

# Chapter 11

## The Principles of Ecology Worksheets



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- Lesson 11.1: The Science of Ecology
- Lesson 11.2: Recycling Matter
- Lesson 11.3: Biomes

# 11.1 The Science of Ecology

## Lesson 11.1: True or False

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Write true if the statement is true or false if the statement is false.*

- \_\_\_\_\_ 1. Biotic factors include sunlight, soil, temperature, and water.
- \_\_\_\_\_ 2. Like nutrients and water, energy also recycles through an ecosystem.
- \_\_\_\_\_ 3. An ecosystem consists of all the biotic and abiotic factors in an area and their interactions.
- \_\_\_\_\_ 4. Herbivores are a necessary link between producers and other consumers.
- \_\_\_\_\_ 5. A niche refers to the place an organism lives within its ecosystem.
- \_\_\_\_\_ 6. Dung beetles eat animal feces.
- \_\_\_\_\_ 7. Autotrophs make their own food.
- \_\_\_\_\_ 8. Organisms use 90% of the available energy at each trophic level.
- \_\_\_\_\_ 9. Carnivores include lions, polar bears, hawks, frogs, salmon, and deer.
- \_\_\_\_\_ 10. Biomass increases at the upper levels of a food chain.
- \_\_\_\_\_ 11. Producers occupy the first trophic level.
- \_\_\_\_\_ 12. Scavengers include vultures and raccoons.
- \_\_\_\_\_ 13. In a complex ecosystem, it is likely that two different species will occupy the same niche.
- \_\_\_\_\_ 14. The habitat is the role of a species in its ecosystem.
- \_\_\_\_\_ 15. A food web shows how energy flows through an ecosystem.

# Lesson 11.1: Critical Reading

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Read these passages from the text and answer the questions that follow.

## Trophic Levels

The feeding positions in a food chain or web are called **trophic levels**. The different trophic levels are defined in **Table 11.1**. All food chains and webs have at least two or three trophic levels. Generally, there are a maximum of four trophic levels. Examples are also given in the table.

Table 11.1: **Trophic Levels**

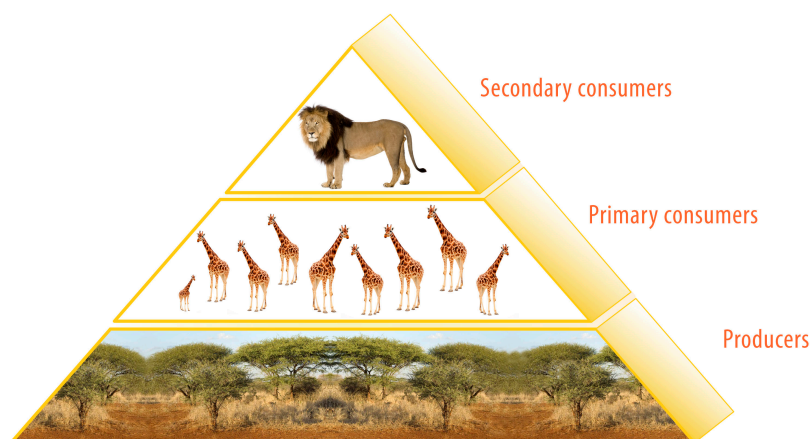
Trophic Level	Where It Gets Food	Example
1st Trophic Level: Producer	Makes its own food	Plants make food
2nd Trophic Level: Primary Consumer	Consumes producers	Mice eat plant seeds
3rd Trophic Level: Secondary Consumer	Consumes primary consumers	Snakes eat mice
4th Trophic Level: Tertiary Consumer	Consumes secondary consumers	Hawks eat snakes

Many consumers feed at more than one trophic level. Humans, for example, are primary consumers when they eat plants such as vegetables. They are secondary consumers when they eat cows. They are tertiary consumers when they eat salmon.

## Trophic Levels and Energy

Energy is passed up a food chain or web from lower to higher trophic levels. However, only about 10 percent of the energy at one level is available to the next level. This is represented by the pyramid below. What happens to the other 90 percent of energy? It is used for metabolic processes or given off to the environment as heat. This loss of energy explains why there are rarely more than four trophic levels in a food chain or web. Sometimes there may be a fifth trophic level, but usually there's not enough energy left to support any additional levels.

### Ecological Pyramid



Ecological Pyramid. This pyramid shows how energy and biomass decrease from lower to higher trophic levels. Assume that producers in this pyramid have 1,000,000 kilocalories of energy. How much energy is

available to primary consumers? (*Images of lion and landscape copyright by Eric Isselée, 2010, and image of giraffe copyright Kletr, 2010. Used under licenses from Shutterstock.com. Compilation created by CK-12 Foundation.*)

### **Trophic Levels and Biomass**

With less energy at higher trophic levels, there are usually fewer organisms as well. Organisms tend to be larger in size at higher trophic levels, but their smaller numbers result in less biomass. **Biomass** is the total mass of organisms at a trophic level. The decrease in biomass from lower to higher levels is also represented by the figure above.

#### *Questions*

1. What is a trophic level?
2. Which trophic level includes humans?
3. What types of organisms are in the first trophic level? Give an example.
4. Assume that producers in an ecosystem have 1,000,000 kilocalories of energy. How much energy is available to primary consumers?
5. Which trophic level has the greatest biomass?

## Lesson 11.1: Multiple Choice

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Circle the letter of the correct choice.*

- Examples of biotic factors include
  - grass, flowers, and sunlight
  - grass, trees, bees, and ants.
  - grass, trees, soil, and water.
  - all of the above
- Components of an ecosystem include
  - soil, sunlight, water, and weather.
  - grass, trees, bees, and ants.
  - all the biotic and abiotic factors in an area.
  - all of the above.
- Which describes the possible flow of energy in an ecosystem?
  - snakes to frogs to caterpillars to trees
  - trees to frogs to snakes to caterpillars
  - trees to caterpillars to frogs to snakes
  - caterpillars to trees to frogs to snakes
- The relationship between autotrophs and producers is
  - that autotrophs make the food the producers eat.
  - that producers make the food the autotrophs eat.
  - that autotrophs eat producers.
  - that they are the same organisms.
- Which statement best describes a trophic level?
  - A trophic level is the feeding position of an organism in a food chain or web.
  - A trophic level is the position of an organism in an ecosystem.
  - A trophic level is the niche of an organism in an ecosystem.
  - A trophic level is the feeding role of an organism in an ecosystem.
- Examples of decomposers include
  - algae and cyanobacteria.
  - earthworms, dung beetles, and spiders.
  - vultures and raccoons.
  - all of the above.
- Which organism would usually be in the fourth trophic level?
  - rats
  - humans
  - rabbits
  - hawks
- Which statement best defines ecology?
  - The study of how living things interact with each other.
  - The study of how living things interact with each other and with their environment.
  - The study of how living things interact with their environment.
  - The study of how living things interact with their habitat.

# Lesson 11.1: Vocabulary I

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Match the vocabulary word with the proper definition.*

## Definitions

- \_\_\_\_\_ 1. represents a single pathway through which energy and matter flow
- \_\_\_\_\_ 2. feeding positions in a food chain or web
- \_\_\_\_\_ 3. the living aspects of the environment
- \_\_\_\_\_ 4. the role of a species in its ecosystem
- \_\_\_\_\_ 5. consumes the soft tissues of dead animals
- \_\_\_\_\_ 6. the physical environment in which a species lives
- \_\_\_\_\_ 7. represents multiple pathways through which energy and matter flow
- \_\_\_\_\_ 8. states that two different species cannot occupy the same niche in the same place for very long
- \_\_\_\_\_ 9. the nonliving aspects of the environment
- \_\_\_\_\_ 10. the study of how living things interact with each other and with their environment
- \_\_\_\_\_ 11. the total mass of organisms at a trophic level
- \_\_\_\_\_ 12. break down remains and other wastes, and release simple inorganic molecules back to the environment
- \_\_\_\_\_ 13. consumes both plants and animals
- \_\_\_\_\_ 14. consumes animals
- \_\_\_\_\_ 15. consumes producers

## Terms

- a. abiotic factor
- b. biomass
- c. biotic factor
- d. carnivore
- e. competitive exclusion principle
- f. decomposer
- g. ecology
- h. food chain
- i. food web
- j. habitat
- k. herbivore
- l. niche
- m. omnivore
- n. scavenger
- p. trophic level

## Lesson 11.1: Vocabulary II

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Fill in the blank with the appropriate term.*

1. Abiotic factors are the \_\_\_\_\_ aspects of the environment.
2. \_\_\_\_\_ are organisms that produce food for themselves and other organisms.
3. Scavengers consume the soft tissues of \_\_\_\_\_ animals.
4. \_\_\_\_\_ levels are the positions in a food chain or food web
5. Ecosystems require constant inputs of \_\_\_\_\_ from sunlight or chemicals.
6. Omnivores consume both \_\_\_\_\_ and animals.
7. The competitive \_\_\_\_\_ principle states that two different species cannot occupy the same niche.
8. Producers are also called \_\_\_\_\_.
9. \_\_\_\_\_ feed on dead leaves and animal feces, among other debris.
10. Examples of \_\_\_\_\_ are lions, polar bears, and hawks.
11. \_\_\_\_\_ are organisms that depend on other organisms for food.
12. An \_\_\_\_\_ consists of all the biotic and abiotic factors in an area and their interactions.

## Lesson 11.1: Critical Writing

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Thoroughly answer the question below. Use appropriate academic vocabulary and clear and complete sentences.*

Describe how energy flows through ecosystems.



# 11.2 Recycling Matter

## Lesson 11.2: True or False

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Write true if the statement is true or false if the statement is false.*

- \_\_\_\_\_ 1. Just like energy, matter is lost as it passes through an ecosystem.
- \_\_\_\_\_ 2. Sublimation occurs when water changes to water vapor.
- \_\_\_\_\_ 3. Part of a cycle that holds an element or water for a short period of time is a reservoir pool.
- \_\_\_\_\_ 4. The deep ocean store carbon for thousands of years or more.
- \_\_\_\_\_ 5. The ocean is a reservoir for water.
- \_\_\_\_\_ 6. Photosynthesis removes carbon dioxide from the atmosphere.
- \_\_\_\_\_ 7. The water on Earth is billions of years old.
- \_\_\_\_\_ 8. Oxygen makes up most of Earth's atmosphere.
- \_\_\_\_\_ 9. Transpiration occurs when plants release water vapor through their stomata.
- \_\_\_\_\_ 10. Nitrogen fixation is done by by nitrogen-fixing plants.
- \_\_\_\_\_ 11. Cellular respiration releases oxygen into the atmosphere as carbon dioxide.
- \_\_\_\_\_ 12. Water droplets fall from the atmosphere as condensation.
- \_\_\_\_\_ 13. The water cycle takes place on, above, and below Earth's surface.
- \_\_\_\_\_ 14. Carbon cycles quickly between organisms and the atmosphere.
- \_\_\_\_\_ 15. Plants use nitrogen gas from the air to make organic compounds.

## Lesson 11.2: Critical Reading

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Read these passages from the text and answer the questions that follow.

### Introduction

Where does the water that is needed by your cells come from? Or the carbon and nitrogen that is needed to make your organic molecules? Unlike energy, matter is not lost as it passes through an ecosystem. Instead, matter is recycled. This recycling involves specific interactions between the biotic and abiotic factors in an ecosystem.

### Biogeochemical Cycles

The chemical elements and water that are needed by organisms continuously recycle in ecosystems. They pass through biotic and abiotic components of the biosphere. That's why their cycles are called **biogeochemical cycles**. For example, a chemical might move from organisms ("bio") to the atmosphere or ocean ("geo") and back to organisms again. Elements or water may be held for various periods of time in different parts of a cycle.

- Part of a cycle that holds an element or water for a short period of time is called an **exchange pool**. For example, the atmosphere is an exchange pool for water. It usually holds water (in the form of water vapor) for just a few days.
- Part of a cycle that holds an element or water for a long period of time is called a **reservoir**. The ocean is a reservoir for water. The deep ocean may hold water for thousands of years.

### Questions

1. Why is matter not lost as it passes through an ecosystem?
2. What is a biogeochemical cycle?
3. What is an exchange pool? Give an example.
4. What is a reservoir? Give an example.

## Lesson 11.2: Multiple Choice

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Circle the letter of the correct choice.*

- Which statement best describes a biogeochemical cycle?
  - A cycle that recycles chemical elements and water.
  - A cycle that continuously cycles chemical elements and water.
  - A cycle that continuously cycles chemical elements and water that are needed by organisms.
  - A cycle that continuously cycles chemical elements and water that are needed by organisms through an ecosystem.
- An example of an exchange pool is
  - the atmosphere for water.
  - the ocean for water.
  - the Earth for carbon.
  - all of the above.
- The relationship between condensation and precipitation is that
  - precipitation needs to occur prior to condensation.
  - condensation needs to occur prior to precipitation.
  - both are parts of the water cycle.
  - both b and c describe the relationship.
- The best description of the relationship between runoff and groundwater is that
  - runoff turns into groundwater.
  - groundwater turns into runoff.
  - both result from precipitation and may end up in bodies of water.
  - none of the above
- Nitrogen fixation
  - is the process of changing nitrogen gas to nitrates.
  - is the process of changing nitrates to nitrogen gas.
  - is carried out by nitrogen-fixing plants.
  - naturally occurs in the atmosphere.
- In terms of carbon and the atmosphere, autotrophs
  - remove carbon through photosynthesis and release carbon by cellular respiration.
  - remove carbon through cellular respiration and release carbon by photosynthesis.
  - remove oxygen through photosynthesis but release carbon by cellular respiration.
  - only remove carbon through photosynthesis.
- Which statement is correct?
  - Nitrogen must cycle through an ecosystem because it is used to make proteins and nucleic acids.
  - Nitrogen makes up most of Earth's atmosphere.
  - Nitrogen gas from the atmosphere cannot be used by plants to make organic compounds.
  - all of the above
- Which statement is correct?
  - Fossil fuels can store carbon for millions of years, and release carbon when burned.
  - Fossil fuels can store carbon for millions of years, and release oxygen when burned.
  - Fossil fuels can store oxygen for millions of years, and release carbon when burned.

(d) Fossil fuels can store nitrogen for millions of years, and release nitrogen when burned.

## Lesson 11.2: Vocabulary I

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Match the vocabulary word with the proper definition.*

### Definitions

- \_\_\_\_\_ 1. cycles that recycle chemical elements and water needed by organisms
- \_\_\_\_\_ 2. precipitation that falls on land and soaks into the ground
- \_\_\_\_\_ 3. rain, snow, sleet, hail, or freezing rain
- \_\_\_\_\_ 4. moves nitrogen back and forth between the atmosphere and organisms
- \_\_\_\_\_ 5. includes the atmosphere, living organisms, and fossil fuel deposits
- \_\_\_\_\_ 6. occurs when plants release water vapor through leaf pores
- \_\_\_\_\_ 7. part of a cycle that holds an element or water for a long period of time
- \_\_\_\_\_ 8. an underground layer of rock that stores water
- \_\_\_\_\_ 9. precipitation that falls on land and flows over the surface of the ground
- \_\_\_\_\_ 10. occurs when water on the surface changes to water vapor
- \_\_\_\_\_ 11. occurs when ice and snow change directly to water vapor
- \_\_\_\_\_ 12. the process in which water vapor changes to tiny droplets of liquid water
- \_\_\_\_\_ 13. a global cycle that takes place on, above, and below the Earth's surface
- \_\_\_\_\_ 14. the process of changing nitrogen gas to nitrates

### Terms

- a. aquifer
- b. biogeochemical cycle
- c. carbon cycle
- d. condensation
- e. evaporation
- f. groundwater
- g. nitrogen cycle
- h. nitrogen fixation
- i. precipitation
- j. reservoir
- k. runoff
- l. sublimation
- m. transpiration
- n. water cycle

## Lesson 11.2: Vocabulary II

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Fill in the blank with the appropriate term.*

1. The \_\_\_\_\_ of matter involves specific interactions between the biotic and abiotic factors in an ecosystem.
2. Water on \_\_\_\_\_ is billions of years old.
3. An exchange pool holds an element or water for a \_\_\_\_\_ period.
4. \_\_\_\_\_ occurs when plants release water vapor through stomata.
5. A \_\_\_\_\_ holds an element or water for a long period.
6. Carbon is stored in the atmosphere, in living organisms, and as \_\_\_\_\_ fuel deposits.
7. \_\_\_\_\_ occurs when water on the surface changes to water vapor.
8. The nitrogen cycle moves nitrogen through the \_\_\_\_\_ and \_\_\_\_\_ parts of ecosystems.
9. Nitrogen makes up \_\_\_\_\_ percent of Earth's atmosphere.
10. \_\_\_\_\_ is the process in which water vapor changes to tiny droplets of liquid water.
11. Water released by plants is a product of \_\_\_\_\_.
12. Sublimation occurs when ice and snow change directly to \_\_\_\_\_.

## Lesson 11.2: Critical Writing

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Thoroughly answer the question below. Use appropriate academic vocabulary and clear and complete sentences.*

Give an overview of the carbon cycle, focusing on the role of photosynthesis and cellular respiration.

# 11.3 Biomes

## Lesson 11.3: True or False

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Write true if the statement is true or false if the statement is false.*

- \_\_\_\_\_ 1. Biomes may be terrestrial, aquatic, or atmospheric.
- \_\_\_\_\_ 2. Temperature gets cooler as you move away from the equator.
- \_\_\_\_\_ 3. Terrestrial biomes include all the land and water areas on Earth where organisms live.
- \_\_\_\_\_ 4. Sunlight penetrates roughly 200 meters into the water.
- \_\_\_\_\_ 5. Climate is the average weather in an area over a long period of time.
- \_\_\_\_\_ 6. The growing season may last all year in a hot, wet climate.
- \_\_\_\_\_ 7. Temperature refers to the conditions of the atmosphere from day to day.
- \_\_\_\_\_ 8. Phytoplankton are tiny animals that feed on zooplankton.
- \_\_\_\_\_ 9. Climate determines plant growth.
- \_\_\_\_\_ 10. The terrifying anglerfish lives between 100 and 400 feet below sea level.
- \_\_\_\_\_ 11. Plankton are tiny aquatic organisms that swim around in the photic zone.
- \_\_\_\_\_ 12. The photic zone is water deeper than 200 meters.
- \_\_\_\_\_ 13. The boreal forest in central Alaska has low biodiversity.
- \_\_\_\_\_ 14. Aquatic biomes in the ocean are called marine biomes.
- \_\_\_\_\_ 15. When aquatic organisms die, they sink to the bottom, so water near the bottom may contain more nutrients than water at other depths.



## Lesson 11.3: Critical Reading

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

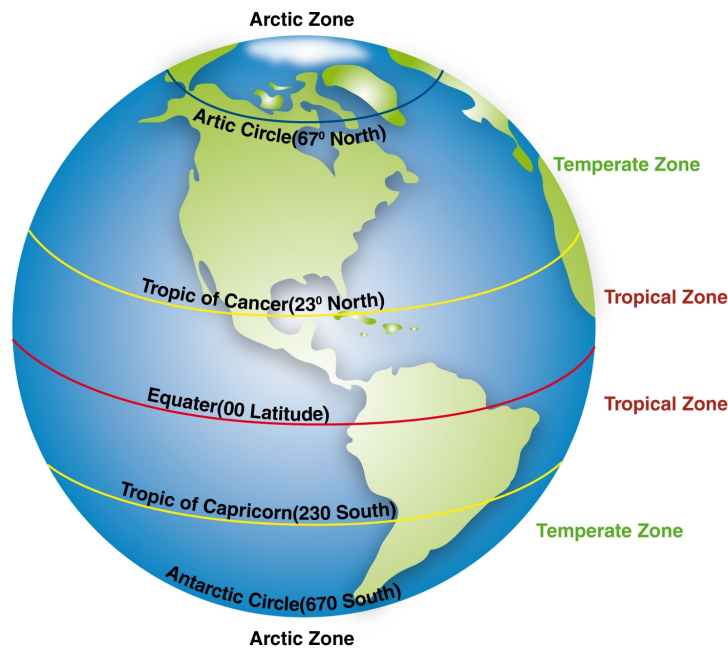
Read these passages from the text and answer the questions that follow.

### Terrestrial Biomes

Terrestrial biomes include all the land areas on Earth where organisms live. The distinguishing features of terrestrial biomes are determined mainly by climate. Terrestrial biomes include tundras, temperate forests and grasslands, chaparral, temperate and tropical deserts, and tropical forests and grasslands.

### Terrestrial Biomes and Climate

**Climate** is the average weather in an area over a long period of time. Weather refers to the conditions of the atmosphere from day to day. Climate is generally described in terms of temperature and moisture. Temperature falls from the equator to the poles. Therefore, major temperature zones are based on latitude. They include tropical, temperate, and arctic zones (see figure below). However, other factors besides latitude may also influence temperature. For example, land near the ocean may have cooler summers and warmer winters than land farther inland. This is because water gains and loses heat more slowly than does land, and the water temperature influences the temperature on the coast. Temperature also falls from lower to higher altitudes. That's why tropical zone mountaintops may be capped with snow.



(Image courtesy of CK-12 Foundation and under the Creative Commons license CC-BY-NC-SA 3.0.)

In terms of moisture, climates can be classified as arid (dry), semi-arid, humid (wet), or semi-humid. The amount of moisture depends on both precipitation and evaporation. Precipitation increases moisture. Evaporation decreases moisture.

### Climate and Plant Growth

Plants are the major producers in terrestrial biomes. They have five basic needs: air, warmth, sunlight, water, and nutrients. How well these needs are met in a given location depends on the growing season and soil quality, both of which are determined mainly by climate.

- The **growing season** is the period of time each year when it is warm and wet enough for plants to

grow. The growing season may last all year in a hot, wet climate but just a few months in a cooler or drier climate.

- Plants grow best in soil that contains plenty of nutrients and organic matter. Both are added to soil when plant litter and dead organisms decompose. Decomposition occurs too slowly in cold climates and too quickly in hot, wet climates for nutrients and organic matter to accumulate. Temperate climates usually have the best soil for plant growth.

### *Questions*

1. What is a terrestrial biome? Give two examples.
  
  
  
  
  
  
  
  
  
  
2. What is the difference between climate and weather?
  
  
  
  
  
  
  
  
  
  
3. How do precipitation and evaporation affect climate?
  
  
  
  
  
  
  
  
  
  
4. How does climate determine plant growth?
  
  
  
  
  
  
  
  
  
  
5. What do plants need to grow? How are these needs affected by climate?

## Lesson 11.3: Multiple Choice

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Circle the letter of the correct choice.*

- A biome is
  - a group of similar ecosystems with the same general abiotic factors and primary producers and consumers.
  - a group of similar ecosystems with the same general abiotic factors and primary producers.
  - a group of similar ecosystems with the same general abiotic factors.
  - a group of similar ecosystems with the same general biotic factors.
- Climate is \_\_\_\_\_, whereas weather is \_\_\_\_\_.
  - the conditions of the habitat from day to day, the average weather in an area over a long period of time.
  - the conditions of the atmosphere from day to day, the average weather in an area over a long period of time.
  - the average weather in an area over a long period of time, the conditions of the atmosphere from day to day.
  - the average weather in an area over a long period of time, the conditions of the habitat from day to day.
- Wetlands are important, as they
  - remove excess nutrients from runoff before it empties into rivers or lakes.
  - provide a safe, lush habitat for many species of animals.
  - store excess water from floods.
  - all of the above
- Organisms that live deep in the ocean must be able to
  - withstand extreme water pressure, very hot water, and complete darkness.
  - withstand extreme water pressure, very cold water, and complete darkness.
  - withstand extreme water pressure, cold water, and limited sunlight.
  - none of the above
- Nekton are \_\_\_\_\_, and benthos are \_\_\_\_\_.
  - aquatic animals that swim, aquatic organisms that crawl.
  - aquatic animals that crawl, aquatic organisms that swim.
  - bacteria and algae, tiny animals that feed on nekton.
  - decomposers, fish and shrimp.
- Aquatic biomes are defined in terms of which abiotic factors? (1) sunlight (2) dissolved oxygen and nutrients (3) temperature (4) moisture.
  - 1 only
  - 1 and 2
  - 3 and 4
  - 1, 2, 3, and 4
- Which best describes the relationship between climate and biodiversity?
  - As climate determines the animals in an ecosystem, it directly influences the biodiversity of a biome.
  - As climate determines the plants in an ecosystem, it also influences the biodiversity of a biome.

- (c) As climate determines plant growth, it also directly influences the biodiversity of a biome.
  - (d) As climate determines plant growth, it also changes the biodiversity of a biome.
8. Examples of adaptations of organisms include
- (a) the large, hollow leaves of the aloe plant.
  - (b) the stout, barrel-shaped stems of cactus.
  - (c) the fat tail of the Gila monster.
  - (d) all of the above.

## Lesson 11.3: Vocabulary I

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Match the vocabulary word with the proper definition.*

### Definitions

- \_\_\_\_\_ 1. includes all the land areas on Earth where organisms live
- \_\_\_\_\_ 2. includes ocean and lakes
- \_\_\_\_\_ 3. the period of time each year when it is warm and wet enough for plants to grow
- \_\_\_\_\_ 4. bacteria and algae that use sunlight to make food
- \_\_\_\_\_ 5. a state in which a plant slows down cellular activities
- \_\_\_\_\_ 6. extends to a maximum depth of 200 meters below the surface of the water
- \_\_\_\_\_ 7. the average weather in an area over a long period of time
- \_\_\_\_\_ 8. aquatic biomes in the ocean
- \_\_\_\_\_ 9. an area that is saturated with water or covered by water for at least one season of the year
- \_\_\_\_\_ 10. have water that contains little or no salt
- \_\_\_\_\_ 11. tiny animals that feed on phytoplankton
- \_\_\_\_\_ 12. a group of similar ecosystems with the same general abiotic factors and primary producers

### Terms

- a. aquatic biome
- b. biome
- c. climate
- d. dormancy
- e. freshwater biome
- f. growing season
- g. marine biome
- h. photic zone
- i. phytoplankton
- j. terrestrial biome
- k. wetland
- l. zooplankton

## Lesson 11.3: Vocabulary II

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Fill in the blank with the appropriate term.*

1. The \_\_\_\_\_ zone extends to a maximum depth of 200 meters below the surface of the water.
2. \_\_\_\_\_ biomes have water that contains little or no salt.
3. Water in lakes and the ocean varies in the amount of dissolved oxygen and \_\_\_\_\_.
4. The Gila monster's fat tail serves as a storage depot for \_\_\_\_\_.
5. \_\_\_\_\_ grow best in soil that contains plenty of nutrients and organic matter.
6. A \_\_\_\_\_ is an area that is saturated with water or covered by water for at least one season each year.
7. Terrestrial biomes include all the \_\_\_\_\_ areas on Earth where organisms live.
8. Phytoplankton are bacteria and algae that use \_\_\_\_\_ to make food.
9. \_\_\_\_\_ is the average weather in an area over a long period of time.
10. In biomes with cold climates, plants may adapt by becoming \_\_\_\_\_ during the coldest part of the year.
11. Terrestrial biomes are classified by climatic factors and types of primary \_\_\_\_\_.
12. The \_\_\_\_\_ is divided into different zones, depending on distance from shore and depth of water.

## Lesson 11.3: Critical Writing

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Thoroughly answer the question below. Use appropriate academic vocabulary and clear and complete sentences.*

Identify and describe two terrestrial biomes.