

# Living in Space



## Before Reading

### Motivation / Purpose

The purpose of this text is to describe the organisation and preparation that needs to happen so that people can live in space. The text links with the *Social Studies* theme *Communities*.

### Text Type

Draw students' attention to the:

- chapter headings and subheadings
- photographs and diagrams
- glossary and index.

Ask, "What type of book is this?" (Non-fiction). What type of non-fiction book is this? (Description)

### Visual Literacy

Look at the front cover of the book. What does the photograph tell you about life indoors in space? Look at the back cover. What does the photograph tell you about surviving in space outside a spacecraft? Look at the page design, and talk about how it links to the subject matter.

### Background Knowledge

Ask students if it is possible for people to live in space. If you were to live in space, what aspects of your day to day life would be affected?

### Phonological Awareness

Ensure students know these phonological patterns:

- **long e:** materials (p.9), easily (p.13), hygiene (p.20)
- **long o:** below (p.5), Over (p.7), cope (p.10)
- **/sh/:** Russia (p.4), recreation (p.10), special (p.12)
- **long oo:** two (p.7), fruit (p.15), including (p.16)

Revise these sounds: /x/: expected (p.12), exercises (p.23); /er/: observed (p.5), burnt (p.21); /air/: their (p.16), careful (p.17); /or/: cosmonauts (p.5), board (p.12)

Write words containing the above phonological patterns onto cards. Ask students to pick up word cards with a particular phonological pattern, e.g. Pick up word cards with a long i sound. What letters represent this sound?

Write a word containing a phonological pattern listed above, e.g. below. What letters represent the long o

## Vocabulary

astronauts, board, bunks, canning, conducted, cosmonauts, crew, dehydration, docked, experiments, freezer, fresh, inhabited, launched, materials, medicines, mentally, microgravity, muscles, observations, orbits, periods, permanent, physically, preserved, routine, suction, tasks, toilets

sound? ('ow') Have students write other words they know that contain 'ow' to represent the long o sound. Repeat with other phonological patterns.

## High Frequency Words

affected, below, closely, constant, continuously, cope, encourage, entered, expected, humans, preparation, result, separately, tricky

Before showing the words, dictate each word to the students. Check their spelling. Show students the words and have them memorise the words. Dictate the words again. How did your spelling improve?

## During Reading

### Vocabulary in Context

Discuss the meaning of each vocabulary word.

Locate the origin of: *cosmonaut* – from *kosmo* (Greek meaning universe) + *nautes* (meaning sailor); *astronaut* – from *astron* (Greek meaning star) + *nautes* (meaning sailor); *dehydrate* from *de* (meaning to take away or reduce) + *hydrate* (Greek *hydro* meaning water). How does the prefix *re-* change the meaning of *dehydrate*?

Write: *prepare, preparation; create, recreation; preserve, preservation; observe, observation*. How does adding a suffix change the pronunciation of the base word? Write word families for vocabulary words. Have students use the words in sentences to demonstrate their understanding of the meaning and function of the words.

### Checking for Meaning

#### Literal:

What was the first space station and what was its purpose? (Salyut 1 was the first space station where

people could live while they made observations and conducted experiments.)

What other space stations have been launched? (There have been another seven Salyut space stations, as well as Skylab, Mir and the International Space Station.)

What makes life difficult on a space station? (On a space station there is: microgravity, small living and working areas, no outdoor areas for recreation, living and working with the same people for months on end, daily routines, constant recycling of air and water.)

### Inferential:

Why is a space station like a community?

What technology has been invented that allows people to live on a space station?

### Response:

What do you think people would enjoy about living on a space station? What other difficulties do you think people face living on a space station? What would be your greatest challenge if you lived on a space station?

## Grammatical Patterns

Make sure students understand the following components of a description:

- Introduction to the subject of the description: *a background to the history of living in space* (pp.4–7)
- Passages to describe characteristics and attributes of the topic: *preparing to live in space* (pp.8–9), *working in space* (pp.12–13), *eating in space* (pp.16–17)
- Use of general nouns: *human* (p.4), *trip* (p.8), *months* (p.10)
- Use of technical language: *cosmonauts* (p.5), *gravity* (p.10), *dehydration* (p.14), *orbits* (p.19)
- Use of adjectives to build noun groups: *the first crew of cosmonauts* (p.5), *a permanent two-person crew* (p.7), *very small amounts of water* (p.20)
- Use of adverbs and adverbial phrases: *separately* (p.5), *continuously* (p.6), *physically and mentally* (p.8), *quickly and easily* (p.13)
- Use of nouns and noun groups as the beginning theme or clause: *A lot of organisation* (p.8), *Astronauts* (p.16), *Sleeping on the space station* (p.19)
- Use of dependent phrases as the beginning theme: *Without the help of gravity*, (p.17), *Because of a lack of gravity*, (p.17)

## Fluency/ Punctuation Patterns

These punctuation patterns occur in the text:

- Use of capital letters for proper nouns: *Earth* (p.5), *United States* (p.5), *Mir* (p.6)
- Use of italics to indicate a name: *Salyut 1* (p.5)
- Use of colon and bullet points to list facts: (pp.10–11)
- Use of commas to separate words in a list: (p.15)

- Use of apostrophes to indicate possession in singular and plural nouns: *astronauts' medicines* (p.9), *Earth's atmosphere* (p.21), *astronauts' muscles and bones* (p.22)

Reread Chapter 3 (pp.10–11), demonstrating how to read facts recorded in a list with bullet points, pausing at the colon and at the end of each fact in the list.

In this text, word definitions are enclosed in brackets to give extra information: *The Soviet Union (Russia) ...* (p.4), *Because the food has to last a long time (sometimes up to three months)* (p.14). What punctuation do the brackets replace? (commas) Demonstrate reading these sentences, pausing before and after the brackets.

## Critical Literacy

What questions about living in space does the text answer? Was this text easy or difficult to understand? What new information did you learn about living in space?

## Linking Visual and Written

Look at the photographs on pages 5, 9, 10 and 11. Talk about how astronauts' uniforms have changed since the first spacecraft went into space with a human on board in 1961. Why do you think the uniforms have changed?

## After Reading

Ask each student to imagine they are an astronaut on a space station. Have them use visual and written information in the text to describe a typical day.

## Activities

Students will:

- recall and write facts to demonstrate their comprehension of the text
- write words from the text containing specified phonological letter patterns
- change base words to fill gaps in sentences
- write a description of a day in their life as an astronaut living in space.

Comprehension (meaning)    Vocabulary (structure)    Phonics (visual)    Writing (structure)

