

Student

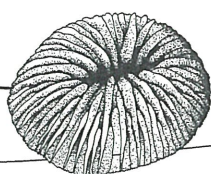
Fact Files



Australian Government

Great Barrier Reef
Marine Park Authority

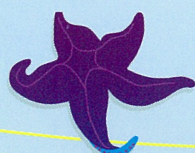
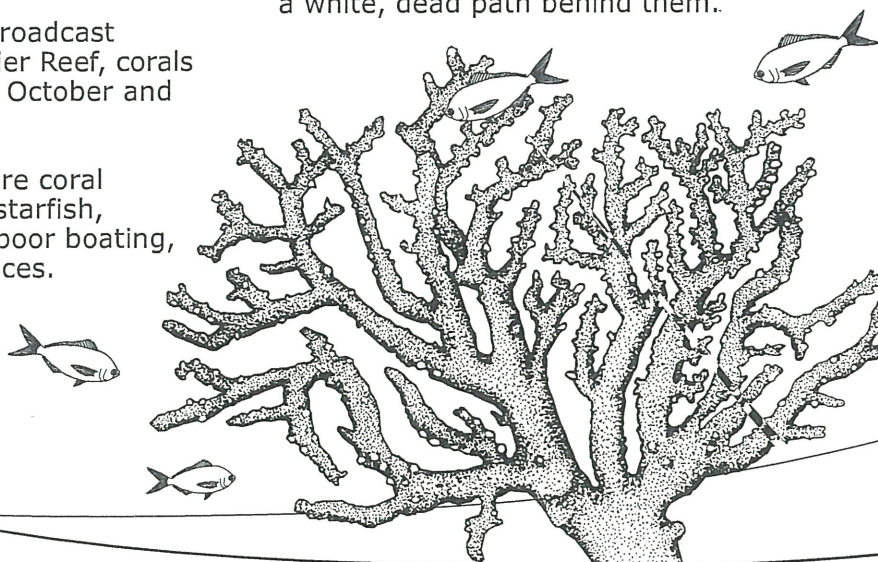
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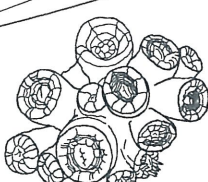

Corals

- Corals are responsible for the formation of the Great Barrier Reef.
- Corals are tiny animals that form together and reproduce to build coral colonies - the hard and soft corals you see on the Reef.
- Most corals have tiny algae living inside them called zooxanthellae, which provide them with most of their energy.
- Some corals reproduce by broadcast spawning. In the Great Barrier Reef, corals spawn once a year between October and December.
- The main threats to corals are coral bleaching, crown-of-thorns starfish, declining water quality and poor boating, diving and snorkelling practices.
- Corals' porous limestone skeletons have been used for human bone grafts.
- The Great Barrier Reef has about one-third of the world's soft corals and 360 species of hard corals.
- Soft corals can move very slowly and when they come across hard corals, they release toxins and kill the hard coral colonies leaving a white, dead path behind them.



our great barrier reef
let's keep it great





Corals are responsible for the formation of the Great Barrier Reef and are extremely diverse and beautiful. They belong to a large group of colourful and fascinating animals called Cnidarians. Corals exist as colonies made up by individual polyps. Although corals are a variety of shapes, sizes and colours, the polyps share the same basic body plan – a simple sack-like stomach with a single mouth, surrounded by a ring of tentacles. A coral's distinct shape, size and colouring depend on its location on the Reef, genetics, the depth of water and the strength of the current.

Habitat and feeding

Like humans, corals need food, water and shelter to survive. Most reef building corals prefer clear, shallow waters (approximately 0-30 metres deep) where they can receive adequate sunlight. Most of a coral's food nutrients are provided by the process of photosynthesis. Corals also use their tentacles to filter and capture plankton and small fish from the water. *Nematocysts* lining the tentacle skin help to paralyse the food so that the tentacles can deliver it to the mouth.

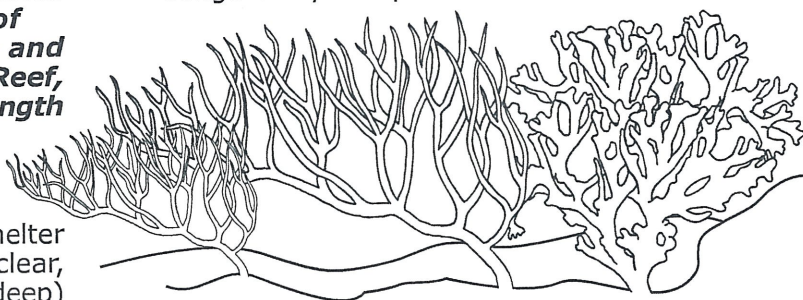
Reproduction

Corals can reproduce in two ways: asexually and sexually. Asexual reproduction is known as budding. Sexual reproduction is broadcast spawning or brooding. In broadcast spawning, corals expel eggs and sperm into the water during one or two nights of the year. When an egg is fertilised by the sperm it develops into a planula, which floats around in the water for a while before settling on the ocean floor. After it has settled it starts to bud and the coral colony begins to develop.

Types of corals

There are two main types of corals: hard and soft.

There are about 360 different types of hard corals on the Reef. Hard corals have six (or multiples of six) smooth tentacles and a hard skeleton, which is the part you see when a coral dies. The easiest way to identify a hard coral is by their appearance. Different types are described in different ways eg. boulder, branching, plate, table, vase and bushy. They are solid feeling and are sometimes dangerously sharp.



Hard corals gain most of their energy from the zooxanthellae living inside their skin. The zooxanthellae use the coral as a safe place to live and in return can provide coral with up to 80 per cent of its energy. This is why it is important for corals to live in shallow, clear waters where they can get lots of sunlight.

Soft corals are soft bodies made up of a large number of polyps connected by fleshy tissue. Corals have tiny needle-like spicules in their tissues. Apart from their swaying bodies and jelly-like feel, soft corals are distinguished by the eight tentacles on each polyp that have a feathery appearance.

Soft corals are not vulnerable to predators as they contain powerful toxins (*terpenes*) and their spiky spicules function like thorns on a rose bush. Underwater, these toxins make the tissues of soft corals either distasteful or toxic to fish. They are also put to use in the constant battle for space. Soft corals introduce the toxins into the water around them where they can kill neighbouring hard corals and repel other soft corals.

