

Answer ALL questions.

- 1 Read the passage below. Use the information in the passage and your own knowledge to answer the questions that follow.

Global warming and the Great Barrier Reef

The Great Barrier Reef is found in the sea off the North-East coast of Australia. It is the largest coral reef in the world.



- 5 Coral reefs are underwater ecosystems. Coral grows best on rock found in shallow, clear moving water. The coral is made from a hard calcium shell that contains small animals. Inside the bodies of these animals there are microscopic organisms called algae. These animals and algae have a mutualistic relationship. In a mutualistic relationship, both species benefit by living together.
- 10 A scientific study found that higher sea temperatures in 2016 caused the worst destruction of corals ever recorded on Australia's Great Barrier Reef. Many scientists believe that the increase in sea temperature is the result of an increase in carbon dioxide in the atmosphere.
- 15 About 70% of coral died in the northern section of the reef. One of the worst-hit areas was around Lizard Island in North Queensland, where almost 90% of the coral died. The situation was better in the central section, where only about 5% died. The southern section of the reef was healthy. Scientists warn that recovery of the coral reefs will be difficult if climate change continues.
- 20 Some coral death is the result of overheating. However, far more coral has been lost through bleaching. Coral bleaching happens when sea temperatures rise for a long period of time. The algae cannot survive so the coral starves. The pigments in the algae give coral its colour. After bleaching, the coral appears white because it is now without the colourful algae that provide its main source of energy.
- Some coral survives the higher sea temperatures. However, another study has found that this coral has now come under increased threat from predators such as snails and the crown-of-thorns starfish.
- 25 Scientists are hopeful that the reef is capable of recovery, but fear it may not have an opportunity as sea temperatures continue to rise. The Australian Government has published recommendations in a long-term sustainability plan for the coral reef.

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