**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Section 2.1: Types of Interactions (pgs. 34-39)**

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a biological interaction in which two species live closely together over time (ex: barnacles on whales). There are three main types of symbiotic relationships.

2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a symbiotic relationship between two species in which one benefits and the other is harmed (ex: tick on a dog, tapeworm in a human). The organism that provides food for a parasite is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. A parasite usually does not kill its host because that would mean \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a symbiotic relationship in which both partners benefit (ex: gut micro-organisms in termites to help it digest wood).

4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a symbiotic relationship in which one partner benefits and the other appears neither to lose or gain from the relationship (ex: clownfish living in the tentacles of an anemone).

**Section 2.2: Roles of Organisms in Ecosystems (pgs. 40-49)**

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are animals that eat only plant materials (moose, hare).

2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are animals that eat only other animals (owls, spiders)

3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are animals that eat both plants and animals (bears, chickens).

4) Animals must get their food from the biotic environment, so they are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5) Plants produce their own food, so they are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are animals that eat decaying animals and waste materials (turkey vulture, dung beetle).

7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are organisms that break down dead and waste materials into their basic parts. They do not eat their food as scavengers do. They release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that break apart dead tissues and cells and then absorb the nutrients into their own cells (fungus on a rotting log).

**Section 2.3: Food Chains, Food Webs, and the Transfer of Energy (pgs. 50-59)**

1) Eating is a process that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from one organism to another.

2) A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a model that shows the transfer of energy from organism to organism. (potato plant > beetle > mouse > weasel > owl)

3) All food chains begin with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4) The second link in all food chains consists of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5) The third link in all food chains is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6) A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a more complex model of feeding relationships.

7) The energy in your food consists of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the plant or animal that you are eating. You use most of this energy for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Only a small amount becomes a part of your stored energy.

8) Ecologists model the gradual loss of energy in food chains as an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Section 2.4: Cycles of Matter in Ecosystems (pgs. 60-65)**

1) Food is the source of energy for all living things. Food also contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that organisms need to build and repair their bodies.

2) Because there is a limited supply of nutrients available for organisms, nutrients are continuously re-used. The processes that move nutrients back and forth between the biotic and abiotic environment are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.