

Mighty Forces

Title	Genre	Summary	Aspects of theme explored
Plate Power	Explanation	Plate movement can create mountains. This was how Mount Everest was formed.	- forces working in Earth's crust - the collision of tectonic plates - mountain formation - the creation of continents
The Eruption of Mount Pelée	Memoir (Recount)	This story recounts the experiences of a young girl who escaped the eruption of Mount Pelée in 1902.	- warning signs of eruptions - the effects of eruption on communities - surviving a natural disaster
Tsunami	Report	When a tsunami strikes, it has devastating effects. The water can reach hundreds of metres inland.	- the formation of tsunamis - the effects of tsunamis - volcanoes and tsunamis
Space Rocks!	Report	Meteorites can provide clues about how our solar system was formed.	- how meteorites are formed - space debris and comets - the effects of meteors colliding with Earth
Slot Canyons	Explanation	Slot canyons are rare and beautiful. Erosion is still shaping them today.	- slow and gradual changes - the formation of slot canyons - the effects of erosion

Suggestions for using *Mighty Forces*

Guided reading

See the following lesson plans.

Theme studies

This book can be used as part of a theme study to examine the dramatic forces that continue to shape Earth's crust.

- Introduce the theme and look at the contents page with the students. Discuss the different genres. Ask the students to read the item summaries and discuss the way each piece might relate to the main theme. The students could choose one of the items to begin the theme study.
- Use the whole book or items from it in your content-area teaching.
- Compare 'The Eruption of Mount Pelée' with an account from a survivor of a modern eruption such as Mount St. Helens.
- Use the Find Out More section as a springboard for further independent research.

Text comparisons

Use 'Tsunami' and 'Plate Power' to examine the effects of plate tectonics. Explore the different ways that volcanic activity, plate collision and earthquakes continue to shape Earth.

Shared reading

Page 3 of 'Plate Power' and page 23 of 'Space Rocks!' are suitable to enlarge for shared reading.

Independent reading

'The Eruption of Mount Pelée' can be used for independent reading for pleasure or as an introduction to memoirs and other forms of recount.

Plate Power

This explanation describes tectonic plates and how they affect Earth's surface.

Features of the text

- Labelled diagrams
- Fact boxes
- Map
- Specialised vocabulary

Purpose

'Plate Power' can be used to introduce and reinforce the following skills:

- restating information;
- analysing cause and effect;
- drawing conclusions based on evidence from the text;
- summarising information.

Introducing the text

Select one or more of these discussion starters:

- How are mountains formed?

- What is Earth made up of?
- What do earthquakes and volcanoes have in common?
- Has Mount Everest always been the same height? What makes you think that?
- Discuss some of the ways mountains can change.

Reading and discussing the text

Use some of the following suggestions to guide the students through the text:

- Read pages 2 and 3. Using your own words, describe the core, the mantle and the crust of Earth.
- Which tectonic plate do you live on?
- Read the rest of the text. What are tectonic plates? How do they affect Earth's surface?
- How was Mount Everest formed? What makes mountains change over time?

Following up

The students can:

- draw a map that shows the world 100 million years in the future
- create a diagram showing how mountains are formed
- research Mount Everest and add any new information to the fact file on page 6.

The Eruption of Mount Pelée

In this fictional recount, which is based on a true story, a survivor of the Mount Pelée eruption describes her experiences in dramatic detail.

Features of the text

- First-person narrative
- Sequenced account of events
- Historical information
- Descriptive writing

Purposes

'The Eruption of Mount Pelée' can be used to introduce and reinforce the following skills:

- analysing the writer's craft;
- drawing conclusions from the text;
- questioning the text.

Introducing the text

Select one or more of these discussion starters:

- What warning signs might occur before a volcano erupts?
- If you were recounting an event many years after it happened, how might the facts change?

Reading and Discussing the Text

Use some of the following suggestions to guide the students through the text:

- Read the introduction on page 8. Why does the author begin the story this way?
- Read the rest of the story. How does the author incorporate factual information about the eruption into Havivra's experience?
- Why do you think the city leaders 'urged everyone to remain calm and stay in the town'?
- Based on Havivra's experience, what safety precautions should people who live near active volcanoes take?
- Why is this story similar to an autobiography?
- What makes it a fictionalised account?

Following up

The students can:

- make a timeline showing the events leading up to the eruption
- research another natural disaster and write a narrative based on the event
- write interview questions they would like to ask Havivra.

Tsunami

This report explores the causes and devastating effects of giant waves called tsunamis.

Features of the text

- Cause and effect
- Dramatic photographs and illustrations
- Sequenced diagram
- Map and legend

Purpose

'Tsunami' can be used to introduce and reinforce the following skills:

- interpreting visual information;
- synthesising information;
- comparing and contrasting information.

Introducing the text

Select one or more of these discussion starters:

- Have you ever been afraid of the power of water?
- What are some of the risks of living close to the ocean?
- What causes earthquakes?

Reading and discussing the text

Use some of the following suggestions to guide the students through the text:

- Read pages 16 and 17. What is the 'Ring of Fire'? Why is it called that?
- Which part of the world is most at risk from earthquakes or tsunamis?
- Read the rest of the text. How does a tsunami remind you of the 'domino effect'?
- How does the power of a tsunami become more noticeable as it approaches land? Why is it not so evident at first?
- Discuss how tsunamis are similar to other natural disasters. What makes them different?

Following up

The students can:

- create a chart comparing the causes, effects and warning signs of different natural disasters
- conduct research and write a fact file about the tsunami that devastated San Juan del Sur
- write a first-person narrative from the perspective of a tsunami survivor.

Space Rocks!

This report looks at the origins of meteors and explores what happens when they come into contact with a moon or a planet.

Features of the text

- Space photos
- Labelled diagrams
- Fact boxes
- Sequenced list

Purpose

'Space Rocks!' can be used to introduce and reinforce the following skills:

- sequencing information;
- analysing the features of a report;
- retrieving and classifying information;
- making and revising predictions.

Introducing the text

Select one or more of these discussion starters:

- Have you ever seen a shooting star?
- What is a shooting star?
- What do you think might happen if a large meteor collided with Earth?

Reading and discussing the text

Use some of the following suggestions to guide the students through the text:

- Read pages 22 and 23. Describe how a meteor becomes a meteorite. Use signal words like **first**, **next** and **last**.
- This report describes two kinds of meteor. Define meteors, making sure you summarise the two different kinds. (comet debris and asteroids)
- What are the different kinds of space debris?
- Read the rest of the text. How would you revise your earlier prediction about a meteor colliding with Earth?

Following up

The students can:

- write a newspaper report about a meteorite colliding with Earth
- conduct research to discover whether comets or asteroids cause the most meteors
- incorporate ideas and facts from this text into a poem about shooting stars.

Slot Canyons

This text explores the natural forces that create slot canyons.

Features of the text

- Historical information
- Sequenced explanation of a process
- Descriptive language
- Sequenced photographs

Purpose

'Slot Canyons' can be used to introduce and reinforce the following skills:

- exploring adjectives;
- translating text into graphic form;
- exploring cause and effect;
- finding and extracting information.

Introducing the text

Select one or more of these discussion starters:

- What natural forces help to shape the land?
- How does water help to create canyons?
- Why might a canyon be unsafe for visitors?
- How might a slot canyon differ from the Grand Canyon?

Reading and discussing the text

Use some of the following suggestions to guide the students through the text:

- Read pages 26 and 27. How has the author conveyed the beauty of slot canyons?
- Read pages 28 and 29. What causes erosion? What effect does it have on the land?
- What other ways could the designer have shown how slot canyons form?
- Read the rest of the text. Why are people guided through the canyon by the Navajo people?
- Why isn't sandstone used very often for building today?

Following up

The students can:

- create a flowchart showing how slot canyons are formed
- write Sue Tsosie's diary entry for the day she discovered Antelope Canyon
- using adjectives from the text, write a poem about slot canyons
- explain how visitors have damaged Antelope Canyon.

