

Green Sun: Rise & Fall

Welcome to the **Green Sun: Rise & Fall** Race Generation booklet, please follow each of the steps set out below, along with the associated tables and complete the sheet at the very end of this document. This sheet can be found just after the section on atmospheres. The boxes on the sheet are numbered and relate to the question numbers that follow. You should consider each step and note the cost of each choice on the attached form, when complete add up the various costs (plus add, minus subtract). For your race to be permitted to start, the total should be no greater than three (3). If you do have a score of four or more, you should go back and either remove/replace a positive cost option or take an option that has a negative cost. Repeat until the new total is no greater than three (3). Unspent points are lost.

At various points in the process, you will see that there are *Notes*, these bring to your attention information, which may help you in making a particular decision. Where there is a reference, such as *See - 1.0 Introduction*, this refers to the Rule Book.

- 1) Your Name
- 2) Your postal address (*not required if playing by e-mail only*)
- 3) Your email address
- 4) Your Race or Empire name
- 5) The name of the local star
- 6) The name of the home world
- 7) The orbit, and thus temperature, of your home world. The temperature you choose will determine which new worlds you may colonise in the future, though Colony research will increase the range of habitable worlds. Please look at **Table 7**, the orbits available to you are arranged across the top, then a row showing the comparable world(s) in our own solar system. In the third and fourth row is the average temperature of a world, in that orbit, row three shows the value in Kelvin, row four the same but in Celsius and Fahrenheit. The last row shows the associated cost for choosing that particular orbit/temperature. Pick one of the available orbits listed and the cost for that orbit.

Table 7 - Orbit/Temperature

Orbit	2	3	4	5	14	15	16	17	18
Planet	<i>Mercury</i>	<i>Venus</i>	<i>Earth</i>	<i>Mars</i>	<i>Uranus & Neptune</i>				
Temp K	440	310	290	210	100	80	76	73	70
°C	167	37	17	-63	-173	-193	-197	-200	-203
°F	332	98	62	-82	-280	-316	-323	-328	-334
Cost	+1	+1	+1	+1	-1	-1	-1	-1	-1

Note - Mineral Refinery Plants function more efficiently the hotter the planet they are on as it takes less energy to carry out the process. The efficiency is a function of the Temperature (K). See – 5.0 Production.

- 8) Having chosen the orbit/temperature of your home world, the next step is to choose the atmosphere of that world. Please look at **Table 8**, there are three of these, so look at the one that corresponds to the orbit you chose in the previous section. Looking first at the atmosphere, these are the figures in **RED**, on the left-hand side. In this part of the table the first row shows the available atmosphere types, the remainder of the red figures shows the cost to have that particular atmosphere. Pick one of the available atmospheres listed and the cost for that atmosphere. Using the same row of the same table, you then need to consider the pressure of the atmosphere, these figures are shown in **BLUE**, on the right. Pick one of the available pressures listed for your orbit and the cost for that pressure.

Note - an explanation of each atmosphere type and pressure can be found at the end of this document.

Table 8a - Atmosphere & Pressure (for Orbit 2)

	IM	S	SO2		Light	Standard	Dense
2	-2	-1	0		-1	0	-1

Table 8b - Atmosphere & Pressure (for Orbits 3, 4 & 5)

	SO2	Cl/F	NH3	CH4	CO2	NO	H-He (r)	H-He (p)		Light	Standard	Dense	Hostile
3	0	0	+1	+2	+1	0	-1	-1		-1	0	-1	-2
4	0	0	+1	+2	+1	0	-1	-1		-1	0	-1	-2
5	0	0	+1	+2	+1	0	-1	-1		-1	0	-1	-2

Note - The choice of H-He(p) or H-He(r) may only be taken if the G is at least 1.1 AND the atmosphere is Dense or Hostile.

Table 8c - Atmosphere & Pressure (for Orbits 14, 15, 16, 17 & 18)

	NH3	CH4	H-He (r)	H-He (p)		Light	Standard
14	-2	-1	0	-1		-1	0
15	-2	-1	0	-1		-1	0
16	-2	-1	0	-1		-1	0
17	-2	-1	0	-1		-1	0
18	-2	-1	0	-1		-1	0

- 9) Next you should consult **Table 9**, again this is split into two tables for clarity, the first is for the Rocky Worlds, the second for Icy worlds. Look at the one that corresponds to the orbit you chose in an earlier section. The first row shows the gravity choices available; the remainder of the table shows the cost for taking that gravity. In the case where the column head contain one, or more numbers, you should select one as you chosen gravity, thus in the case of ‘0.4 or 0.5’ you may choose either 0.4 or 0.5 as your home world’s gravity. Pick one of the available gravities listed for your orbit and the cost for that gravity.

Note – in order for a ship to leave a planets surface, it will need to have an unadjusted take-of-and-landing thrust (toal) at least equal to the planet’s gravity. See - 6.0 Ship Design.

Table 9a - Gravity (Rocky worlds)

	0.2 or 0.3	0.4 or 0.5	0.6 or 0.7 of 0.8	0.9 or 1.0	1.1 or 1.2
2	-1	0	+1	0	-1
3	-1	0	+1	0	-1
4	-1	0	+1	0	-1
5	-1	0	+1	0	-1

Table 9b - Gravity (Icy worlds)

	0.8	0.9	1.0	1.1	1.2
14	-1	0	+1	0	-1
15	-1	0	+1	0	-1
16	-1	0	+1	0	-1
17	-1	0	+1	0	-1
18	-1	0	+1	0	-1

Note - A higher gravity infers a larger world and therefore more space in which to live. The size of a world will determine the maximum population that may reside there. See – 9.0 Population.

- 10) Racial origins. This is a short section in which is the description of the history of your race up to the discovery of faster than light travel. Some of these have bonus, some have penalties, for which there may be a cost to pay. You should read this section, along with the relevant section of the Basic Rules, and select ONE that best represent your race, along with any cost.

- Untainted No aliens have ever visited your world, your progression has been entirely down to evolution and your own cultural development. There are no associated bonuses/penalties. *This is the default position.*
- Naïve Your race, and possibly some of the life forms on your world too, have been transplanted there from some distant location, by an unknown force. The reason for the transplant is unknown. This results in a strong desire to know where your race originally came from and why you had to leave. Bonus of +1 ship moves per sgyear (*until such a time as natural expansion replaces this*). Cost +1 point
- Herded Your race has been visited by celestials/aliens throughout history, which has guided/encouraged your cultural development such that it has come from the Stone Age to the point of discovery of faster than light travel, in less than 500 sgyears. The celestial/aliens have not been seen in almost a century. Bonus of +1 Research Team but only to a technology area at less than tech level 11. Cost +1 points.
- Uplifted Your race is the result of some genetic experimentation by some unknown race, and for some unknown reason. This has resulted in an intellect above that ordinary evolution could produce. Bonus of +1 Research Team but only to a technology area at less than level 21. Cost +2 points.
- Slave I Your race was the slaves of some other ancient alien race, you may or may not be native to this world (*your choice*). The reason the alien masters have gone is also your choosing (*i.e., they died out mysteriously, or they were overthrown in an uprising of your people, et al*) though this change happened more than 100 sgyear ago. Bonus, you begin with ten (10) tech levels of advantage. Cost +1 point. **OR** you begin with twenty (20) tech levels advantage. Cost +2 points. **OR** you begin with thirty (30) tech levels advantage. Cost +3 points. These bonus tech levels are applied to the first 10/20/30 tech levels your race advances, doubling the result until the bonus is used up.
- Slave II A variation of the above in that your race were the slaves of some other ancient alien race, you may or may not be native to this world (*your choice*). The reason the alien masters have gone is also your choosing (*i.e., they died out mysteriously, or they were overthrown in an uprising of your people, et al*) though this change happened more than 1000 sgyear ago. Bonus, you begin with twenty-five (25) General Tech levels advantage. Cost +1 point. **OR** you begin with fifty (50) General Tech levels advantage. Cost +3 points. **OR** you begin with seventy-five (75) General Tech levels advantage. Cost +5 points. These bonus General Tech levels are either applied to the first 25/50/75 tech advances you makes doubling their effect, or to be used in place of the need to carry out parallel General Research. This bonus lasts until it is used up.
- Artefact I Your race discovered the remains of an alien ship, possibly in some pyramid deep in the jungle and its technology has been researched for years, its secrets having been unlocked. Your race has a good understanding of the technology of the artefact, greatly advancing your understanding of a) your chosen Faster-

than-light (FTL) system, and b) your chosen Primary Weapon. Bonus, your research in either of these fields yields double the results (*to a maximum of tech level 50*). Disadvantage, the cost of gaining a subsequent weapon type is doubled, while any work on trying to discover a subsequent FTL system is doubly difficult. Cost +2 points

Artefact II A slight variation of the above in that your race has recently discovered a derelict alien ship, in orbit around a moon, or planet in your home system. You will need to transport it back to your home world, (*research in situ is not practical at this stage in your racial development*). Once the derelict is back on your home planet your race may begin studying it, greatly advancing your understanding of your chosen Faster-than-light (FTL) system. Research into your FTL system yields double the results (*to a maximum of tech level 50*). Disadvantage, any work on trying to discover a subsequent FTL system is at a raised difficulty (*the actual penalty decreases as your FTL tech advances*). Cost +1 point

11) Faster-than-light (FTL) system. There are several different types of FTL drives available, though your race will not be aware of this at the start of the game. From the list below choose whichever system you wish your race to possess.

Jump This is a unit aboard your ship which when powered can detect around three jump routes out of your star system, along with the ‘duration’ (*i.e., distance*) of the jump route. Advantage, the limit to the size of ship that one Jump Drive can move is quite large, such that at the start of the game any ship you may build may be moved by just one Jump Drive. Disadvantage, the range of the 1st generation Jump Drive is quite short, limiting the journeys it can undertake. Cost 0 point.

Hyperspace Hyperspace is a ‘fluid space’ in which the distances between stars is considerably shorter than in real space. Ships equipped with a Hyper Drive, punch a hole into hyperspace, fly to a destination and then punch a hole back into normal space. The big advantage is that when the hole into hyperspace is open, other ships, even without their own Hyper Drive, (but with the appropriate navigational software) may travel along too. The disadvantage is that hyperspace is fluid, ships can, and do get lost, sometimes irrevocably. Cost 1 point.

Gates Throughout the galaxy are a number of Gates (think Stargate) left by an unknown race and which may be utilised by anyone who understands how they operate. Initially this technology will allow access to the established network, though with advanced understanding new Gates may be set up at new locations. When a Gate is open, any ship may travel through to the destination Gate, though travel is one-way thus a means to return must have been prepared in advance. You may not choose an Untainted as your racial origin if you wish to have this FTL drive. Cost -4

Players are advised that Gate travel is not easy and may take a considerable amount of time to master. You should not choose this option unless you have the patience to see the project through.

Note – more, detailed information, on each drive system will be provided once you begin the game, and as you improve the technology of the chosen technology. See - 6.0 Ship Design.

Additional note - access to additional FTL drive systems may come through research, however the easiest route is to encounter an example of an alternative drive system.

12) Weapons. While it may be possible to play for several years in the game without ever needing to use a weapon, it is very likely all players will wish to arm their ships. At the outset all players will have access to simple projectile weapons, though their usefulness will be so limiting as to make them useless in any real combat situation. Technology however provides a solution, with high yield weapons based upon one of the Exotic you have access to. There are four types of weapons available to each race, and (subject to later choices) they may choose one Primary, and one Secondary type. Advancing the Primary automatically advances the Secondary by half the tech gain (*fractions of 0.5 are rounded up*). Advancing the Secondary on its own is possible, but this has no affect on the Primary (*unless it is at a higher tech level, in which case the roles are reversed*). The choices available at the start of the game are:

- | | |
|----------|---|
| Beam | Phasers, Lasers, C-beams, these are focussed beams of energy that are directed to a target at the speed of, or very close to, that of light. These are good at short and medium ranges and against fast moving targets and at longer ranges against slower target. They do require a substantial quantity of Exotic to be consumed as part of their manufacture. Cost 0. |
| Torpedo | Photon Torpedo, Ion Cannon, these are substantial energised ‘packets’ that are hurled at high speed towards their target and inflict significant damage when they hit. They are good at short and medium ranges against slower targets but struggle to hit faster targets. A ship will have a finite number of torpedoes, however unless they are in multiple combats or a protracted battle, reloading is not a problem. Cost 0. |
| Missile | Missiles, which are small, pilotless vehicles that fly towards their target, then detonate close to, if not actually hitting their target. They may be fired at long to extreme range (subject to their fuel) and could take several hours to reach their target. A direct hit can inflict a great deal of damage, even a proximity explosion may well disable a target. In order that they hit a target a Missile needs to have a speed (<i>sp</i>) and a manoeuvrability (<i>mv</i>) that is greater than their target. A ship will have a finite number of Missiles, which will need to be replenished after they are fired. Cost 0. |
| Fighters | Fighters and similar small craft which are piloted (albeit remotely), or autonomous, flying towards their target, there to deploy some other weapon at very short range and hopefully return to their support platform once their mission is over. They are difficult to target with alternative weapons and are best dealt with by other fighters. Having low endurance, perhaps just a few |

sgdays at a push, fighters do need a support platform, be this a planet, station or carrier. Cost -1.

Note - the cost of purchasing a weapon trait is for the Primary weapon only, the Secondary weapon choice, unless modified by choices elsewhere, is free. See - 8.0 Research.

13) Racial traits. In addition to the Racial Origins detailed at point 12) it is possible to purchase modifications to your starting position. These are entirely optional and

Resources At the start of play your home world will have a stockpile of each of its designated resources, it is possible to purchase extra resources equal to you starting stockpile. This may be purchased a multiple of times. Cost 1/per purchase.

Pacifist You may elect that your race will never enter combat under any circumstance, by declaring you are to be a ‘pacifist’ your race will be denied any combat/aggressive trait, all (offensive) weapon technology and any military aspect of any other technology. You may however develop/employ defensive technology. Cost -4

Research At the start of the game you will have a set number of research centres on your home world, by selecting this ability you may increase this by one Research Team. This ability is a permanent increase and may be purchased more than once. Cost +3/additional Research Team.

3rd Weapon In section 14 you will have had the option to pick a Primary and a Secondary Weapon type. This ability gives you the opportunity to select a Tertiary weapon type. Advancing the Primary automatically advances the secondary by half the tech gain (*fractions of 0.5 are rounded up*). Advancing the Secondary on its own automatically advances the Tertiary by half the tech gain (*fractions of 0.5 are rounded up*). This has no affect on the Primary. Cost +3 points.

Actions Each game turn you will have a number of actions included in your monthly package (*Move, Design, Research & Special Action*) purchasing this ability will give you ONE extra action each month as you see fit. This may be purchased more than one. Cost +1 (Maximum of three purchases).

Reproduction The default reproduction rate of races in the game, based on a default life span, is 1.00% (*growth is measured as births minus deaths*). You may purchase a higher rate of 1.50%, Cost +1. Alternatively, lower rate of 0.50%, Cost -1.

Note - The rate a race grows by will determine how quickly a world will become overpopulated and thus at which point Malthusian Disasters kick in. See – 9.0 Population, 11.0 Morale.

Life span The default life span of races in the game is 75 sgyears with the default reproduction rate based upon this. You may purchase a shorter life span of 50sgyears, Cost 1. Or a very short life span of just 25 sgyears. Cost 4. Alternatively, a longer life span of 150 sgyears. Cost -2. This will affect the

reproduction rate of your species, the shorter the life span, the greater the growth rate.

Note - While a race may never be 'accustomed' to a new atmosphere type, it may, by prolonged exposure acclimatise to a slightly different temperature, pressure or especially gravity with less reliance on colonial support. The shorter the species life span, the quicker this process will occur. See – 10.0 Colonies.

Size The default size of a race is in the 0.76m to 1.25m range. The costs and effect of the alternative sizes are given in the table below. By size this is meant by the creature's greatest dimension, be this height or length but not including tentacles or wingspan, if any. The imperial measurements are given for convenience and are *approximate* conversions.

Size	Description	Cost
< 0.1m (<4")	Not possible within the current rules.	-
0.1m - 0.25m (4" - 10")	Much higher reproduction rate. Bonus - May put significantly more people in a Hib' Unit. Penalty - Disadvantage in ship combat against much larger foe.	2
0.26m - 0.75m (10" - 30")	Higher reproduction rate. Bonus - May put slightly more people in a Hib' Unit. Penalty - Disadvantage in <i>melee</i> combat against larger foe.	1
0.76m - 1.25m (30" - 50")	The default size. No bonuses, no penalties.	0
1.26m - 3.00m (50" - 120")	Lower reproduction rate. Bonus - Advantage in <i>melee</i> combat against much smaller foe. Penalty - May put slightly fewer people in a Hib' Unit.	-1
3.01m - 10.00m (120" - 400")	Much lower reproduction rate. Bonus - Advantage in <i>melee</i> combat against smaller foe. Penalty - May put significantly fewer people in a Hib' Unit. Penalty - Costs for certain personal equipment will be greater.	-2
> 10.00m	Reserved only for aquatic species and then only by express permission with the GM.	-

Note – Hib' Unit is a hibernation unit for the transportation of colonist. See – 10.0 Colonies.

Flight Your species has the ability to glide or even fly. True flight is reserved for a species with a maximum size of 0.75m and has a home world atmospheric pressure of Standard or greater. This gives the species a natural awareness of the 3rd dimension and thus a bonus in space combat, Cost 3. Gliding is available species of all sizes that has a home world atmospheric pressure of Standard or better, OR species of maximum size of 1.25m if the home world atmospheric pressure is Light or better. Gliding gives the species a natural awareness of the 3rd dimension and thus a slight bonus in space combat, Cost 2, (*May not subsequently choose Aquatic*).

Aquatic Your species lives its entire life cycle within a liquid medium (whether it has ‘lungs’ or ‘gills’ is irrelevant) and as a result it has a natural awareness of the 3rd dimension and thus a bonus in space combat. However, in order to maintain internal pressure, its spaceships have to be hardened, this not only increases the cost in Material, but also increases their mass (and thus speed and/or manoeuvrability). Cost -1, (*May not subsequently choose Flight or Gliding*).

Stoic Your race bears discomfort and misfortune better than other races. This means that the effect of Morale upon race is one category less severe than the figure would ordinarily suggest. Cost 1. Extreme Stoicism has the same effect but is two categories less severe than the figure would ordinarily suggest. Cost 3. *See – 11.0 Morale.*

- 14) Short description. This should be a short description of your race, something in the order of 150 words, up to a maximum of 250 and will be transmitted to any player that you encounter, or who encounters your race. Points cost = 0.
- 15) Long description. This a longer version of the above and serves to ‘flesh out’ the race, this may be as detailed as you wish however, nothing written in this section will convey some ability, power, benefit or advantage not ‘paid’ for in any other section of this document. So, no 100m tall fire-breathing dragons! Points cost = 0.
- 16) Morale. Section 11.0 of the Rule Booklet details the effects of Moral, it all notes that it is optional. You just need to indicate if you wish Morale to in effect for your race, or not. You will have the option to change your mind at any time in the future, but only once. The default position is ‘NO’.
- 17) Start Position. As a new player you will automatically be placed in a new part of the game, among other players who have started the game around the same time as you (default of 0). There however is an option to request to be placed in an older part of the game, most often where a previous player did not fully start, or has dropped out. There is no guarantee that a place will be available, however make your choice. The options are shown with the number of turns the players around you have been playing along with the Bonus Actions you get for taking that option. Bonus Actions are available each turn, for a number of turns equal to the ‘head start; the players around you have had.
- 18) Confirmation of age. You are to indicate that you are an adult, as defined in whichever part of the world you are in. Being an adult is not a precondition of the playing the game, it will however moderate what material that will be presented. This is for the protection of the GM and the player involved.

Atmospheres

- IM Ionised Metals, this is a particularly hostile atmosphere and requires a very tough life-form to exist here, let alone thrive. This atmosphere is particularly corrosive to non-metallic or non-rocky material.
- S Sulfur/Sulfides, an atmosphere based upon Sulfur itself, or one of its many sulfides. This atmosphere is at best translucent, at worst opaque and is best described as being very primordial.
- SO₂ Sulfur dioxide,
- Cl/F Chlorine and/or Fluorine, this may be either based just on one, or a mixture of both of these halogen gases and results in a very active atmosphere.
- NH₃ Ammonia, an atmosphere based upon ammonia, most likely with Nitrogen present in a significant proportion.
- CH₄ Methane, an atmosphere based upon methane, it may well have other gaseous hydrocarbons present.
- CO₂ Carbon dioxide, a mix of carbon dioxide and carbon monoxide, though the latter in trace amounts.
- NO Nitrogen/Oxygen, the atmosphere of planet Earth.
- H-He Hydrogen & Helium mixture, this atmosphere mix comes in two types based upon the Helium content, which if in the order of 5% is Poor (p) and anything around 20% is Rich (r). The importance of the difference will only become apparent with high level research.

Pressure (*1 Bar is the pressure record at the surface of the Earth*)

- Nil No discernible atmosphere at all, effectively a true vacuum. Atmosphere = 0.0 Bar.
- Vac The pressure is as recorded at the planets surface, which may be the same as Nil, however in deep depressions, caves within the planet there may be a detectable atmosphere. Atmosphere = <0.01 Bar.
- Light This is a very thin atmosphere and is rated in the range of 0.01 to 0.5 Bar.
- Standard As the name suggests, this is the standard pressure (1 Bar) to which all other pressure are compared, the range however covers 0.05 to 2.0 Bar.
- Dense A much denser atmosphere that is in the range 2.0 to 10.0 Bar. For life forms not native to this sort of pressure, this can be an oppressive environment.
- Hostile A far denser atmosphere often beyond the endurance of equipment, let alone non-native life forms and covers the range 10.0 to 50.0 Bar.

Crushing Pressure that is beyond endurance. While life may arise under these conditions, the technology required to make it survive at a lesser pressure, let alone the vacuum of space makes their involvement in the game limited to NPCs. The pressures involved exceed 50.0 Bar.

Note – contrary to popular belief, it is not the gravity of a world that restricts exploration and exploitation, but the pressure of its atmosphere. See – 10.0 Colonies.

			Cost
1	Your Name		0
2	Your Postal address <i>(not required if playing by e-mail)</i>		0
3	e-mail address		0
4	Race & Empire name		0
5	Name of local star		0
6	Name of home world		0
7	Orbit/temperature		
8	Atmosphere type		
	Atmosphere pressure		
9	Gravity		
10	Racial origin		
11	FTL drive		
12	Weapon Primary		
	Weapon Secondary		
13	Racial Trait(s) <i>(as many as required)</i>		
14	Short description of race		0
15	Long description of race <i>(expand this section to suit, or supply additional sheet)</i>		0

16	Morale	YES/NO (default is NO)			0
17	Starting position	0 [+0]	1 to 12 [+1]	12+ [+2]	<i>Special</i>
18	Age	I confirm I am an adult YES/NO			0
					Total