

Student Fact File

Coral Reefs



The Great Barrier Reef is the largest structure built by living organisms on the Earth today.

The Great Barrier Reef region is the world's largest group of coral reefs.

There are over 2,900 coral reefs in the Great Barrier Reef.

Coral Reefs make up 15% of the entire Great Barrier Reef.

There are three main types of reefs found on the Great Barrier Reef: Ribbon, Platform, and Fringing reefs.

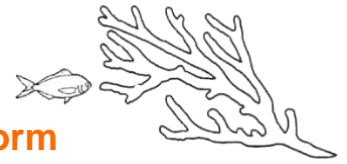
Tiny animals called polyps are responsible for building coral reefs.

Reefs are masses of limestone made from skeletons of millions upon millions of tiny marine animals and plants.

Main threats to coral reefs include human activities, coral bleaching and crown-of-thorn starfish outbreaks.



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The continental shelf

The **continental shelf** provides the platform from which the reefs of the Great Barrier Reef develop. In the north, the continental shelf lies close to the coast and gradually widens as it extends south.

How reefs protect themselves

Most reefs have a side protected from the prevailing wind and swell. The exposed face of a reef endures the constant battering of powerful waves generated by high winds. Here, corals and coralline algae grow and bind together to form the limestone breakwater of the reef behind which everything else is sheltered. In these sheltered areas, hard corals, soft corals, algae and sponges intergrow to form gardens that are home to thousands of species.

Types of reefs

There are three main types of reefs found on the Great Barrier Reef:

Fringing reefs are coral structures that are attached to the mainland or to continental islands. In the Great Barrier Reef most fringing reefs are found around islands. Fringing reefs are probably the reef type most commonly seen by visitors.

Platform reefs are also known as patch reefs and are scattered in the calm, shallow waters between the mainland and edge of the continental shelf. They are usually round or oval patches and often tend to be broken up.

Ribbon reefs only occur in the northern part of the Great Barrier Reef. They form along the edge of the continental shelf and can grow so high they form narrow walls.

How coral reefs form

Reefs are masses of limestone made from skeletons of millions upon millions of tiny marine animals and plants. Coral polyps, the main reef builders, grow in colonies on a reef's surface. They extract dissolved limestone from the water and, with the help of single-celled plants (called zooxanthellae) living inside them, they lay it down as hard limestone around the lower half of their bodies. Over time, polyps slowly multiply to create a coral formation, which varies in size and shape depending on where it lives. People refer to these coral formations by their shape or appearance, for example, staghorn, boulder, vase and plate coral. As a coral grows, new polyps replace old polyps. When coral polyps die, their limestone skeletons and the remains of other animals and plants are added to the framework of the Reef.

Threats to coral reefs

The Great Barrier Reef is under pressure from a range of threats, both human and natural in origin. The main threats are: climate change, declining water quality from land-use run-off, coastal development, and the remaining impacts from fishing.

Coral bleaching is a natural threat to coral reefs. It occurs when corals are over-stressed and can be caused by extreme sea temperatures, high levels of sunlight, low salinity, diseases, pollutants and exposure to air and rain at low tides. *See the Environmental Threats fact file for more information.*

Crown-of-thorns starfish can destroy entire reefs by feeding on coral polyps. Outbreaks occur and reefs are destroyed when the number of crown-of-thorns starfish on a particular reef is high enough that they are able to consume coral polyps faster than corals can grow. *See the crown-of-thorns starfish fact file for more information.*

