



This webisode was developed specifically for use in education to help teach curriculum-based ocean concepts. In this webisode, Jonathan investigates different kinds of symbiosis (mutualism, commensalism and parasitism) and how some of the animals in the ocean utilize these techniques for survival.

## Objectives

1. Introduces viewers to the types of symbiosis (commensalism, mutualism and parasitism) and how some ocean organisms use these techniques for survival.

## Questions for before watching the program

1. What is symbiosis?
2. Are symbiotic relationships always beneficial to both parties?
3. What is a parasite? Is a parasitic relationship symbiotic?
4. What are some examples of symbiotic relationships in nature? (*Not necessarily underwater.*)

## Discussion for after watching the program

1. What is *mutualism*? Give an example of a mutualistic relationship from the webisode.
2. What is *commensalism*? Give an example of commensalism from the webisode.
3. What is a parasite? Is *parasitism* a symbiotic relationship?
4. Rate these relationships as commensal, mutualism, or parasitic:
  - Clownfish/anemone
  - Manta ray/cleaning fish
  - Shark/remora
  - Humpback whale/barnacle
  - Honey bee/flower
  - Whale shark/jacks
  - Human/mosquito
5. Internet research: How can symbiotic relationships affect the evolution of organisms? (*Hint: look at the case of the flower and the honey bee.*)