

# Chapter 5 Drill

**Directions:** Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case. For answers and explanations, see Chapter 13.

- The relationship between a tick and a bird is best described as which of the following?
  - Commensalism
  - Mutualism
  - Parasitism
  - Neutralism
- When two species live in the same habitat and use exactly the same resources, which of the following will probably occur?
  - The two species can live together indefinitely.
  - One of the species will eventually go extinct.
  - One species will evolve into a parasite.
  - The two species do not interact.
- Organisms use different resources in the same habitat, and in this way avoid competition. This is referred to as
  - the Law of Tolerance
  - hunting and gathering
  - a predator-prey relationship
  - resource partitioning
- Which of the following is true about the roles of both parasites and predators in ecosystems?
  - Predators and parasites can act as environmental resistance and allow the host population to grow.
  - Predators are generally smaller and parasites support many predators.
  - Predators generally have specialized means to capture prey.
  - Parasites and predators eliminate the weak and sick, leaving the strongest to reproduce.
- All of the following are true concerning the characteristics of a climax community EXCEPT
  - the adult plants are small in size
  - there are many different species of plants
  - there is a mixture of decomposers, producers, and consumers
  - most of the organisms are specialists in their niche requirements
- Which of the following describes the direction of the flow of energy in a food chain?
  - From parasite to host
  - From predator to prey
  - From prey to predator
  - From one mutual to another
- Which of the following element's cycles includes long-term storage in rocks and a short storage time in the atmosphere?
  - Sulfur
  - Carbon
  - Nitrogen
  - Calcium
- The current trend where some species of bacteria have become resistant to antibiotics is best described as
  - genetic diversity
  - speciation
  - extinction
  - microevolution
- Large herds of grazing mammals are most likely to be located in a
  - rain forest
  - estuary
  - coniferous forest
  - grassland

**Free-Response Question**

1. Students from a local high school participated in a study of Hillside Pond. After safely taking samples of some small fish, a fish-eating hawk, some pond water, some zooplankton, and a fish that preys on the small fish, they determined the average concentration of compound “X” in each sample. The table below summarizes their data.

Organism	Compound “X” concentration
Small fish	0.1 ppm
Hawk	3.0 ppm
Pond water	0.1 ppb
Zooplankton	0.2 ppb
Predatory fish	1.0 ppm

- (a) **Describe** ONE process that would cause compound “X” to contaminate the pond’s water.
- (b) **Draw** a food chain that illustrates the correct trophic order in the pond. Include the concentrations of compound “X” for each part of the chain.
- (c) **Describe** a process that would explain the different concentrations of compound “X” in each organism.
- (d) **Describe** ONE real-life example of a substance that behaves like compound “X” in the oceans. Give ONE negative effect that the substance might have on humans.