Organism Interactions Within Ecosystems

Within ecosystems, organisms interact with each other in various ways. Some interactions are competitive, some are predatory, and some are mutually beneficial.

- **Competitive interactions** occur when organisms compete for shared resources.
- **Predatory interactions** occur when one organism preys on another organism.
- **Mutually beneficial interactions** occur when organisms help each other survive.

Read the following descriptions of organism interactions. Determine whether each is an example of a competitive, predatory, or mutually beneficial interaction. Then explain your reasoning. Explanations may vary.

1. In the spring, honey bees fly from flower to flower. The bees feed on the flower's nectar and use it to make honey. Their foraging for nectar spreads pollen between plants, fertilizing the flowers.

   a. What type of interaction is described between honey bees and flowers? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The honey bees get food from the flowers, while the flowers are pollinated by the bees.

2. Lions and hyenas both hunt the same organisms, such as wildebeest, zebras, and impala. Sometimes lions and hyenas steal food from each other.

   a. What type of interaction is described between lions and hyenas? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The lions and hyenas are competing for the same prey.

3. Sundews are carnivorous plants. They have long tentacles on their leaves with sticky glands at the tip. These glands produce nectar and adhesive to attract and trap flies and moths. Once stuck, the insect is smothered by the sundew's tentacles, which coil around the insect and produce enzymes to digest it.

   a. What type of interaction is described between sundews and insects? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The sundews prey on insects by capturing them with their sticky tentacles and consuming them.

Organism Interactions Within Ecosystems

Keep going! Answer the questions below. Explanations may vary.

4. In the Atlantic Ocean, a remora fish uses a sucker-like organ on the top of its head to attach itself to a shark. The remora fish then eats scraps of food dropped by the shark, as well as parasites on the shark's skin and mouth. The shark in turn provides protection for remora fish and transports them around the ocean.

   a. What type of interaction is described between a shark and a remora fish? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The remora fish get protection and transportation from the sharks, and the shark gets parasite removal from the remora fish.

5. When an old oak tree in a deciduous forest dies and falls to the ground, young tree seedlings race to fill in the gap in the canopy. Once the gap is filled, the other seedlings can't get sufficient sunlight.

   a. What type of interaction is described between young tree seedlings? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The seedlings are competing for sunlight.

6. A blue whale captures krill by opening its mouth and straining enormous volumes of water through bristle-like structures called baleen plates. The largest blue whales can consume up to 6 tons of krill a day!

   a. What type of interaction is described between blue whales and krill? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   The blue whale preys on krill by straining them through its baleen plates and consuming them.

7. During breeding season, a male northern cardinal marks his territory with song. He chases off other males entering his territory to prevent them from mating with the same female or taking his resources.

   a. What type of interaction is described between male cardinals? Circle the correct answer.

   Competitive **Predatory** **Mutually Beneficial**

   b. Explain your reasoning.

   Male cardinals compete with other male cardinals for mates and resources.