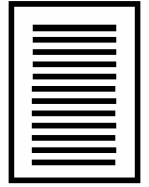


# Dice Results Are Random But Understandable



Playing **Traveller** is a continuing process of decision making. **Traveller** provides rules for manipulating the universe of the future through a variety of activities: tasks, personal combat, and character generation. Just as people make decisions based on the information they have and then see what happens, players in **Traveller** make decisions based on the game information they have and then see what happens.

To make the results of player decisions unpredictable but understandable, **Traveller** uses dice to produce random numbers, which in turn govern the outcomes of tasks, combat, or character generation. Without die rolls, players could make choices with perfect knowledge of the outcome. Life rarely allows us to know for sure how a choice or an action will turn out. **Traveller** presents situations with many possible outcomes and imposes die rolls to determine the outcome. The rolls may be weighted toward some outcomes more than others, but there's always the chance that something could go wrong. Players make decisions throughout **Traveller**; the die rolls make those decisions interesting.

The **Traveller** game system uses six-sided dice exclusively. This convention in **Traveller** began in the earliest versions of the game as a reaction to the wide variety of dice used in fantasy role-playing game systems. Six-sided dice are easy to find and easy to understand.

Linguistically, the dice is plural; die is singular: one die, two dice, three dice.

In most role-playing, the types of dice used are identified by the letter D followed by the number of sides: D6 indicates a six-sided die; D8 indicates an eight-sided die, D20 indicates a twenty-sided die.

When more than one die is to be rolled, the number of dice is indicated by a number in front of the D: 2D6 is two six-sided dice; 5D20 is five twenty-sided dice.

## Only Six Sided Dice

The **Traveller** system, however, uses D6 dice exclusively. Sometimes the system contorts D6 die rolls to achieve even distributions from 1 to 10 or 1 to 9. While purists may object, no one else will mind if you use an available D10 or D20.

## Dice Abbreviations and Instructions

The **Traveller** game rules routinely calls for specific and often complex die rolls. In charts especially, these instructions generally take the form 1D, 2D, or Flux.

A capital D indicates that a standard six-sided die is used. The number in front of the die tells how many of these dice to roll, and any addition (or subtraction) after the D indicates how the die roll result is changed.

Typical instructions include:

**1D.** Roll one die.

**2D.** Roll two dice (or 8D: Roll 8 Dice)

**2D-2.** Roll two dice and subtract 2.

**2D-7.** Roll two dice and subtract 7. This roll may produce negative numbers (the result of this throw is identical in output to Flux and with D-D).

**2D+2.** Roll two dice and add 2.

**D-D (or +D-D).** Roll one die, then roll a second die and subtract it from the first. This roll may produce negative numbers (the result of this throw is identical in output with 2D-7 and with D-D).

**D/2.** Roll on die and divide by 2. The accepted convention is to round in favor of the rolling player.

**Flux.** Roll one die, then roll a second die and subtract it from the first. This roll may produce negative numbers (the result is identical in output to 2D-7 and with D-D).

**(2D + 3) x (3D-2).** Roll two dice and add three, then roll three dice and subtract two, and then multiply the two together. This one is probably not used very often.

## BASIC TERMS

The following basic terms apply to dice:

**Dice.** The randomizers used in **Traveller** are ordinary six-sided cubic dice marked with sides marked 1 to 6.

**Die Roll.** The result of rolling the dice.

**D.** Abbreviation for six-sided dice. Other game systems may use different dice. The convention is a die with 3 sides is D3; a die with 10 sides is D10.

**D6.** Another abbreviation for six-sided dice. This term is encountered and reiterates that the dice used are six sided.

**Roll.** An instruction to roll dice. A rare synonym is Throw. For example, Roll 2D. Throw 2D.

**Target Number.** The number the player is trying to roll. Some uses of dice call for a specific number to be rolled. Others call for a number or less to be rolled. Still others call for a number or greater to be rolled. In each case, focus is on a Target Number.

**Modifier. Mod.** Instructions may call for modifiers which increase or decrease the target number. As compared to a DM which alters the actual Die Roll. Mods are primarily used with Target Numbers.

**DM. Die Modifier. Dice Modifier.** Instructions may call for Die Modifiers for an event, such as DM +1 or DM -3. A DM changes the roll of the dice before it is compared to the target number, as opposed to a Mod which changes the target number itself. DMs are primarily used on Tables.

**Throw:** An instruction to roll dice. A synonym is Roll.

### Mods Versus DMs

It is important to understand the difference between Mods and DMs.

A **Mod** is an Asset and a component of the Target Number.

A **DM** is a change to the Die Roll and is applied to the dice after they are rolled.

For example, the typical **Traveller** usage is Roll Low. The situation defines some Target which is the number (or less) that the player is trying to roll.

#### MOD VS DM (Roll Low)

Mod +	Increases Target	=More Success
DM -	Decreases Die	
Mod -	Decreases Target	=Less Success
DM +	Increases Die	

A **Mod** changes the Target Number. Mod+3 increases the Target Number by three and makes it easier to roll lower than the Target; positive Mods are beneficial. Mod-2 decreases the Target Number by two and makes it harder to roll lower than the Target; negative Mods are detrimental.

A **DM** changes the die roll. DM +3 increases the Die Roll by three and makes it harder to roll lower than the Target; positive DMs are detrimental. DM-2 decreases the Die Roll by two and makes it easier to roll lower than the Target; negative DMs are beneficial.

### BE PREPARED

The referee and each player should have a pool of dice: **Ten Six-Sided White Dice.** These dice are used for standard rolls. Actually, any of the dice shown here can be used for standard rolls.

**Two Contrasting Flux Dice.** Two dice of contrasting colors are used as Flux Dice. The lighter colored die is always positive; the darker colored die is negative.

## SPECIAL DICE THROWS

### Even Distribution From 1 to 9

	1	2	3	4	5	6
1	1	2	3	1	2	3
2	4	5	6	4	5	6
3	7	8	9	7	8	9
4	1	2	3	1	2	3
5	4	5	6	4	5	6
6	7	8	9	7	8	9

This table produces an equal chance of achieving the digits 1 through 9.

### Even Distribution From 0 to 9 (or 1 to 10).

	1	2	3	4	5	6
1	0	0	0	1	1	1
2	2	2	2	3	3	3
3	4	4	4	5	5	5
4	6	6	6	7	7	7
5	8	8	8	9	9	9
6	rr	rr	rr	rr	rr	rr

This table produces the digits 0 through 9 equally.  
rr= reroll.

### EVEN DISTRIBUTIONS

Even Distributions use six-sided dice to produce a range of numbers beyond 1 to 6 (specifically 1-9, or 0-9 or 1-10).

**Even Distribution 1 to 9.** Consult the Even Distribution From 1 to 9 Table.

This table is most commonly used in creating the Population Multiplier associated with the population exponent of worlds. Because the population multiplier modifies the exponent, a result of 0 or 10 is not applicable.

**Even Distribution 0 to 9.** Consult the Even Distribution From 0 to 9 Table.

Even distribution between 0 and 9 creates the equivalent of a decimal die (D10). If the desired result is 1 through 10, substitute 10 for 0.

### Randomly Selected C1 C2 C3 C4 C5 C6

1D	Char	1	2	3	4	5	6
1	C1	Strength					
2	C2	Agility	Dexterity		Grace		
3	C3	Stamina	Endurance		Vigor		
4	C4	Intelligence					
5	C5	Training	Education		Instinct		
6	C6	Charisma	Social		Caste		

If not all Characteristics are in the desired mix, ignore inappropriate results and reroll.

### RANDOMLY SELECTED CHARACTERISTICS

There is sometimes (particularly in wounding or damage) a need to select specific characteristics for characters.

**Randomly Selected Characteristic.** A range of characteristics is stated (usually in Damage as a result of Fighting or a Mishap). Roll 1D= the result is the position code for the selected characteristic.

For example, to randomly select from C1 C2 C3, roll 1D (= 3 selects Characteristic C3). If the die roll does not match a characteristic in the range, reroll.

**Randomly Determined Characteristic.** A characteristic must be selected (often without regard to those available). Roll 1D for the appropriate column, followed by 1D for the row. For example, rolling 3 and 2 = Stamina.

### Special Throws

2D	Roll	Roll%	D+D	Flux	Flux*	2D-7	2D-2
	2	3%	2	-5	-5	0	
	3	6%	3	-4	-4	1	
	4	8%	4	-3	-3	2	
	5	11%	5	-2	-2	3	
	6	14%	6	-1	-1	4	
	7	17%	7	0	0	5	
	8	14%	8	+1	+1	6	
	9	11%	9	+2	+2	7	
	10	8%	10	+3	+3	8	
	11	6%	11	+4	+4	4	9
	12	3%	12	+5	+5	5	10

\* Alternate Calculation Method.

### SPECIAL THROWS

The **Special Throws Tables** show several different combinations of dice and their results.

**D +D.** *The standard two dice throw.* The range is 2 through 12 centered on 7. This is a variant description of 2D.

**+D -D.** *Roll the white die and the black die.* Subtract the black die from the white die. The results range from -5 to +5 centered on 0 (in fact, 0 is most frequent: 6 out of 36 times, or about 17%). This roll is called **Flux**.

**2D-7.** *Roll two dice and subtract 7.* The range and probabilities are the same as +D -D, but they are achieved somewhat differently.

Although this throw is statistically equivalent to +D -D (and to Flux) it omits the drama.

**2D-2.** *Roll two dice and subtract 2.* The results range from 0 to 10 centered on 5 (5 is most frequent: 6 out of 36 times).

## THE DICE TABLES

The dice tables in **Traveller** are provided as a reference for both players and game masters.

**The Reference Tables.** The reference tables show the results of throwing one die through ten dice. These dice correspond roughly to the levels of task difficulty:

1D	Easy
2D	Average
+D - D	Flux
3D	Difficult
4D	Formidable
5D	Staggering
6D	Hopeless
7D	Impossible
8D	Beyond Impossible
9D	Hasty Beyond Impossible
10D	Extra Hasty Beyond Impossible, and varies
	C+S

### Walking Through The Tables

Look at the dice tables, and examine the entries.

**Title** shows the number of dice being rolled.

**Roll:** The actual numerical die roll result.

**N:** The number of times the roll occurs if all possible rolls are each made once. N indicates the number of ways that the die roll can be achieved (for example, on the Two Dice table, a 2D roll of 11 can be achieved two different ways (5 and 6 or 6 and 5)).

**%N (Percent N):** The percentage chance that the specific roll will be made.

**N- (N Minus).** The number of times that the roll **or less** occurs. N- indicates the number of ways the die roll or less

can be achieved. For example, in the Two Dice table, a 2D roll of 3 - (three or less) can be achieved three different ways (1 and 2, or 2 and 1, or 1 and 1).

**%N- (Percent N Minus).** The percentage chance that the specific roll **or less** will be made. This is the percentage chance (on any one throw) that the result will be the roll stated on this line or less. The chance of rolling 7 or less on two dice is 58%.

**N+ (N Plus).** The number of times that the roll **or more** occurs. N+ indicates the number of ways the die roll or greater can be achieved. For example, in the Two Dice table, a 2D roll of 3 + (three or more) can be achieved 35 different ways (every possible roll except 1 and 1).

**%N+ (Percent N Plus).** The percentage chance that the specific roll **or less** will be made. Percent N Plus is the percentage chance (on any one throw) that the result will be the roll stated on this line or more. The chance of rolling 3 or more on two dice is 97%.

### The C+S Table (Chance Of Success)

Tasks call for die rolls equal to or less than a number which is created by adding a characteristic (also ranging from 1 to 15 or so) and a skill level (ranging from 1 to 15 or so). If the die roll is equal or less than this C + S (Characteristic Plus Skill), the attempt at the task succeeds.

The **Chance of Success Table** shows the percentage chance that such a task will succeed. For example, if a character with Skill-2 and Characteristic-2 (S+C=4) attempts a task, using 2D, he has a 17% chance of succeeding.

## Why Is This Chapter Necessary?

Dice and their ability to create random numbers are at the core of this (and most) role-playing games. In the dawn of role-playing game systems, the types of dice were specified, and a variety of rolls were used in the course of the game.

As role-playing games matured, the role-playing media published a variety of articles analyzing the outcomes of various dice mechanics and addressing how they translated into probabilities. Both players and referees who read those articles found that a better understanding led to a better playing experience. That alone should be enough to justify this chapter, but there's more.

This edition of **Traveller** introduces a variety of new dice mechanics and formalizes several older ones. Prior editions often introduced mechanics in the middle of rules discussions, or simply left it to the referee to define a mechanic (for example, to select one thing from a group, or to select a number from 1 to 10). This chapter brings all dice mechanics into one chapter, defines them, and then discusses them in terms of probabilities.

The **C+S Chart** gives any player an indication, in percentage probability terms, of the likelihood of success for specific tasks. He isn't required to guess about potential success, and he isn't required to make detailed calculations.

The **Dice Charts** give similar information about rolling one die, or ten dice, or any number in between. The tables show that there is a chance of rolling 10 on 10D, but at 60,466,176 to 1, it is probably better to spend any possible good luck involved on the lottery than on a single role-playing die roll.

An understanding of the dice mechanics in **Traveller** creates better players more capable of using the nuances of the game system to their advantage. That same understanding creates better referees more capable of presenting interesting and challenging situations to the players.