	1 hr
Superoid Camera	5	5	.4	na	AR	1 hr
Holographer	7	15	3	na	AR	1 hr
CAGES						
Metal Cage 0.5m³	2	2	.1	na	na	1 hr
Metal Cage 8m³	2	50	.5	na	na	1 hr
Super Cage 0.5m³	5	1	.2	na	na	1 hr
Super Cage 8m³	5	30	1	na	na	1 hr
Force Cage	8	3	20	na	AR	2 hr
VISION EQUIPMENT						
Night Glasses	7	.3	3	na	na	1 hr
Rocket Flare	5	.5	.1	na	AR	na
Anaerobic Torch	6	.5	.1	na	AR	na
Flashlight	4	.5	.1	na	AR	1 hr
Binoculars	5	1	.1	na	na	1 hr

na: Not applicable. **AR:** Activation takes one Action Round. **(a):** See 12.0 for explanation. **(b):** See 13.1 for explanation. See pages 58 and 59 for descriptions. Additional equipment includes: Psionic Rig (10.1), Jet Pack (21.3), Internal Gravity Web (33.3), Audio-sealed Case, Business Computer, Rock Blaster, False Identity, and Plastic Explosives (22.4).

[23.6] MOON TABLES

Moon Generation Table

DIE	PLANET SIZE 3	4	5	6	7	8	9
1,2	0	0	0	0	0	0	0
3,4	0	0	0	0	0	1	1
5,6	0	0	1	1	2	2	3
7,8	0	1	1	2	3	4	5
9	1	1	2	3	4	5	6
10	1	2	3	4	5	6	7

Results are number of moons orbiting planet. A Size 1 or 2 planet may possess no moons, nor may a moon. See 23.6 for explanation.

Moon Type Table

DIE	MOON SIZE 0,1	2	3	4,5
1	Hr	Tr	Er	Ep
2	Hp	Tp	Ep	Ep
3	Hr	Op	Tr	Er
4	Hp	Hr	Tp	Tr
5	Hr	Hp	Op	Tp
6	Hp	Hr	Hp	Tr
7	Hr	Hp	Hr	Or
8	Hp	Hr	Hp	Hp
9	Hr	Hp	Hr	Hp
10	Hp	Hr	Hp	Hr

E: Earth-like. **T:** Tolerable. **H:** Hostile. **O:** Ring. **r:** Resource rich. **p:** Resource poor.

Subtract **2** *or add* **2** to die result depending on whether moon's planet is in or out of biosphere.

If moon is in hostile zone of star system, do not roll; cross-reference moon size with **10** row to yield moon type. Treat all modified rolls of less than **1** as **1**, and all rolls of greater than **10** as **10**.

Moon Size Table

1 DIE + PLANET SIZE	MOON SIZE	1 DIE + PLANET SIZE	MOON SIZE
4-8	0	16-17	3
9-12	1	18	4
13-15	2	19	5

[23.5] PLANET SIZE AND TYPE TABLE

SECOND DIE	FIRST DIE 1	2	3	4	5	6	7	8	9	10
1	3: Er	4: Ep	4: Er	4: Er	4: Er	4: Er	5: Er	5: Ep	7: Ep	7: Er
2	3: Ep	3: Ep	4: Er	4: Er	4: Er	4: Er	5: Er	8: Er	8: Ep	8: Ep
3	4: Er	4: Ep	4: Ep	5: Er	5: Er	5: Ep	5: Er	5: Ep	7: Er	7: Ep
4	2: Tr	3: Tp	3: Tp	3: Tr	6: Er	6: Er	6: Er	6: Er	6: Ep	6: Ep
5	2: Tp	3: Tr	3: Tr	4: Tr	4: Tr	4: Tp	5: Tr	5: Tr	8: Tr	8: Tp
6	1: Hr	3: Tp	3: Tp	A:Hr	4: Tp	4: Tp	5: Tr	5: Tp	A:Hp	8: Tp
7	1: Hr	2: Hr	4: Hr	4: Hr	A:Hr	5: Tp	5: Tp	A:Hp	A:Hr	6: Tr
8	1: Hr	2: Hr	3: Hr	A:Hr	4: Hp	A:Hr	5: Tp	4: Hp	A:Hr	6: Tp
9	1: Hr	2: Hr	2: Hr	2: Hr	3: Hr	3: Hr	6: Tr	6: Tp	8: Tr	6: Tp
10	1: Hp	2: Hp	3: Hp	A:Hp	5: Hp	6: Hr	7: Hp	8: Hp	7: Tr	9: Hr

#: Planet size. **E**: Earth-like; **T**: Tolerable; **H**: Hostile; **A**: Asteroid belt. **r**: Resource Rich; **p**: Resource Poor.

Modifiers:

Add or subtract Planet Size Modifier (see Star System Log) from first die result.

***Subtract* 2** from second die if planet is in biosphere.

***Add* 2** to second die if planet is not in biosphere and not in hostile zone.

Do not roll second die if planet is in hostile zone (see Star System Log); use **10** row of the table and first die result to obtain planet size and type.

Treat all modified rolls of less than **1** as **1**, and all modified die rolls of more than **10** as **10**.

See 23.5 for detailed explanation of use.

[23.4] PLANET CREATION TABLE

SPECTRAL CLASS OF STAR	PLANET EXISTS AT POSITION IF 2-DICE RESULT IS...
A (0 THROUGH 4)	2-5
A (5 THROUGH 9)	2-7
F (0 THROUGH 4)	2-8
F (5 THROUGH 9)	2-9, 17
G (0 THROUGH 4)	2-11
G (5 THROUGH 9)	2-10
K (0 THROUGH 4)	2-9
K (5 THROUGH 9)	2-7, 17
M (0 THROUGH 4)	2-6
M (5 THROUGH 9)	2-3

See 23.4 for explanation of use.

[23.7] WORLD GRAVITY TABLE

WORLD SIZE	GRAVITY
0	None
1	Trace
2	0.2
3	0.4
4	0.7
5	1.0
6	1.3
7	1.7
8	2.0
9	2.5

[24.6] WORLD DAY LENGTH TABLE (Optional)

Numbers represent length of day in hours (including daylight and darkness). **d**: Day measured in Earth days. **N**: No rotation. See 24.6 for explanation of use.

ONE DIE	WORLD TYPE EARTH-LIKE	TOLERABLE	HOSTILE
1	12	6	4
2	15	9	6
3	18	12	8
4	21	15	N
5	24	18	N
6	24	24	72
7	27	36	4d
8	30	48	6d
9	33	60	8d
10	36	72	10d

[24.2] WORLD ATMOSPHERE TABLE

DIE + WORLD SIZE	WORLD TYPE EARTH-LIKE	TOLERABLE	HOSTILE
3-5	Thin	None	None
6	Thin (C)	Thin (C)	None
7	Normal	Thin	None
8	Thin (C)	Poison	None
9	Thin	Thin (C)	Poison
10	Thin	Poison	Corrosive
11	Normal	Thin	Poison
12	Normal (C)	Corrosive	Corrosive
13	Poison	Thin (C)	Poison
14	Normal	Poison	Corrosive
15	Normal (C)	Normal (C)	Poison
16	Normal	Normal (C)	Corrosive
17	Normal	Poison	Poison
18	Normal (C)	Poison	Corrosive
19	Normal	Normal (C)	Poison

A world of size **0** or **1** automatically possesses no atmosphere. **(C)**: Contaminated. See 24.2 for explanation of use.

[24.3] WORLD TEMPERATURE TABLE

DIE	WORLD TYPE EARTH-LIKE	TOLERABLE	HOSTILE
−4, −5	125	175	200 or above
−2, −3	100	150	200
−1,0	100	125	175
1,2	75	125	175
3,4	75	100	150
5,6	50	25	−25
7,8	50	0	−25
9,10	25	0	−50
11,12	25	−25	−50
13,14	0	−25	−75
15,16	0	−50	−75 and below

Results represent average temperature of the world; all temperatures are expressed in °F. See 24.3 for explanation.

Die Roll Modifiers:

If the planet is closer to the star than the star's biosphere, *subtract* **6** from the die roll.

If the planet is further from the star than the star's biosphere, *add* **6** to the die roll.

[24.5] ENVIRON TYPE CHART

LAND/LIQUID DISTRIBUTION►	WATER WITH MINOR OR MAJOR ISLANDS				WATER/LAND *OR* LAND WITH MAJOR WATER BODIES				LAND WITH MINOR WATER BODIES				LAND ONLY (WATER ELSEWHERE ON WORLD)				LAND ONLY (NO WATER ANYWHERE ON WORLD)		
TEMPERATURE►	0 to 25	50	75	100 to 125	0 to 25	50	75	100 to 125	0 to 25	50	75	100 to 125	0 to 25	50	75	100 to 125	0 or less	25 to 50	75 to 100 or more
ENVIRON TYPE																			
See Note	1	1	2	3	1	1	1	2	1	2	2	3	2	3	3	4	3	5	7
Volcano/Hills	3	4	6	9	2	3	3	4	3	5	6	7	4	7	8	10	8	12	17
Volcano/Mountains	4	6	9	14	3	4	5	6	5	7	9	10	6	9	11	14	13	19	26
Volcano/Peaks	5	8	11	17	4	5	–	7	6	8	10	12	7	10	13	16	14	21	28
Crater/Flat	–	–	–	–	–	–	–	–	7	9	11	13	9	12	15	18	24	31	37
Crater/Hills	–	–	–	–	–	–	–	–	8	10	12	14	11	14	17	20	39	46	52
Crater/Mountains	–	–	–	–	–	–	–	–	9	11	13	15	13	16	19	22	51	58	64
Crater/Peaks	–	–	–	–	–	–	–	–	10	12	14	16	14	17	20	23	53	60	66
Barren/Flat	11	10	12	26	9	6	6	16	20	19	22	34	29	27	34	42	62	69	74
Barren/Hills	23	15	15	42	18	8	7	32	32	27	31	54	49	40	52	66	75	82	86
Barren/Mountains	33	20	17	55	25	10	8	45	40	33	37	66	59	48	61	79	84	91	94
Barren/Peaks	36	22	18	59	27	11	–	47	44	36	40	71	63	52	65	84	86	93	96
Light Veg/Flat	41	28	22	67	36	18	14	57	48	43	47	77	67	61	72	87	87	94	97
Light Veg/Hills	46	33	27	75	46	25	20	68	54	52	55	84	72	71	80	91	88	95	98
Light Veg/Mountains	56	40	32	83	53	31	25	78	58	58	61	88	76	78	86	93	89	96	99
Light Veg/Peaks	59	42	34	85	55	33	26	80	60	61	63	90	77	81	88	94	90	97	00
Woods/Flat	62	46	38	90	60	39	32	87	64	66	68	93	80	85	92	95	–	–	–
Woods/Hills	65	51	42	95	66	46	38	94	68	73	74	97	83	91	96	97	–	–	–
Woods/Mountains	71	58	49	99	70	52	44	99	71	77	78	99	85	97	99	99	–	–	–
Woods/Peaks	73	60	52	00	71	54	46	00	72	79	79	00	86	99	00	00	–	–	–
Forest/Flat	75	64	55	–	73	60	52	–	74	82	83	–	–	–	–	–	–	–	–
Forest/Hills	77	70	59	–	76	69	58	–	76	86	87	–	–	–	–	–	–	–	–
Forest/Mountains	80	72	67	–	78	75	64	–	78	88	89	–	–	–	–	–	–	–	–
Forest/Peaks	81	79	69	–	79	77	66	–	79	89	90	–	–	–	–	–	–	–	–
Jungle/Flat	–	82	76	–	–	81	74	–	–	90	92	–	–	–	–	–	–	–	–
Jungle/Hills	–	87	88	–	–	86	83	–	–	91	94	–	–	–	–	–	–	–	–
Jungle/Mountains	–	89	95	–	–	88	90	–	–	92	95	–	–	–	–	–	–	–	–
Marsh/Flat	–	95	98	–	–	95	96	–	–	96	98	–	–	–	–	–	–	–	–
Marsh/Hills	–	99	00	–	–	99	00	–	–	99	00	–	–	–	–	–	–	–	–
Ice/Flat	90	–	–	–	89	–	–	–	88	–	–	–	92	–	–	–	94	98	–
Ice/Hills	00	00	–	–	00	00	–	–	00	00	–	–	00	00	–	–	00	00	–

How to Read the Result: Roll percentile dice and locate the column corresponding to the Land/Liquid/Temperature combination of the environ. Read down the column until you locate the result which most nearly equals the percentile roll without being less than the roll. For example, rolling a **34** in the first column would yield and environ type of Barren/Peaks. See 24.5 for detailed explanation of use.

Note: All environs of same water and temperature type which have not yet been assigned an environ type will be the type determined by the next percentile roll. **(-)**: Environ type impossible; proceed down the column. **Peaks:** If the world size is **7** or greater, treat as Hill. **Mountains:** If the world size is **9**, treat as Flat. If the Land/Liquid distribution is water only, this table is not used. However, if the GM wishes to check for ice in a water-only environ, roll using the water with minor islands column and ignore all non-ice results.

[23.2] BINARY/TRINARY STAR SYSTEM SUMMARY

STAR: RESTRICTION	
Alpha Centauri A: −2, −1, −4	1-2
61 Cygni A:	1-6
61 Cygni B: +6, −6, +7	1-5
Jim: +6, −18, +2	1-10
WX Ursae Majoris A: −13, +4, +13	1-8
Eta Cassiopeiae A: +10, +2, +15	1-7
BD +53° 1320:	1-7
BD +53° 1321: −9, +8, +16	1-7
CD −8° A: −6, −20, −3	2-12
Rho Eridani A:	1-2
Rho Eridani B: +11, +5, −18	1-2
41 Arae A: −3, −18, −19	1-2
Gamma Leporis A:	1-11
Gamma Leporis B: +2, +25, −10	1-8
CD −36° 13A: +8, −13, −12	1-2

Roll only for planets in indicated positions for these stars.