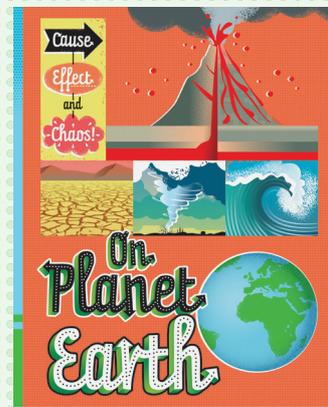


Cause — Effect — and — Chaos!

On Planet Earth



Synopsis

Cause, Effect and Chaos! On Planet Earth describes the complex processes that form our planet ... and the chaos those processes sometimes cause.

From the Big Bang to avalanches, bushfires to coastal erosion and much more, the book uses a highly visual approach. Graphics and illustrations guide the reader through the chain of cause and effect that (sometimes) ends in disaster. This easygoing approach makes *On Planet Earth* a great vehicle for introducing reluctant readers to the subject, as well as a useful quick-reference guide for more willing students.

Themes

The book's overall purpose is to explain in simple terms the step-by-step processes that govern our planet; its key themes relate to the study of geography and science:

Geography

Major physical geography themes in *On Planet Earth* include volcanoes and earthquakes, the water cycle, erosion, mountains, processes of change to landforms, and climate (including habitat loss). The human geography of how these processes affect people – from flash floods to Hawaiian volcanic eruptions or climate change – is also covered, particularly in the final 'chaos' panel.

Science

Science topics covered include different types of rock and soil, forces, recognising that environments can change and that these changes can pose dangers to living things, and changes in states of matter (such as water to vapour, or magma to rock).

Other curriculum subjects can also be addressed using the book, including English, maths, history, and design and technology. The section below on Notes and Activities suggests some ways to achieve this.

Writing Style

The writing style is simple and engaging, aimed at reluctant readers and those who want a quick, easy route to the basic facts. Each illustrated panel has a pithy description of a single step in the process being explained:

'Over time gases build up in the magma chamber, like a shaken-up fizzy drink.'

A graphic arrow links that description to the next:

'When the pressure inside gets too great, the volcano erupts. Chaos!'

Every spread ends with a description of the chaos that can ensue as a result of Earth's processes – variously, the destruction of Pompeii and Herculaneum, landslides and collapsing buildings, buildings being swept away, elderly people rescued by helicopter, wells running dry, wild animals being caught in fires, and more.



Notes / Activities

Geography

Pupils could use an atlas to find locations of specific places mentioned in the text (e.g. Hawaii, Vesuvius, Valdivia, the Indian Ocean, Cornwall). They can then find out more about one of these places and contrast it with where they live themselves: is it more dangerous or less so? Why? What other differences are there between the two places?

Science

Ask pupils to look for examples of forces in the book. They appear throughout, from the gravity and the Big Bang onward. The concept of pressure comes up in the sections on coastal erosion, aquifers and volcanoes, for example, and tension in the section on earthquakes.

Pupils can also use the book to look for examples of how heat affects matter, including magma/lava/rock and vapour/water/snow/ice, and there are opportunities to explore the interrelationship between heat and pressure.

Good, varied examples of the physical transmission of energy appear in the sections on earthquakes and tsunami.

Speaking and Listening/Citizenship

Start a classroom or group discussion about one of the natural disasters dealt in the book. What would be the best way to behave if you were in a disaster such as that? How could you help? You could reference the example of Phanjohn O'Neill, the bilingual 11-year-old who spent 4 days at a hospital translating after the Boxing Day Tsunami in 2004.

History and English

A combined activity would be to pick one of the processes featured, such as the volcanic eruption of Vesuvius or the post-1880 erosion of Lennox Island, and ask pupils to investigate how life would have been different back then. What clothes would people have worn, what food might they have eaten, how did they get around and what technology did they have?

Next ask them to use this information to write something from that time. It could be a diary extract, a government report, a health-and-safety poster, a letter of complaint - whatever they like.

Design and technology

What are the implications for humans of some of the processes described in the book? Ask pupils to investigate what life is like for those living in the shadow of planet Earth's processes. Can they find out ways design and technology has helped them?

As examples of technology you could reference the Pacific Tsunami Warning Center in Hawaii, or Japan's Earthquake Early Warning system. For design, earthquake-proof buildings are one possible starting point.