

Space Junk, Meteorites and Comets

Vocabulary

asteroids, coma, comet, damage, detonated, dynamite, escaping, existed, float, Halley's Comet, hurtle, Jupiter, littering, Mars, nucleus, propelled, reactor, satellites, serene, Skylab, spacecraft, twinkle



Before Reading

Motivation / Purpose

The purpose of this text is to report on the space junk, meteorites and comets. The text links with the *Science* theme *Earth and Beyond*.

Text Type

- Draw students' attention to the: **Date .../.../....**
- chapter titles, subheadings, glossary and index
- maps, photographs and illustrations
- captions and labels.
- Ask, 'What type of book is this?' (Factual). How do you know? What type of factual book is this? (Report).

Visual Literacy

- Look at the cover of this book and describe what you see. How do these photographs relate to the content of this text? **Date .../.../....**

Background Knowledge

- Ask students to share what they know about meteorites and comets. Why do you think space junk is called space junk? How do you think scientists find out about meteorites, comets and space junk? **Date .../.../....**

Phonological Awareness

- Make sure the students know the phonological sounds:
 - /er/: rth (p.4), hurtling (p.5), asteroids (p.14)
 - longin_t!t (p.4), sks (p.5), desned (p.7), dynamite (p.9)
 - /or/: meteorites (p.5), astronauts (p.6), quarters (p.11), caused (p.19)
 - /oo/: d ring (p.4), man (p.4), through (p.8), c1s (p.16)

Say a sentence containing a word from the word list. Ask students to listen for a word with a particular sound. (e.g. Say, Listen for the word in this sentence with an oo sound - 'At night, the Moon and the stars shine.) Ask the students to write 'moon'. Ask, What letters did you use for the oo sound in moon?

Date .../.../....

High Frequency Words **Date .../.../....**

- appears, clues, history, items, proven, provided, quarters, reality, re-entered, studying, surrounds, survive, threat, vast
- How does the prefix *re-* change the meaning of 'entered'? Write other base words that can be connected to the prefix *re-* and discuss their meaning. (e.g. appear - reappear; cycle - recycle).

During Reading

Vocabulary in Context **Date .../.../....**

- Write the vocabulary words onto cards. Make sure students are able to read the words. Lay the cards on the floor. Give clues as to their position in alphabetical order. (e.g. lam a word in the list that comes after Jupiter (littering)).

Checking for Meaning **Date .../.../....**

- **Literal:**

Define and describe space junk, meteorites and comets. (Space junk - objects that started life on Earth but end up in space; meteorites - pieces of space rocks, planets or other space bodies that fall to Earth; comets - bodies of frozen gases, ice and dust that hurtle through space)

Where does space junk come from? (Astronauts throwing away rubbish, rocket parts designed to come apart, and from pieces off spacecraft and satellites)

What damage can space junk and meteorites cause? (Craters in the land, even death)

Name and explain the parts of a comet. (Nucleus, coma and tail)

- **Inferential:**

Was there space junk before humans explored space?

Why do scientists want to know more about our solar system?

Is it likely that you will see Halley's Comet the next time it is visible from Earth?

Make sure students understand the difference between literal and inferential information.

- Response: **Date .../.../....**

What information was familiar to you?

What new information did you learn?

Was there any information that surprised you?

Grammatical Patterns **Date .../.../....**

Make sure students understand the following components of a report:

- Introductory statement defining the topic: *From Earth, the sky appears calm.* (p.4) *But in reality, there are millions of objects hurtling through the skies.* (p.5)
- Passages of description relating to various aspects of the topic: How space junk speeds through space (pp.8-9), Space junk re-entering the atmosphere (pp.10-11), Studying meteorites (pp.16-17), How meteorites damage the earth (pp.18-19)
- Paragraphs with topic sentences to organise information: *Space junk doesn't float through space.* (p.8) *Meteorites enter the Earth's atmosphere every day.* (p.18)
- Use of timeless present tense indicated by action and relating verbs: *Those that do hit the earth usually land in water ...* (p.11)
- Use of general nouns: *equipment* (p.7), *hour* (p.8), *land* (p.11)
- Use of technical language: *astronauts* (p.6), *satellites* (p.7), *asteroids* (p.15)
- Use of nouns and noun groups as the beginning focus of a clause: *One Western Australian town, Esperance, decided to get their own back on the USA* (p.13)
- Use of subheadings to focus on aspects of the main topic: *Main heading - Chapter 3: Meteorites; subheadings - Asteroids, Studying Meteorites, Damaging the Earth*

Fluency/ Punctuation Patterns

Date .../.../....

- In this text, simple sentences state single facts. *Some meteorites are pieces of comets.* (p.14) Demonstrate reading this sentence without a pause for fluency.
- Commas separate beginning phrases and connectives from independent phrases. Demonstrate reading the sentences, pausing at the commas. *During the day, the Sun shines down.* (p.4) *However, large meteorites have caused a great deal of damage.* (p.18)

These punctuation patterns occur in the text:

- Capital letters used in proper nouns: *Earth* (p.4), *Mars* (p.14)

- Apostrophes of possession: *Earth's surface* (p.10), *Halley's Comet* (p.21).
- Capital letters are used at the beginnings of nouns in a list: *old spacecraft parts* (p.7)
- Commas separate being phrases and connectives: *But in reality*, (p.5) *However*, (p.18)
- Commas separate nouns in a list: *the nucleus, coma and tail* (p.22)
- Digits represent numbers: *25 sticks* (p.9), *\$400* (p.13)

Critical Literacy **Date .../.../....**

- Discuss the purpose of subheadings. How do they help writer to organise the information? How do they help the reader to stay on track when they are reading?

Linking Visual and Written **Date .../.../....**

- What is the background of the chapter headings? How does it relate to the subject matter of the text?
 - What is in the text box on page 7? Explore what other text could be put in boxes in this text.
 - Examine the use of labels in this text. How do they help you understand diagrams better?

After Reading

Identify the main aspects of the topic that are discussed in the book (i.e. facts about space junk, how space junk travels through space, skylab, asteroids, how meteorites damage the Earth). Demonstrate recording facts about these aspects as dot points.

Activities

Students will:

- choose phrases that best complete sentences
- write words containing common phonological sounds
- write vocabulary words in dictionary order and write definitions
- record facts in dot point form.

