Chapter 2: Rocks and minerals

2.8 Science as a human endeavour: Weathering and erosion can be prevented

Ask a scientist worksheet answers (pages 32–33)

Dr Jo Whittaker - geologist

1 What does Jo study and where does she work?

Jo is geophysicist and studies geology. She works at the University of Tasmania.

2 The steps below describe the changes that occurred over millions of years as Gondwana changed and the continents formed. Number these steps in the correct order.

|  |  |
| --- | --- |
| **Step** | **Description of change** |
| 1 | India, Australia and Antarctica all form Gondwanaland |
| 2 | India begins to move away |
| 3 | The Indian Ocean forms |
| 4 | Himalayas are created |

3 What data does the ship collect on its month-long voyages?

Geophysical instruments on the ship collect data about magnetics and gravity, and samples from the sea floor are also collected.

4 What can the data collected by the ship tell us about the environment millions of years ago?

The data can tell scientists about the temperature millions of years ago, as well as the depth of the water at that time.

5 How could the lessons of 35 million years ago help modern scientists understand climate change better?

Answers will vary, but may refer to the similarities of conditions in ancient environments to current rising CO2 and temperature levels.

6 Name two reasons why Jo enjoys her role as a geophysicist.

Jo enjoys problem-solving and working with her peers, as well as travelling as part of her job.