N.E.W. SPACE TRAVEL

Space travel takes place on a hex grid like the one shown below. The navigator plots the course and daily checkpoints, ensuring that the ship has enough fuel to reach each checkpoint. Checkpoints are simply intervals at which new skill checks are needed; typically one checkpoint per day of travel is required. There does not need to be anything at the checkpoint location, but if a space station or similar object is there, the ship can refuel and can reset its *progress* score (see below). This is a "fail forward" system – the ship will not fail to navigate to its destination, but the checks determine the condition it arrives in.

SPACE TRAVEL SKILLS

The following rolls must be undertaken at each checkpoint along the route. Difficulty is **Routine (10)** in charted space and **Difficult (16)** in uncharted space. Determine difficulty by how much of the travel is charted or uncharted – whichever has the greater share of the day's travel. Use relevant skills.

LOG – engineer; the engineer needs to ensure the FTL system is working correctly.

LOG – navigator; the navigator plots the course and calculates FTL coordinates.

INT – pilot (helmsman); the pilot actually files the ship according to the navigator's plots.

INT – sensors (science officer); the sensors operator keeps an eye out for hazards.

In some ships, navigator and pilot are combined into one role. In this case, the LOG attribute is used, not INT.

Useful skills include *piloting, engineering, navigation, sensors*.

Some secondary roles required in certain circumstances include:

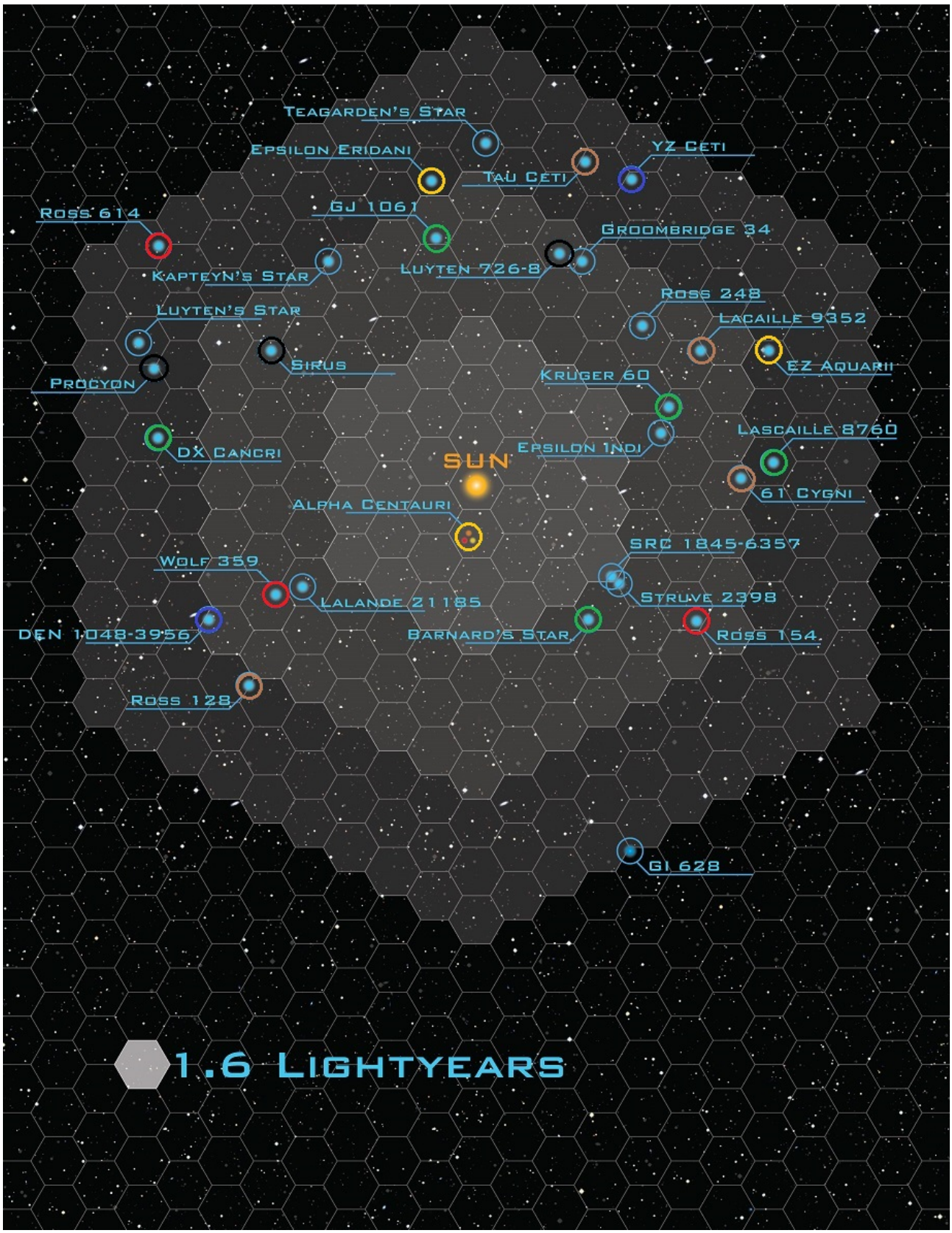
LOG – medic; the medic monitors the crew, their physical and mental health, and their diets, on long journeys of more than a week.

INT – security; on ships of more than 50 crew, a security officer needs to maintain order.

TRAVEL SPEED

See the core rules.

- Speed is determined by the ship's FTL speed. Standard speed is FTL-7, which is 343 times light speed and is a speed of 1 light year per day. See the chart for more detail, but two light years per day is FTL-9, three light years per day is FTL-10, four light years is FTL-11, five light years is FTL-12, ten light years is FTL-15, twenty light years is FTL-19.
- Fuel determines the maximum range of travel; one fuel unit buys one parsec. Fuel costs 10 Cr per unit, and the ship's maximum fuel capacity is noted in its statblock.


Teagarden's Star
Epsilon Eridani
Tau Ceti
YZ Ceti
GJ 1061
Ross 614
Groombridge 34
Kapteyn's Star
Luyten 726-8
Ross 248
Luyten's Star
Lacaille 9352
Sirius
EZ Aquarii
Procyon
Kruger 60
Lascaille 8760
DX Cancri
Epsilon Indi
SUN
61 Cygni
Alpha Centauri
SRC 1845-6357
Wolf 359
Lalande 21185
Struve 2398
DEN 1048-3956
Barnard's Star
Ross 154
Ross 128
Gl 628
1.6 Lightyears

EACH CHECKPOINT

Checkpoints are stages of travel which require attribute checks. Generally speaking, one checkpoint is required per day.

The navigator should plot the route, marking the daily checkpoints.

Begin travel with a *progress* score of zero. This represents how well things are going. The aim is to keep *progress* as high as possible.

Each checkpoint of travel make a check for each primary role. Success gives +1 *progress*, failure gives -1 *progress*. Not attempting a check counts as failure. In some circumstances, checks for secondary roles are also required.

Any day the journey is at negative *progress*, something bad happens that day (ion storm, encounter, illness, engine malfunction, etc.) Base the bad thing on which checks were failed – if the sensors fail, a pirate attacks or the ship enters an ion storm; if the navigator fails, the ship gets lost and ends the day halfway to the next checkpoint; if the engineer fails, the ship takes engine damage, losing one FTL factor of speed.

There are several different types of checkpoint. See *Designing a Star System* for more detail on planet types. Each day spent resting at a checkpoint recharges negative *progress* by the shown amount (it has no effect on *progress* of 0 or higher). Each also allows certain types of action.

Checkpoint	Symbol	Progress Recharge*	Actions
Empty	O	0	None
Homeworld	O	5	Refuel, repair
Mining	O	1	Refuel
Colony	O	3	None
Industrial	O	2	Repair
Agricultural	O	2	None
Miltary	O	1	Refuel
Outpost	O	1	None
Unique	O	varies	Varies

*per day

ARRIVAL

When the arrives arrives at its destination, if *progress* is negative they are exhausted until they get a night's sleep (long rest) docked at a space station or planet.

STRANDED

Generally speaking, ships should not get stranded. Failure on checks simply causes drawbacks; it doesn't prevent travel. Courses should be plotted based on fuel capacity. Even failed navigation checks simply increase the journey time, not the fuel requirement.

However, there are a couple of unlikely events which could end up with a stranded ship:

- A ship which repeatedly takes engineering damage to its FTL engines could theoretically end up with an FTL speed of zero. The engineer can repair engines at a rate of 1 FTL point per day with a Challenging [13] LOG check; this cannot be done while the FTL engines are being used.
- The navigator could plot a course for which there isn't enough fuel. It's hard for that to happen, and most ships have failsafe systems which disallow such course plots. However, if the navigator deliberately overrides that, ignores the fact that there isn't enough fuel, and plots the course anyway, the the ship becomes stranded and must issue a distress call.
- Damage to the ship from a random encounter could disable the ship, stranding it. A distress call must be issued.

If a distress call is issued in charted space, aid arrives in 1d6 days. Aid has a cost of 10 Cr per ship class per parsec; credit will always be given in such situations. In uncharted space, aid arrives in 1d6 weeks and may be a new species.

FTL-X	C	1 parsec in	DAYS	HOURS	1 ly in	DAYS	HOURS
1	1	3.26	1190	28558	1	365	8760
2	8	0.4075	149	3570	0.125	45.63	1095
3	27	0.1207	44	1058	0.0370	13.52	324.4
4	64	0.0509	19	446	0.0156	5.7	136.9
5	125	0.0261	10	228	0.008	2.92	70.1
6	216	0.0151	5.5	132	0.0046	1.69	40.6
7	343	0.0095	3.5	83	0.0029	1.06	25.5
8	512	0.0064	2.3	56	0.0019	0.71	17.1
9	729	0.0045	1.6	39	0.0014	0.5	12.0
10	1,000	0.0033	1.2	29	0.001	0.37	8.76
11	1,331	0.0024	0.9	21	0.00075	0.27	6.58
12	1,728	0.0019	0.7	17	0.00057	0.21	5.07
13	2,197	0.0015	0.54	13	0.00045	0.17	3.99
14	2,744	0.0012	0.43	10	0.00036	0.13	3.19
15	3,375	0.0009	0.35	8	0.00029	0.11	2.60
16	4,096	0.0008	0.29	7	0.00024	0.09	21.4
17	4,913	0.0007	0.24	6	0.00020	0.07	1.78
18	5,832	0.0006	0.20	5	0.00017	0.06	1.50
19	6,859	0.0005	0.17	4	0.00014	0.05	1.28
20	8,000	0.0004	0.15	3.5	0.000125	0.05	1.1
30	27,000	-	0.04	1	-	-	0.3
40	64,000	-	-	25 mins	-	-	8 mins
50	125,000	-	-	12 mins	-	-	3.7 mins
100	1,000,000	-	-	2 mins	-	-	36 secs