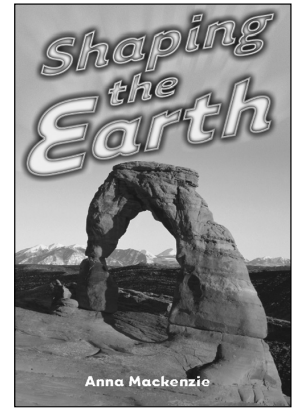


Shaping the Earth

by Anna Mackenzie



Book Summary

Earth is constantly changing. This text looks at the forces, such as earthquakes, volcanoes, wind, and rain, that continue to shape Earth's surface.

Features of the Book

- Explanations
- Diagrams, including cutaway
- Comparative information

Purpose

Shaping the Earth can be used to introduce and reinforce the following skills and understandings:

- S** asking questions;
- S** comparing and contrasting information;
- S** recognising that the structure of Earth is always changing;
- S** exploring how water, the weather, and volcanic action cause gradual changes in Earth's crust.

Investigation Tools

- Looking Closer – Volcanoes, page 6
- What's the Background? – Plate Tectonics, page 9
- Weighing Both Sides – Erosion in Madagascar, pages 16–17
- Making Connections – Acid Rain, page 23
- Digging Deeper – An Endless Cycle, page 25
- Step by Step – Carlsbad Caverns, pages 28–29

The Guided Reading Lesson

- S** Asking questions
- S** Recognising that the structure of Earth is always changing
- S** Exploring how water, the weather, and volcanic action cause gradual changes in Earth's crust

Introducing the text

Before handing out the book, ask the students about the topic and the reading strategy of questioning.

- *How do scientists know what Earth is made up of?*
- *If you were an earth scientist, what would you want to research?*
- *Have you ever wondered why some parts of the world have earthquakes and others don't?*

Tell the students that they will be reading a book called *Shaping the Earth* and that the purpose of the lesson is to practise forming questions that will help them to learn and understand more as they read.

Reading and discussing the text

Hand out the books and ask the students to examine the cover, the blurb, and the table of contents.

- *What questions do you have that might be answered in this book?*

The students can record their questions. Ask them to read Chapter 1, then discuss their questions and clarify any unknown facts. Model questions that will deepen understanding and focus reading. You could use the following examples:

- *When I read about volcanoes, I always wonder what a volcanic eruption would look and sound like under the sea. Has anyone ever witnessed one? The sea is pretty cold, so would the lava still be hot? Would an eruption kill many sea creatures?*

Before the students read Chapter 2, ask them to think of questions about the plates that make up Earth's crust. The students can read the chapter, then discuss their questions and any answers they found. You could use the following model to give further support.

- *I've always wondered why earthquakes and volcanoes only occur in some areas. Now I know that they happen where plates meet. I'm wondering if scientists can track the movements of the plates and predict earthquakes.*

Ask the students to share any experiences they have of earthquakes.

As the students read the rest of the book, ask them to think about their questions and any answers to them. You can stop them between chapters for a brief discussion or wait until everyone has finished reading.

- *What questions do you have about Earth's changing shape?*
- *What things could people do to influence changes?* (Refer to the information on page 16 and discuss the human impact on change.)

Revisiting the Text


The activities below can be used immediately after the guided reading lesson, during later reading sessions as mini-lessons, or as independent activities.

S Asking questions

The students can return to the questions and select one they'd like to investigate. Encourage them to find people or resources that could help them find answers. For example, the students could write to the earth sciences faculty of a university, or they could search for information online.

The students could make models to test their ideas, for example, a model of wind erosion could include a wet sand sculpture with a hair drier blowing against it.

S Comparing and contrasting information

 There are many places in the text where interesting comparisons could be made. The students can use the blackline master to compare and contrast information in the text.

Note: the titles *Life on the Prairie* and *Storm Alert!* provide more information around this topic. The students could read these independently or you could use them in guided reading lessons.

S Exploring how water, the weather, and volcanic action cause gradual changes in Earth's crust

The students could reread pages 16 to 17, then research this topic on the Internet and find out what people are doing to improve the situation in Madagascar.