

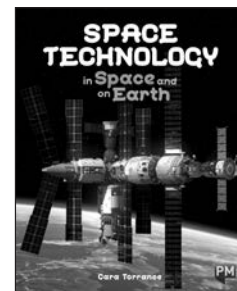
Space Technology in Space and on Earth

PM Level 30

Sapphire

Text Type Information Report (Informative), Explanation (Informative)

Running Words 2991



Preparing for Guided Reading

Prior knowledge

- Discuss how space travel has led to the invention of new materials and technologies that people on Earth now use, often without realising why these technologies were invented in the first place.

Orientation to the text

- In this book, students learn about a range of materials and gadgets, some quite commonly used, that exist as the result of research carried out to aid space travel. These include improved hearing aids, scratch-resistant lenses and miniature cameras, including the cameras used in smart phones.

Building the Balanced Reader

Grammatical conventions

- Discuss the parenthetical use of dashes in the first paragraph on p. 29. Ask students if they can think of any other way the information between the dashes could be set off.

Vocabulary

Key vocabulary

adapted, algae, alloys, arrays, bacteria, contaminated, course, developed, enriched, humidity, implant, innovation, inventions, lunar, particles, periodic, photosynthesis, sensor, technology, transparency, visor

Spelling

- Discuss the compound words in this text, including *alongside, spacecraft, photosynthesis* and *slingshot*, as well as compound words made with hyphens, e.g. *soup-like*.

Visual literacy

- Talk about the diagram on p. 28, and how it shows the orbits of Earth, Mars, Jupiter and Comet 67P. Ask students if they think this diagram has been drawn to scale.

Focusing on the book – guided reading

- After reading pp. 4 and 5, ask students to explain why solar panels need to be used to supply power to spacecraft during space missions, and why they are so vital to the operation of the International Space Station.

- Have students suggest reasons why memory foam would be inserted into American football helmets.
- Ask students how they think the invention of water filters has changed the lives of many children, particularly in poorer countries where clean water is difficult to access.
- Have students explain how a scratched visor on a space helmet would make missions more difficult, and dangerous, for an astronaut. Discuss why very thin plastic film is ideal for protecting lenses, because it doesn't interfere with visibility.
- After reading the text on p. 21, ask students why they think *Rosetta* was an appropriate name for the space probe.
- Discuss the idea of gravitational slingshots. Do students think that space probes launched this way would still require some kind of fuel?
- On p. 30 we learn that space agencies have sent more than 50 missions to Mars, but fewer than half have been successful. Ask students why they think missions to Mars are so difficult.

Comprehension

- What is the only source of electricity in space? (*Literal*)
- Why would an artificial limb made with memory foam be more comfortable to wear? (*Inferential*)
- Why are cochlear implants better for hearing-impaired people than hearing aids that simply make sounds louder? (*Applied Knowledge*)

Follow-up activities

- Have students research the topic 'Asteroids' and prepare the text of a report by a TV announcer, informing viewers of the destruction caused by an asteroid striking Earth. Have students present their report to an audience and ask the audience for feedback on content and voice production.
- Using the BLM, have students list the technologies in the book and write about how they have impacted their own lives, or how they might in the future.

Learning Intentions

- We are learning to apply a range of skills and strategies to gain maximum understanding of both written and visual information in a text.
- We are learning about a range of language effects that add variety and clarity to a text.
- _____

Success Criteria

- I can read written and visual information to better understand information in a text.
- I can read and understand a range of language effects used by the author.
- _____

Guided Reading Notes

Student's name	Reading focus	Observations/notes	For follow-up