

## BLM Answers

### BLM 11–1 Build an Ecosystem

5. Answers may vary depending on the outcome.  
Sample answer: Snails and slugs compete with earthworms for food, water, and space.  
Evidence will vary.
6. Answers will vary. Look for one similarity and one difference. Sample answer:
- Similarity—Both ecosystems include abiotic and biotic factors, and interactions between the organisms and the environment.
  - Difference—The number and type of living organisms in the model ecosystem does not accurately represent those in an actual ecosystem.

### BLM 11–2 Worm Composting

1. a) Composting turns organic material into soil-like material called compost. The organic material is broken down by microorganisms such as bacteria, worms, and fungi, and by chemical reactions. Composting needs air and moisture to work properly. There also needs to be a good balance of carbon and nitrogen for material to be well composted.
- b) Worms are decomposers and help break down dead organic matter.
- c) Look for at least three advantages of composting such as:
- reduces garbage
  - helps conserve water as compost spread around plants reduces the need to water plants
  - adds nutrients to soil
  - reduces greenhouse gas emissions

### BLM 11–3 Symbiotic Relationships

1. Sample answers:
- a) commensalism: Cowbirds are helped. Bison are not harmed or helped.
- b) mutualism: Both the mushroom and the tree are helped.
- c) parasitism: Lice get blood. Humans get no benefit and an itchy spot.
- d) commensalism: Barnacles get shelter and transport. Whales are not harmed or helped.

### BLM 11–5 Symbiosis

See Science Background Notes for Find Out: Symbiosis on page 273 in the teacher resource.

### BLM 11–6 Chapter 11 Practice Test

1. f) food web
2. g) consumer
3. a) biodiversity
4. d) herbivore
5. b) food chain
6. i) ecosystem
7. h) habitat
8. e) producer
9. Look for the following three benefits and an example for each. Examples will vary.
  - a) foods; variety of animal and plant sources of food such as fruits and cheese
  - b) useful materials; clothing made from natural fibres such as cotton and wool
  - c) medicines from plants; willow bark contains an ingredient used in aspirin
10. A new species may grow quickly if it has no competition for resources or predators. It can take over an area, causing other species to die.
11. Accept any reasonable explanation such as:
  - A food web is more realistic than a food chain. Producers are usually eaten by different consumers. Many consumers are eaten by more than one kind of predator.
12. Wording will vary. Fungi are decomposers that break down dead organic matter. Decomposers return nutrients to the soil for plants to use.
13. Look for two food chains based on the food web shown. Sample answers:
  - a) tree → deer → lynx
  - b) grass → mouse → snake
14. Definitions will vary but should include the following ideas.
  - a) Parasitism; is helpful to one species and harms the other species
  - b) Mutualism; is helpful to both species
  - c) Commensalism; is helpful to one species and neither harmful nor helpful for the other species

**BLM 11-7 Chapter 11 Test**

1. **h)** symbiosis
2. **a)** ecosystem
3. **f)** habitat
4. **g)** host
5. **b)** biodiversity
6. **e)** food chain
7. **c)** producer
8. **d)** consumer
9. Explanations will vary. Sample answers:
  - a)** natural disturbances: Environmental changes affect the habitat of animal and plant communities. They die or move away.
  - b)** changes in the availability of resources: Increases or decreases in resources such as food and water affect communities. When the population of one community increases, the populations of other communities may increase because there is more food or decrease because there is more competition for resources.
  - c)** introduction of a new species: A new species may grow quickly if it has no competition for resources or predators. It can take over an area and cause other species to die or move away.
10. Look for a check mark under each of the following headings.
  - a)** Herbivore
  - b)** Omnivore
  - c)** Carnivore
11. Look for the idea that decomposers break down dead organic matter. They return nutrients to the soil for plants to use.
12. the Sun
13. **a)** Look for a food chain that ends with a herbivore.  
Sample answer: grass → mouse
- b)** Look for a food chain that ends with a carnivore.  
Sample answer: tree → deer → lynx
14. Explanations and example will vary but should include the following ideas.
  - a)** commensalism; is helpful to one species and neither harmful nor helpful for the other species
  - b)** mutualism; is helpful to both species
  - c)** parasitism; is helpful to one species and harms the other species