



Space Station

PURPOSE

To develop risk assessment, problem-solving and decision-making skills

LEARNING OUTCOMES

The activity will help the students to develop their ability to:

- work as part of a team to make decisions and solve problems
- analyse costs (*time, money, ethical*) of different options
- interpret information to inform decision making
- take calculated risks to achieve success

TIMING

- 45 – 60 mins

TYPE OF ACTIVITY

- planning and organising

GROUP SIZE

- whole year group
- whole class

USE

- stand-alone activity
- part of off-timetable session

PREPARATION & MATERIALS

- make students aware (e.g. through a list, briefing etc.) of which groups they are in (preferably mixed gender, ability, ethnicity and non-friendship groups to reflect real life)
- enough Briefing Sheets, AstroNotepads and AstroSketch Maps for each group to work effectively and the PowerPoint version of the Briefing Sheet if appropriate
- pencils, marker pens, rough paper and 'good' paper for each group
- AstroText Messages for reference (see Step 2)
- enterprise skills audit and activity evaluation materials as appropriate

Running the session

1. Give out the *Briefing Sheet*, *AstroNotepad* and *AstroSketch Map* and go through any issues that need clarification. Tell the groups how long they have to complete the task and allow them to begin.
2. Monitor progress and at appropriate times read out one or more *AstroText Messages* to build up the tension and pressure. Give time reminders as appropriate and as the deadline approaches.
3. Stop the activity once the deadline is reached. Take feedback from the groups on the course of action they are recommending to the SSA.

If you have decided whether there is life on this planet, and whether it is friendly, neutral or hostile, then the successful groups will be obvious. In addition to survival, the group offering 'best value' may be accounted the 'winner'.
4. Debrief the students.
5. Evaluate the activity with the students and others as appropriate.

Debrief

There are likely to be a number of issues that need to be explored. These may include:

- How did you make decisions without hard facts?
- Does this reflect what happens in real life?
- What processes did you go through to arrive at your decisions?
- Did you enjoy the risk-taking or was that unpleasant?
- When in real life might we have to follow a hunch and act on instinct?
- How can we prepare ourselves for this?
- What were the things you liked best about the activity?
- Which parts of the activity did you find most challenging?
- What would you do differently next time?
- What skills have you used?

Variations

You can vary the activity and alter the degree of difficulty by:

- leaving out the AstroText messages and running the session as a straightforward problem-solving activity
- asking the groups to prepare sketches or plans of the proposed Space Station
- asking the groups to build a 3D model (*out of card, art straws, etc.*) of the proposed Space Station



A S T R O N O T E P A D

ASTROTEXT MESSAGES

- MINERAL DEPOSITS ROUND MOON MOUNTAINS MAY BE MUCH GREATER THAN PREVIOUSLY THOUGHT
- QUARRY Y - RECENT MAJOR ROCK FALL WILL MEAN IT WILL BE MORE EXPENSIVE TO WORK, BUT STONES SEEM TO BE OF SUPERIOR QUALITY
- FLASHING LIGHTS DETECTED TO NW OF MOON MOUNTAINS - MAY BE JUST ATMOSPHERIC CONDITIONS
- SURVEY TEAM LOOKING INTO IT
- SSA HAS DECIDED TO NAME MOUNTAIN RANGE TO N OF SEA OF CALIBAN THE MOUNTAINS (E.G. THE SCHOOL'S/HEAD'S/HEAD OF YEAR'S NAME ETC.)
- MORE EVIDENCE FROM THE SURVEY TEAM OF HUGE MINERAL DEPOSITS IN MOON MOUNTAINS - STILL TRYING TO DETERMINE SOURCE OF FLASHING LIGHTS AND 'LOUD CRACKING NOISE'
- SWAMP BETWEEN QUARRY Y AND SITE A APPEARS VERY UNSTABLE
- ASTRO RADIO INTERFERENCE REPORTED NEAR MOON MOUNTAINS LOCATION - SURVEY TEAM FAILED TO REPORT IN
- MINERAL DEPOSITS IN MOUNTAINS ARE DEEPER UNDERGROUND THAN PREVIOUSLY THOUGHT
- SENDING RESCUE PARTY TO FIND THE SURVEY TEAM IN MOON MOUNTAINS
- RESCUE PARTY NOT YET RETURNED
- MORE SIGHTINGS OF LIGHTS AND REPORTS OF CRASHING SOUNDS





Space Station

You are the Command Squad of Space Sector C 60 which includes a recently discovered planet.

AstroSurveys indicate vast natural mineral deposits which will be extremely valuable.

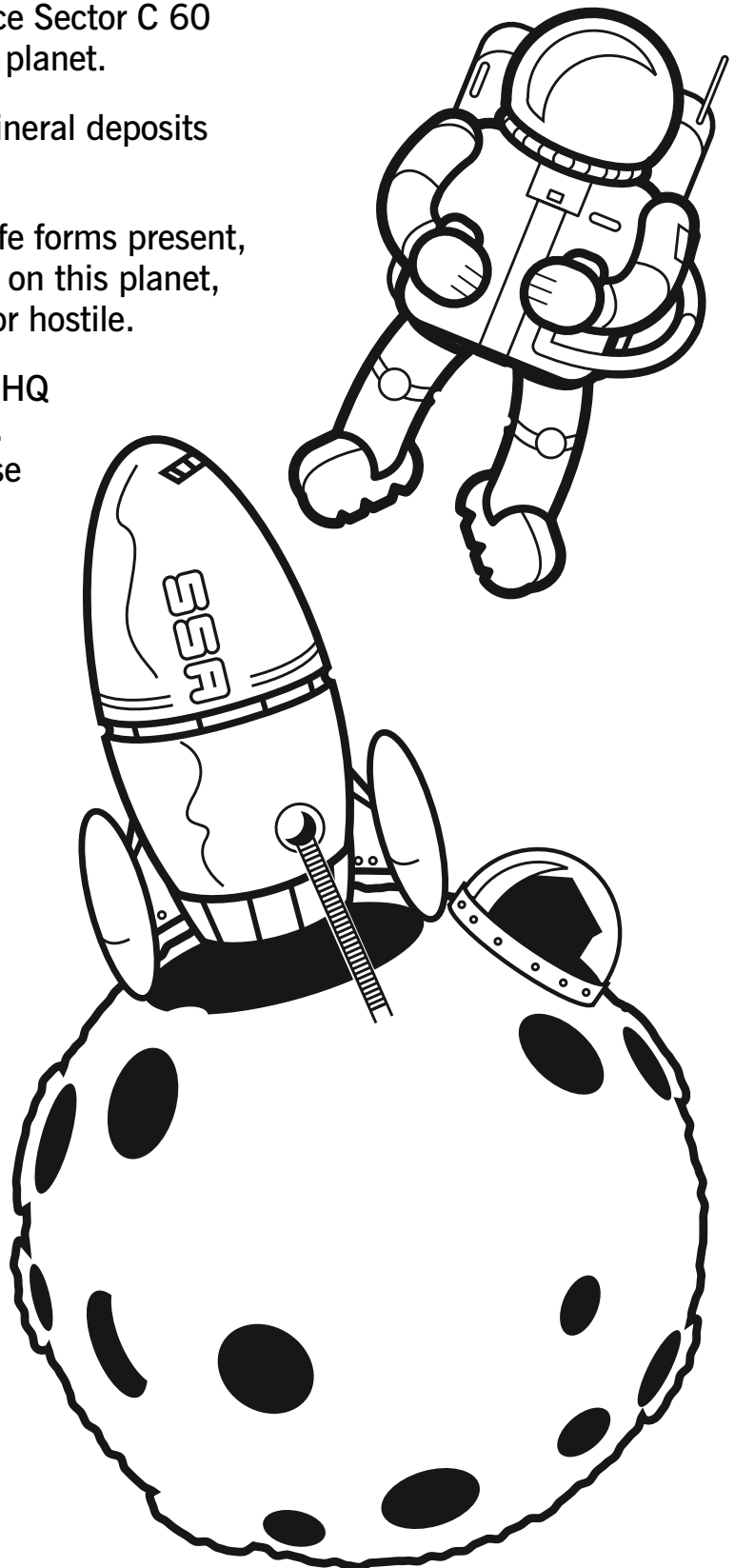
You have as yet no evidence of any life forms present, and no way of knowing if there is life on this planet, and if there is, whether it is friendly or hostile.

Currently you have only a temporary HQ and rocket landing site on the planet. Your first task, therefore, is to organise the building of a Space Station. You have the research notes from Command Squad members on your AstroNotepad.

SSA (the Supreme Space Authority) is expecting your report and recommendations, including information on:

- the site of the Space Station
- the size of the Space Station
- the materials to be used
- the total cost
- how long it will take to build

Plans and architect's impressions would be appreciated.





ASTRO NOTEPAD

CARGOFREIGHT TIME

FLEET OF 3 CARGOFREIGHT ROCKETS
STANDING BY

JOURNEY TIME - 4.5 ASTRODAYS

MAX LOAD - 3,000 PLASTICON BLOX

COST PER FLIGHT - A\$2,500

Construction Times:

Local blocks (smaller) - 22.5 Astrodays

Plasticon Blox (larger) - 18 Astrodays

Quantity AstroSurveyor's report:

Local blocks required for small
space station - 10,000

Local blocks required for medium
space station - 15,000

Natural Building Materials:

Stone can be quarried
locally

v. cheap - 100 Astrodollars
(A\$) per 1000 blocks

Quarrying time:
50 blocks per Astroday

but local stone won't last
more than 10 Astroyears

Alternative to local stone:
Plasticon Blox imported
from nearest major base

Price at source:
A\$15 each

Size: 2x local blocks

Lasts for eternity

ON-PLANET TRANSPORT

2 SMALL PLANETECHNICONS
(MAX. LOAD 3,000 LOCAL
BLOCKS EACH) AND 1 MEDIUM
PLANETECHNICON (MAX.
LOAD 5,000 LOCAL OR 2,500
PLASTICON BLOX)

COSTS (MAINTENANCE COSTS
ONLY): A\$40 PER DAY (SMALL);
A\$50 PER DAY (MEDIUM)

TRANSPORT TIMES:

Quarry X to Site A: 3.5 Astrodays

Landing Site to Site A: 2 Astrodays

Quarry X to Site B: 2 Astrodays

Landing Site to Site B: 4 Astrodays

Quarry Y to Site A: 1 Astroday

Quarry Y to Site B: 2.5 Astrodays



