Symbiotic Relationships

STANDARDS: 6.1G

OBJECTIVE: I CAN DIFFERENTIATE BETWEEN THE VARIOUS SYMBIOTIC RELATIONSHIPS THAT EXIST WITHIN ECOSYSTEMS.

Motivation

Answer the following questions both in your guided notes and in your discussion thread with your teacher.

What do you see…?

Describe a situation where both organisms in the picture are <u>benefiting</u> each other.

helping

Mini Lesson Three types of symbiotic relationships exist

1. Mutualism +/+

A relationship between organisms where *both organisms benefit.*

Think "Mutual"

The clownfish lives in the sea anemone and is provided protection by the tentacles **(+)**, whereas the sea anemone tentacles get cleaned by the clownfish **(+)**. Both Benefit!

2. Commensalism +/na

A relationship between organisms where *one organism benefits* and *one is unaffected*.

The Remora fish (small) swim around the shark waiting for the shark to eat so they can eat the scraps. The remora fish benefit by getting to eat **(+)**, whereas the shark is not benefiting or hurt (N/a).

3. Parasitism +/-

A relationship between organisms where *one organism benefits* and *one is harmed*.

Think "parasite and host"

The string-like organisms grows in and around plants to take nutrients and water from them. The parasitic plant gets nutrients **(+)** and the other plant **(host)** loses nutrients **(-)**.

Simulation or Video

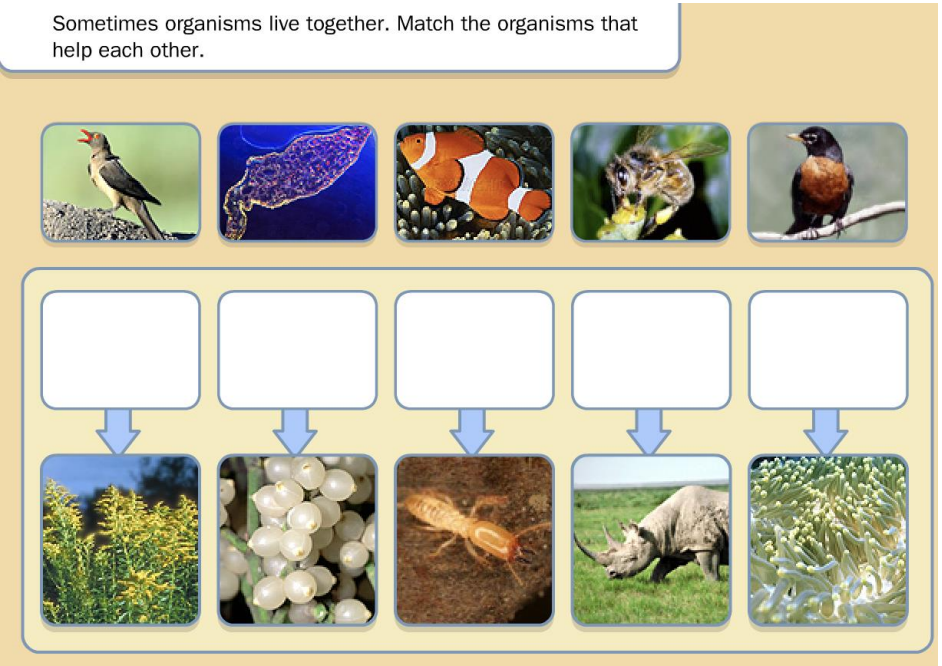
Mini Lesson

Choose!

Try the simulation to match the organisms in a symbiotic relationship. Be sure to click on each organism for hints. answer the following questions in both your **guided notes** and **discussion board thread**

https://www.eduplace.com/kids/hmsc/activities/simulations/gr6/unitb.html

Which type of symbiotic relationship is being depicted in this simulation? How do you know?



Watch the video and answer the following questions in both your **guided notes** and **discussion board thread**

Write two interesting facts about the symbiotic relationships you learned in the video

Guided Practice

Read the following passages and identify which symbiotic relationship is being depicted.

1. Birds eat parasites off back of ox and the ox does not get sick
2. Clownfish stay safe from predators by staying inside sea anemone and sea anemone eats bacteria off the fish's back
3. A tick feeds off the blood of its host
4. A bird eats food out of a crocodile's teeth therefore cleaning the teeth of the crocodile
5. Small fish follow around sharks to eat the leftover food the sharks drop after their meals
6. A tapeworm lives in the intestines of a dog and feeds off the food the dog eats.

Guided Practice

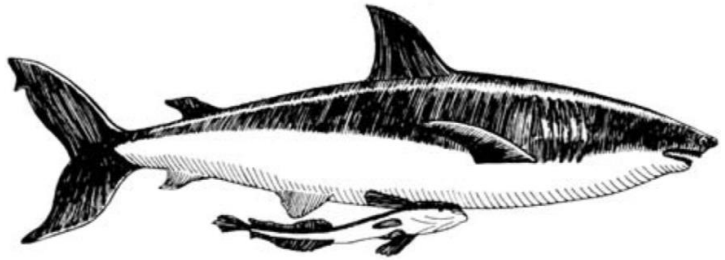
1. Dodder plants consist of tangled masses of yellow, leafless vines and contain few chloroplasts. The vines twist around and grow into the stems of other plants and absorb water and nutrients from them. Which statement best describes this relationship?

   A) Dodder plants are parasitic, relying on host organisms for resources.
   B) Dodder plants are decomposers, returning organic material back to the environment.
   C) Dodder plants are producers, while the other plants that they attach to are consumers.
   D) Dodder plants are consumers, transferring energy to other plants in the ecosystem.

2. When handling cat litter, humans can potentially be exposed to a harmful single-celled protozoan. Its primary host is the common domestic cat, but it can also live in humans. This protozoan is an example of a

   A) predator
   B) producer
   C) parasite
   D) scavenger

3. The diagram below represents a remora fish attached to a shark.



A remora fish has an adhesive disk or sucker on its head, which it uses to attach itself to larger fishes, such as sharks. This attachment causes the shark no harm. The remora fish eat scraps of food that the sharks drop as they feed. This is an example of

A) an adaptation to a specialized niche
B) an adaptation of a successful parasite
C) competition between two fish species for food
D) competition for abiotic resources

4. A particular species of unicellular organism inhabits the intestines of termites, where the unicellular organisms are protected from predators. Wood that is ingested by the termites is digested by the unicellular organisms, forming food for the termites. The relationship between these two species can be described as

   A) harmful to both species
   B) parasite/host
   C) beneficial to both species
   D) predator/prey

Closure

RESEARCH SYMBIOTIC RELATIONSHIPS THAT EXIST WITHIN HUMANS AND DISCUSS YOUR FINDINGS IN THE DISCUSSION BOARD. BE SURE TO RESPOND TO AT LEAST ONE OTHER CLASSMATE.

Exit Ticket

Complete the CasteLearning or complete the PDF Exit Assessment