Name _____
Date _____ Hour ____

**SYMBIOTIC RELATIONSHIPS**

*Please place the number of the correct term on the blank in front of the description.*

1. COMMENSALISM 2. PARASITISM 3. MUTUALISM

| | |
|---|---|
| _____ barnacle/whale | Barnacles create home sites by attaching themselves to whales. This neither harms nor benefits the whales. |
| _____ mistletoe/spruce tree | Mistletoe extracts water and nutrients from the spruce tree to the tree's detriment. |
| _____ yucca plant/yucca moth | Yucca flowers are pollinated by yucca moths. The moths lay their eggs in the flowers where the larvae hatch and eat some of the developing seeds. Both species benefit. |
| _____ hermit crab/snail shell | Hermit crabs live in shells made and then abandoned by snails. This neither harms nor benefits the snails. |
| _____ oxpecker/rhinoceros | Oxpeckers feed on the ticks found on a rhinoceros. Both species benefit. |
| _____ cowbird/buffalo | As buffalos walk through grass, insects become active and are seen and eaten by cowbirds. This neither harms nor benefits the buffalos. |
| _____ mouse/flea | A flea feeds on a mouse's blood to the mouse's detriment. |
| _____ wrasse fish/black sea bass | Wrasse fish feed on the parasites found on the black sea bass's body. Both species benefit. |
| _____ deer/tick | Ticks feed on deer blood to the deer's detriment. |
| _____ silverfish/army ants | Silverfish live and hunt with army ants They share the prey. They neither help nor harm the ants. |
| _____ cuckoo/warbler | A cuckoo may lay its eggs in a warbler's nest. The cuckoo's young will displace the warbler's young and will be raised by the warbler. |

| | |
|---|---|
| _____ honey guide bird/badger | Honey guide birds alert and direct badgers to bee hives. The badgers then expose the hives and feed on the honey first. Then the honey guide birds eat. Both species benefit. |
| _____ hookworms/humans | Hookworms enter the human body by burrowing into the skin of the feet. Once in the skin they enter the bloodstream and travel to the small intestine where they attach to the walls and begin to the drink the person's blood and weaken the victim. |
| _____ kapoc trees/orchids | Types of orchids grow high on the branches of the tall kapoc trees of the jungle. This adaptation allows the orchid to receive enough sunlight to perform its photosynthesis but the kapoc trees are unaffected. |
| _____ lichen algae/lichen fungus | Lichens are close associations of fungi and algae. The fungi hold the water supply and the algae perform photosynthesis and manufacture the carbohydrates for both. |
| _____ acacia tree/ants | In the jungles of South America live a thorn tree called an acacia. A species of ant eats secretions of the acacia, drink its sap, and raise its young in the hollow thorns. The ants also keep competing vines from growing near the acacia tree and they help repel any insects that would damage the acacia. |
| _____ moose/tapeworm | In the flesh of the moose are the cysts (dormant stage) of a worm that makes the muscles of the moose stiff and sore. If the moose is killed and eaten raw, the predator species will develop a form of tapeworm. |
| _____ lactobacilli/humans | Lactobacilli are a type of bacteria that live in our lungs and destroy many of the microorganisms that enter our respiratory system. They are highly adapted to living in our lungs and can't survive in many other habitats. |
| _____ soybeans/bacteria | Soybeans require nitrogen from their environment. This nitrogen is provided by bacteria that live in special root nodules. In return, the bacteria receive some of the sugar (carbohydrates) manufactured by the soybeans. |

Name: _____Date: _____

# Which Symbiosis is it?

1. **Oxpecker and zebras:** Oxpeckers are a type of small bird that land on zebras and eat ticks and other parasites that live on the zebra's skin. The oxpeckers get food and the zebras get pest control.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

2. **Tapeworm and animals:** Tapeworms are segmented flatworms that attach themselves to the insides of the intestines of animals such as cows, pigs, and humans. Tapeworms get food by eating the host's (animal) partly digested food, depriving the host (animal) of nutrients.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

3. **Spider crab and algae:** Spider crabs live in shallow areas of the ocean floor, and greenish-brown algae lives on the crabs' backs, making the crabs blend in with their environment, and unnoticeable to predators. The algae get a good place to live, and the crab gets camouflage.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

4. **Remora and the shark:** Remora fish are small fish that make their niche by picking up the scraps that sharks leave behind while feeding. The shark makes no attempt to prey on the remora fish.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

5. **Bee and the flower:** Bees fly from flower to flower-gathering nectar, which they make into food. When they land in a flower, the bees get some pollen on their hairy bodies, and when they land in the next flower, some of the pollen from the first one rubs off, pollinating the plant.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

6. **Bacteria and the human colon:** Bacteria live in the colon of humans and are able to feed off the indigestible food that the human body cannot break down (cellulose of plants). In the process of breaking down the food, the bacteria also make much-needed vitamins that the human body in turn can use to keep healthy.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____

7. **Dog and the tick:** Ticks live on dogs and feed off the dog's blood. They may also infect the dog with a parasite that can cause the dog to become quite sick. Dogs also are sometimes found to be very tired because a large volume of their blood has been drained.
   Organism 1: □ helped □harmed □not harmed/not helped
   Organism 2: □ helped □harmed □not harmed/not helped
   Symbiotic Relationship: _____