**Introduction to Coral Bleaching**

Corals are animals – specifically marine invertebrates. There are two types of corals – stony (or hard) and soft. Corals that live in shallow water use algae called **dinoflagellates** as their source of food. The algae use corals as their host. The algae photosynthesizes and passes food to their hosts while the coral provides nutrients for the algae. This **symbiotic relationship** promotes coral growth and gives coral some of their color.

Coral growth leads to structures called reefs. **Coral reefs** are an ecosystem that are important for biodiversity. They serve as habitats for many marine organisms, protect coastlines and support the marine food chain. Coral reefs take a long time to form because individual corals grow very slowly. Most grow around one centimeter in height per year.

Coral reef growth is affected by temperature, **salinity** (the amount of salt in a body of water), and carbon dioxide concentrations in the atmosphere. Stony coral build their structure using calcium carbonate. As oceans become more acidic, there are fewer carbonate ions for the coral to use for their formation. As a result, corals form with lower density and become more vulnerable to breakage. (9)

Threats to coral reef include natural disasters and disease, overfishing, pollution, rising water temperatures and ocean acidification. A major consequence of climate change has been the increasing frequency of **coral bleaching**. When stony coral overheat, they eject the algae providing food. The symbiotic relationship is damaged and the coral starve. This is known as coral bleaching since most coral get their color from the algae. Prolonged bleaching can kill coral colonies. The destruction of coral colonies has a prominent ripple effect on the marine ecosystem.

