

Unit 9 Topic Reviews

TOPIC 3: Community Ecology (Symbiotic Relationships)

1. Define symbiosis: **Interactions or relationships between organisms in different populations**
2. For each of the following, explain why the symbols provided are accurate for each type of symbiotic relationship:
 - a. Competition (-, -): **In this type of relationship, resources are limited and organisms are fighting/competing for the same resource (like food or water); neither benefits and both are harmed**
 - b. Predation (+, -): **In this type of relationship, one organism is preying upon another to obtain its food; one organism benefits (the predator, is it gets nutrients) and the other is harmed (killed)**
 - c. Parasitism (+, -): **In this relationship, one organism steals nutrients from another. The parasite is the thief and it is benefitting because it is getting what it needs. The host organism is being harmed because it is losing nutrients to the parasite. The goal is not to kill the host.**
 - d. Mutualism (+, +): **In this relationship, both organisms are benefitting. Maybe one organism eats parasites off the other organism. The eater gets food and the host has parasites removed.**
 - e. Commensalism (+, 0): **In this relationship, one organism is benefitting and the other is not impacted. Here, one organism obtains what it needs for survival while the other organism is not helped or harmed.**
3. Identify the type of symbiotic relationship being described:
 - a. A lichen is a combination of fungus and algae that lives on the sides of trees, rocks, and other materials. The fungus provides the algae with water and minerals and the algae uses the water and minerals to make food for both organisms. **Mutualism (both benefit)**
 - b. A cuckoo bird may lay its eggs in a warbler's nest. The cuckoo's young will kick out the warbler's young and will be raised by the warbler. **Brood parasitism**
 - c. Yucca flowers are pollinated by yucca moths. The moths lay their eggs in the flowers and the eggs hatch. The larvae eat some of the seeds, and spread them around. **Mutualism**
 - d. Mistletoe takes water and nutrients from the spruce tree. This is good for the mistletoe but bad for the tree. **Parasitism**
 - e. Remora fish attach themselves to a shark's body. They then travel with the shark and eat scraps from the shark's meals. **Commensalism**