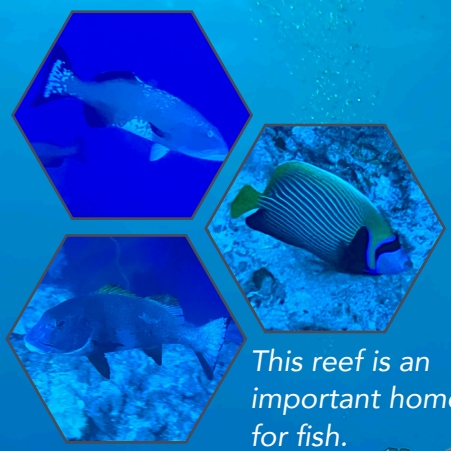
These pages are from the G5 journal, "Protecting Reefs With the Scientific Method."

Coral reefs are beautiful undersea environments

Splash! Sea turtles swim, rays glide by, and fish of every color dart around underwater. Although the ocean covers most of our planet, places such as this are very rare. This is a coral reef! Coral reefs can only survive in shallow water where sunlight and warmth are abundant, so we commonly find reefs in tropical regions of the globe near land. These reefs occupy less than 1% of the ocean floor, yet they are home to as much as 25% of all marine life. Coral reefs provide a home for all sorts of animals.



This reef is an important home for fish.

Nicole Crane, a marine scientist, observes corals on a Ulithi drop-off where the water depth plunges to over 2,000 feet (600 meters).

What characteristics of corals sound plantlike to you?

In many ways a coral is like a plant, but corals are not plants—they are animals.

Characteristics of corals

- Corals stay anchored to the ground in the same place for their whole life.
- Corals depend on sunlight and photosynthesis for food.
- Corals grow larger each year into branching structures, mounds, and fans.
- Many ocean creatures use coral for protection and shelter.
- Coral reefs are made up of many generations of dead coral skeletons covered by living coral on top.

Corals are a lot like plants

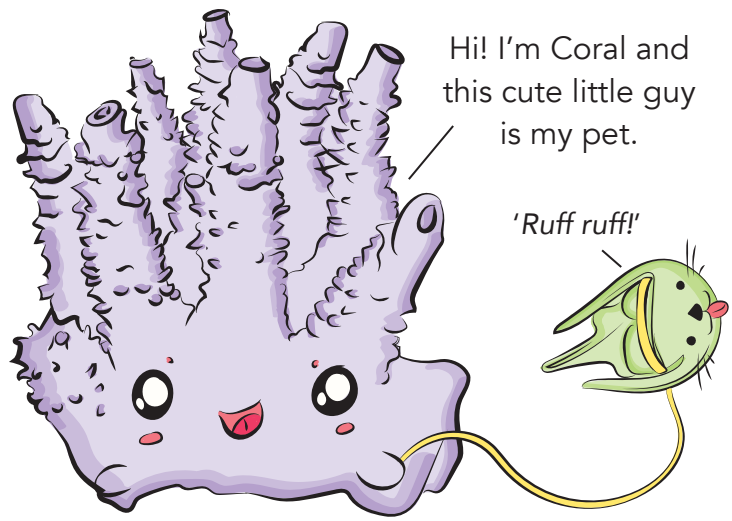
You might be surprised to learn that corals are not plants at all! A coral is made up of a colony of thousands of small soft-bodied animals living next to one another on its surface. The coral animals keep microscopic living dinoflagellates inside them. The dinoflagellates perform photosynthesis inside the coral's body and give food to the coral animal.

How is a coral similar to a plant?

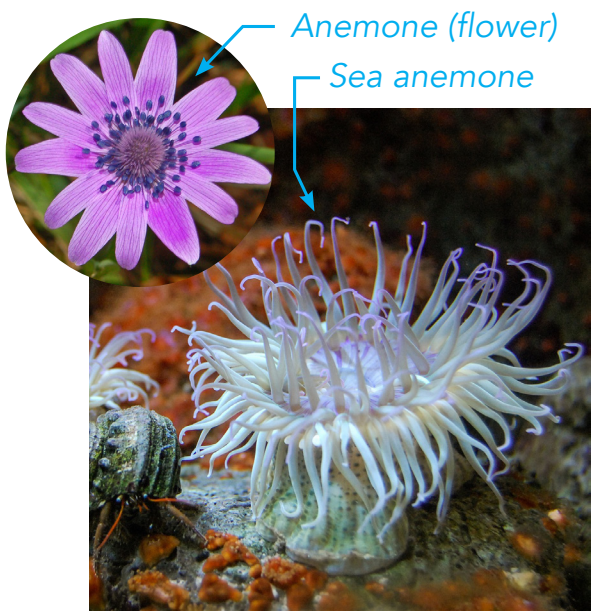
Why are corals considered animals?

What Is a Coral?

A **coral** is essentially a small sea anemone living on the surface of a hard protective skeleton. Oh, and corals have microorganisms as pets (dinoflagellates) that live inside their bodies to make food for them. Aren't corals amazing!



Corals are related to sea anemones



This four-inch sea anemone clings to a rock and waits to catch its food.

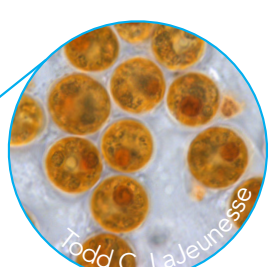
A sea anemone is a marine organism that looks a lot like a flower. The sea anemone was named after the anemone flower, a type of buttercup. Do you see the resemblance?

One end of a sea anemone sticks firmly to a rock and the other end has sticky tentacles that reach out to grasp its prey. Since anemones live their lives stuck in one place, they wait for their food to come to them. Anemones feed on unsuspecting fish, shrimp, crabs, and plankton that swim too close and touch the tentacles.

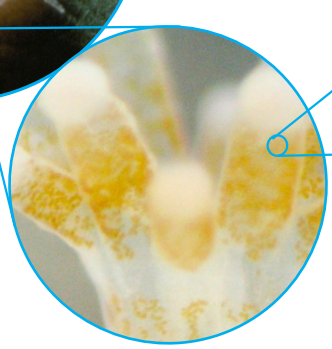
Like sea anemones, corals often have soft tentacles that stretch out in a flower-like pattern. Individual coral animals, however are much smaller than sea anemones. Most individual coral animals, called polyps, are smaller than the size of a pea. Thousands of tiny coral polyps live side by side and firmly attach themselves to a larger coral skeleton. All the coral polyps contribute to making the coral skeleton larger as the colony of coral polyps grows and needs more space.

Credit: Greg Asner, One People, One Reef

15X Magnification:
A tiny coral organism lives on a coral branch with other corals.



100X Magnification:
The corals get food from, and live in harmony with their pet dinoflagellates.



40X Magnification: Corals house microscopic organisms called dinoflagellates in their bodies that use sunlight to make food like plants do.

Coral reefs are fragile ecosystems

Coral reefs are one of the most important ecosystems in the world because of the large number of species that live on them. An ecosystem is a community of living plants and animals, plus their habitat and surroundings. Coral reef ecosystems are fragile and many of them are currently in danger. Scientists know that a lot of different things are hurting the reefs, such as warmer oceans, chemicals, dynamite blast-fishing, overfishing, rising ocean acidity, and diseases caused by bacteria and unclean water. With so many challenges, we must discover what can be done to protect coral reefs across the world.

Many diverse species of marine animals live on coral reefs.