Rising sea levels

Sea levels on Earth are linked with temperature. The Earth’s temperature changes all the time. It changes in a yearly cycle from winter to summer, but it also has a cycle of colder and hotter periods that last hundreds of thousands of years. For example, there has been an Ice Age about once every 100,000 years.

When the Earth gets cold, the sea level drops. This is because water on land freezes and stops flowing into the sea.

When the Earth gets hotter, the sea level rises because the sea’s volume increases. This can happen in two ways:
- the sea gets warmer so the water expands. The same amount of water takes up more space as it heats up
- ice on land melts and extra water flows into the sea. Water melts that was frozen and ‘trapped’ as ice on land in glaciers (flowing ice rivers) and in ice sheets (huge areas of ice).

If all the glaciers melted, the sea level would rise by about 0.3 metres.

The biggest ice sheets are on the Antarctic (which is a land continent) and Greenland. If they melted completely, the sea level on Earth would rise by 80 metres.

Partner activities

I can ...
- read a text and make notes to help me understand it
- explain what the text is saying to my partner

Think and write

1. What are the two cycles of temperature change mentioned in the text?
2. How often do Ice Ages occur?
3. What effect does it have on sea levels when the Earth becomes cold?
4. Explain how the sea level could go up when the Earth gets hotter, even if there is no extra water.
5. What happens to sea levels when ice on land melts?
6. What is the difference between a glacier and an ice sheet?
7. If you were worried about rising sea levels, would you be more concerned about glaciers melting, or about ice sheets melting? Why?
8. Name one place on Earth where there are glaciers, according to the text.
9. Name one ice sheet other than those on the Antarctic and Greenland.
10. How well do you think this text explains how sea levels rise? Think of one thing you could add to improve it.