12-5 What are symbiotic relationships?

Symbiotic Relationships- Symbiosis is a close relationship between two organisms that may help or harm them. There are three types of symbiotic relationships. They are mutualism, commensalism, and parasitism.

Mutualism- Some relationships between organisms make survival easier. For example, the desert yucca plant depends on the yucca moth to pollinate its flowers. The yucca moth depends on the yucca plant to provide protection and food for its larvae. This is an example of **mutualism**, or a relationship between two different kinds of organisms that benefits them both.

   A lichen is another example of mutualism. A lichen is really two organisms living together. The two organisms that make up a lichen are fungus and alga. The alga provides the fungus with nutrients. The fungus provides the alga with the water and carbon dioxide needed for photosynthesis. Together, they can live where neither organism could survive alone.

Fig. 12-4 The desert yucca plant and the yucca moth have a relationship that benefits them both.

Fig. 12-15 The relationship between whales and barnacles is an example of commensalism.

Commensalism- Look at Figure 12-15. The organisms on the whale are barnacles. Barnacles are arthropods that cannot move from one plane to another to look for food. By attaching themselves to the body of a whale, barnacles can feed while moving through nutrient-rich water. The whale is not harmed by the barnacles. This is an example of commensalism. **Commensalism** is the relationship between two different kinds of organism in which one benefits and the other is unaffected.

Parasitism- **Parasitism** is a relationship between two different kinds of organisms in which one lives in or on the other and causes it harm. A parasite is an organism that lives in or on another living organism and feeds on it. The organism that the parasite feeds on is called a **host.** Ticks, fleas, and leeches are examples of parasites. They feed on the blood of their hosts. Some worms, fungi, and microorganisms are parasites that live inside their hosts.

   Parasitism is different from predation. Predators capture and kill their prey before eating it. Although parasites may eventually weaken or kill their hosts, it is in the parasites best interest to keep their hosts alive so they can continue to live off them.

Fig. 12-16 Mosquitoes feed on the blood of their hosts.

12-5 What are symbiotic relationships?

Lesson Review

Write *true* if the statement is true. If the statement is false, change the underlined term to make the statement true.

_____ 1. Mutualism is a close relationship between two organisms that may help or harm them.

_____ 2. There are three types of symbiotic relationships.

_____ 3. Commensalism is a relationship between two different kinds of organisms that benefits both of them.

_____ 4. The desert yucca plant depends on the yucca moth for food.

_____ 5. A lichen is an example of mutualism.

_____ 6. Barnacles on a whale is an example of commensalism.

_____ 7. Parasitism is a relationship between two different kinds of organisms in which one benefits and the other is unaffected.

_____ 8. By attaching themselves to the body of a whale, yucca moths can feed while moving through nutrient-rich water.

_____ 9. Parasitism is a relationship between two different kinds of organism in which one lives in or on the other and causes it harm.

_____ 10. The organism that a parasite feeds on is called a host.

_____ 11. Ticks, fleas, and leeches are examples of hosts.

_____ 12. Parasites capture and kill their prey before eating it.

Skill Challenge

Skills: *classifying, defining*

Define the following terms. Write your answer in the space provided.

1. **mutualism:** _____

   _____

2. **commensalism:** _____

   _____

3. **predation:** _____

   _____

4. **parasitism:** _____

   _____

CHECKING CONCEPTS

1. What are the three types of symbiotic relationships?

   _____

   _____

   _____

2. What is a lichen? _____

_____

3. What is commensalism? _____

_____

4. What is parasitism? _____

_____