

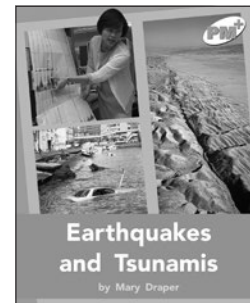
Earthquakes and Tsunamis

PM Levels 24/25

Silver

Text Type Information Report / Explanation

Running Words 824



Preparing for Guided Reading

Orientation to the text

- Read a recount or an article about an earthquake or tsunami to students, e.g. the Papua New Guinea tsunami disaster in 1998. Explain that tsunamis occur when earthquakes happen far beneath the ocean. Read the title together. Study the cover and title page photographs. List vocabulary that students will use while reading the text.

Prior knowledge

- Both earthquakes and tsunamis occur where enormous stresses build up along fault lines on the Earth's outer crust. However, there are ways to help keep people safe.

Building the Balanced Reader

Vocabulary

Key vocabulary

difficult, directions, distances, lose, rescuers, scientists, share, size, surface, warning

Content Words

collapse, earthquake, epicentre, fault, landslide, Leaking, loosens, measures, tsunami

Decoding

- Apply a complex range of skills to assist in decoding unfamiliar words.
- Use knowledge of text types, language features and vocabulary related to the theme of the text to assist with decoding unfamiliar words.

Focusing on the story – guided reading

- Study the photos and illustration on pp. 4–5. Ask, *What is an earthquake? What is a tsunami?* Encourage discussion about the destruction caused by these disasters. Recall that although scientists can often predict a natural disaster, they cannot prevent them from happening.
- Reinforce the meaning of *shock waves*. Ensure that students understand that shock waves may occur again and again. Talk about trying to stand up as the ground moves in 'waves'. Read and discuss the *Did you know?* statement. Consider the damage that can occur in less than a minute.
- Study the photograph on p. 10. Explain how the seismograph records shock waves on the Richter scale. Compare the Richter scale, which measures the size of an earthquake, with the Beaufort

scale which measures the speed of the wind (see *Storms*, PM level 24/25, pp. 8–9). Admire the ingenuity of the Chinese machine created nearly 2000 years ago. Discuss the meaning of *sensing*. Ask, *How do you think the machine works?*

- Study the photographs on pp. 14–17. Ask, *What damage do earthquakes cause? Why do you think landslides occur? What other damage would occur because of landslides?*
- Reinforce reasons why fires and explosions occur. Talk about people surviving with temporary shelter, no water, almost non-existent communication systems, no heating, no electricity, etc. Discuss the role of rescue workers. Read and discuss the *Did you know?* statement.
- Ensure that students understand how a tsunami happens. Study the diagram. Follow the movement of a tsunami from its epicentre. Reinforce the meaning of *epicentre*. Read and discuss the *Did you know?* statement. Consider how little time there would be to prepare for a tsunami. Ask, *From the information given, how do you think a volcanic eruption causes a tsunami?*
- Reinforce reasons why even scientists don't know when a tsunami is going to happen. Talk about the immense damage that a tsunami causes. Again, talk about the struggle for people to rebuild their homes, to start their lives all over again, etc. Read and discuss the *Did you know?* statement. Recall the 'ring of fire' on the edge of the Pacific Ocean. Ask, *Why would this part of the world also be where most tsunamis happen?*
- In pairs, have students read and respond to the questions. Re-read the words and their meanings in the glossary.

Comprehension

- How can an earthquake affect people? (*Literal*)
- How do rubber foundations in buildings help keep people safer in an earthquake? (*Inferential*)
- How can dogs help find people trapped after an earthquake? (*Applied Knowledge*)

Follow-up activities

- Invite students as a group to write a letter, or email to a library or community centre requesting information about natural disasters that have happened in the local area. List key ideas, e.g. what happened, why it happened, when it happened, how it affected people and the environment, etc.

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Learning Intentions

- We are learning to apply a complex range of skills to decode unfamiliar words in the text.
- We are using our knowledge of text types, language structures, vocabulary, Contents and the Index to gain a deeper understanding of the text.

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Success Criteria

- I can use a wide range of skills to assist me in reading unfamiliar words in the text.
- I can use my knowledge of text types, language structures, vocabulary, Contents and the Index to gain a better understanding of the text.

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Guided Reading Notes

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