

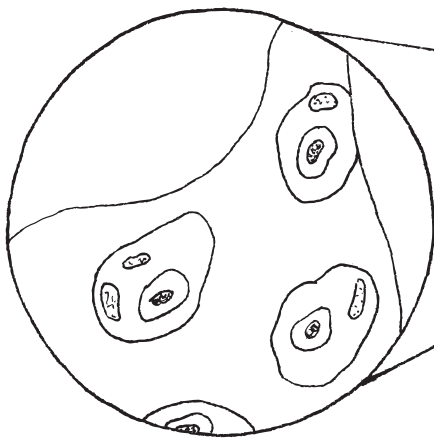
The Coral Reef

Typically, we might think of a coral reef as a structure, but coral reefs are actually extremely diverse and complex underwater communities made up of a myriad of plants and animals. The corals themselves are tiny animals called **polyps** that belong to the same group as sea anemones and jellyfish. Corals have a very unique symbiotic relationship with single-celled algae that live within their tissues. These algae, called **zooxanthellae**, enable the corals to build the reef, providing them with some of the nutrients that are necessary for the secretion of calcium carbonate. The algae benefit from other nutrients that remain in the tissues of the coral polyps. Each coral secretes enough calcium carbonate for its own external skeleton. Hundreds or thousands of colonies of

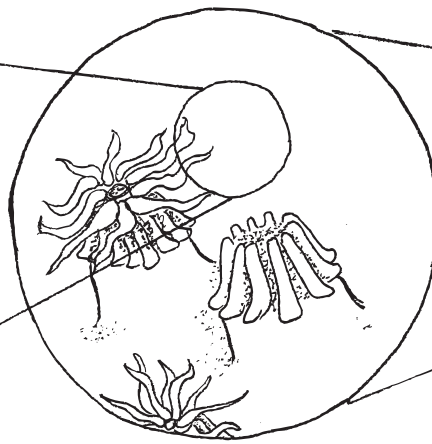
corals actually provide the framework of the reef, building on top of older skeletons in layers that may take hundreds or even thousands of years to build what we think of as a coral reef.

Coral polyps feed on **zooplankton** in the water and supplement their diet with the nutrients provided by the zooxanthellae. When the polyps are not feeding they are retracted inside their skeletons. This behavior helps protect them from fishes that feed upon extended polyps.

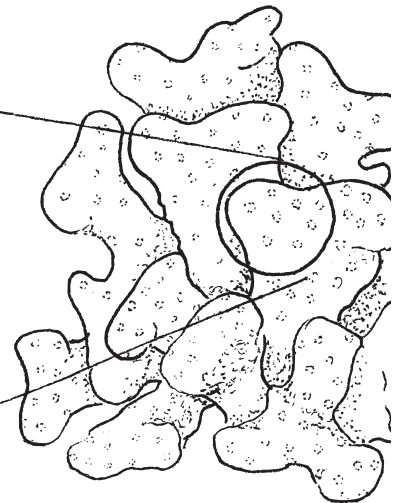
Coral reefs provide a substrate on which algae, marine plants, and other organisms may attach themselves and further cement the reef. The reef also provides crevices, caves and hiding places



Zooxanthellae in the tissue of polyps



Coral polyp extended (left), individual skeleton with polyp retracted (right)



Colony of coral polyps create a coral head