

TEST NAME: **6.L.2.3 - Limiting Factors/Biomes**  
TEST ID: **2422441**  
GRADE: **06 - Sixth Grade**  
SUBJECT: **Life and Physical Sciences**  
TEST CATEGORY: **My Classroom**

Student: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1. **Which environmental factor would MOST likely prevent an orange tree from surviving in the desert?**
  - A. the lack of moisture
  - B. the high levels of heat
  - C. the extra amount of wind
  - D. the low levels of sunlight
  
2. **A student group sees a group of trees in a field. They notice that all of the trees are the same height except for a few.**



**What is MOST likely affecting the growth of the shorter trees?**

- A. The taller trees are blocking most of the wind.
- B. The taller trees are using up most of the water.
- C. The taller trees are blocking most of the sunlight.
- D. The taller trees are using up most of the carbon dioxide.

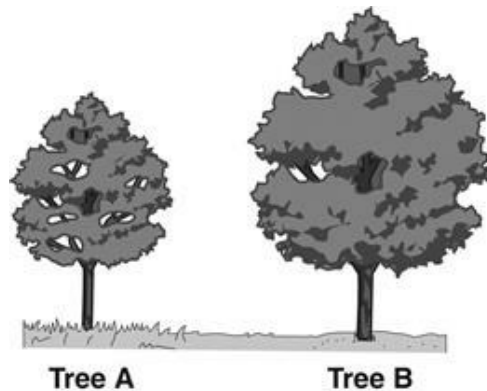
3. A student drew the pond ecosystem shown below.



**Which are two abiotic factors that affect the survival of the aquatic organisms?**

- A. phytoplankton and lilies
  - B. water quality and sunlight
  - C. grasses and duck
  - D. turtles and deer
4. **A species of mouse spends the day sleeping in its burrow to avoid high daytime temperatures. It is processing what little water it needs from the seeds it collects. To which environment is this mouse BEST adapted?**
- A. rainforest
  - B. marine
  - C. desert
  - D. tundra
5. **How would the number of frogs in a lake MOST likely be affected by a long period of bright sunshine, a higher-than-normal temperature, and much less rain than usual?**
- A. There would be fewer frogs because they could not reproduce if ponds dried up.
  - B. There would be fewer frogs because their predators would leave.
  - C. There would be more frogs because they could catch more food in hot weather.
  - D. There would be more frogs because they would grow faster in bright sunshine.

6. A student is trying to model an ocean environment. What is the **MOST** important factor the student should add to the aquarium in order to make sure that the model is accurate?
- A. starfish
  - B. seaweed
  - C. salt water
  - D. coral reef
7. Which of the following is an abiotic factor that can influence the quantity of fish a pond can support?
- A. availability of plants
  - B. concentration of bacteria
  - C. quality of water
  - D. number of consumers
8. Two trees of the same type are being studied in a local park.



Which is the **MOST** likely reason the grass is not growing beneath Tree B?

- A. Tree A is using all of the water.
- B. Tree B has fewer birds in its branches.
- C. Tree B is blocking most of the sunlight.
- D. Tree A is adding more nutrients to the soil.

9. **Jill saw some different plants growing in the park. She compared a coconut palm tree to a wild rosebush.**



**Coconut Palm Tree**

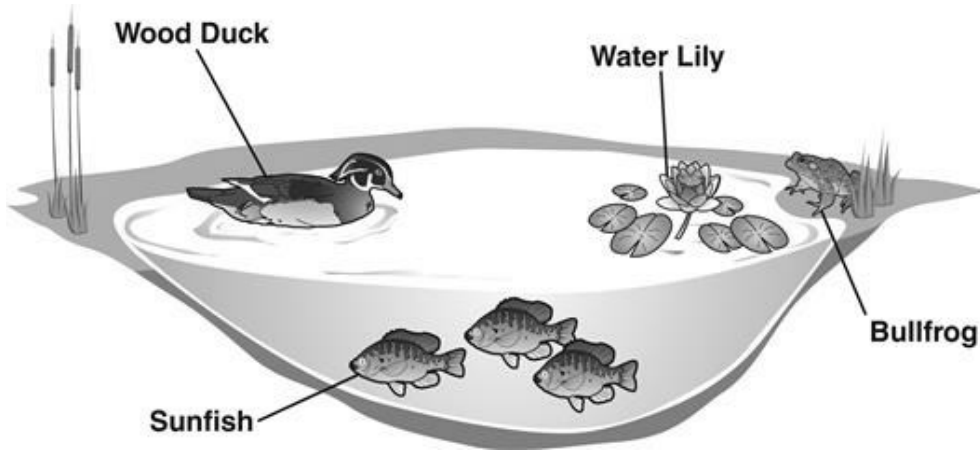


**Wild Rosebush**

**In which way are the coconut palm tree and the wild rosebush alike?**

- A. They both produce large fruits.
  - B. They both have thick trunks.
  - C. They both have long leaves.
  - D. They both need water.
10. **Which of these is an abiotic element in an ecosystem?**
- A. the average yearly rainfall in the ecosystem
  - B. the types of producers found in the ecosystem
  - C. the size of a predator population in the ecosystem
  - D. the microorganisms living in the soil of the ecosystem
11. **Pond ecosystems depend on the water cycle to ensure the survival of the animals that live in or near the pond. If a drought reduces the water level, which population of animals would be **MOST** affected?**
- A. duck
  - B. fish
  - C. mouse
  - D. snake

12. Max took a field trip to a pond. He observed some of the organisms that live around the pond.



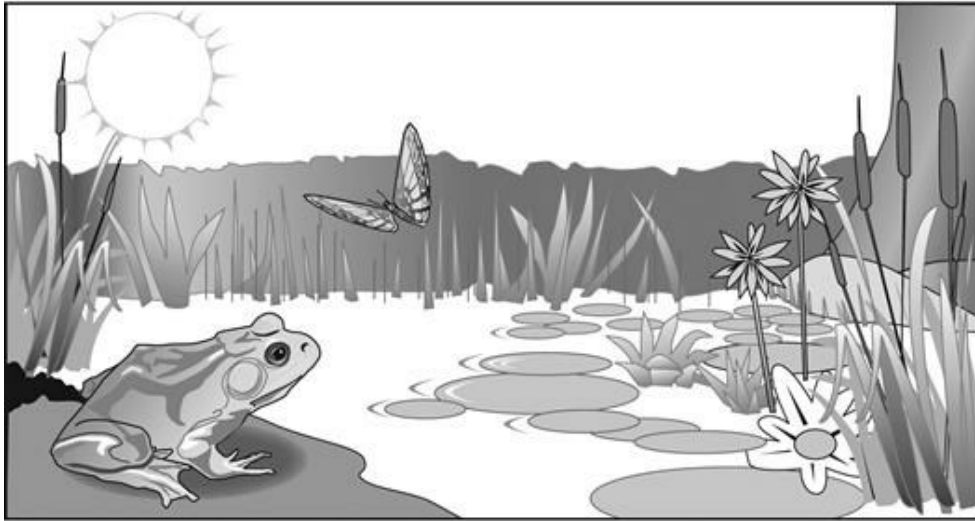
Which organism living in the pond uses the energy from sunlight to make food?

- A. sunfish
  - B. bullfrog
  - C. water lily
  - D. wood duck
13. In a zoo located in a warm region, which should be included in the polar bear exhibit?
- A. food bowl with fruit
  - B. hot, bright lights
  - C. cold-water pool
  - D. tall palm trees
14. A farmer plants corn in a field every year for several years. Each year he notices that his production of corn per acre has decreased even though the weather conditions have been very similar. A change in which abiotic factor is MOST likely causing the decrease in the production of corn?
- A. decrease in soil nutrients
  - B. increase in precipitation
  - C. increase in wind speed
  - D. decrease in sunlight
15. When a volcano erupts, dust and ash are blown into the atmosphere. The eruption directly reduces the transfer of energy from
- A. the ground to bacteria.
  - B. the Sun to plants.
  - C. plants to animals.
  - D. animals to air.

16. **Which of the following is an abiotic factor in a river ecosystem?**
- A. dragonfly
  - B. trout
  - C. water
  - D. frog
17. **A certain species of endangered parrots lives on an island that can be seriously affected by large floods. Which of these is considered a negative impact to the parrot population from flooding?**
- A. a decrease in the availability of food
  - B. a decrease in populations of predators
  - C. an increase in suitable nesting locations
  - D. an increase in places to hide from danger
18. **Mr. Harris mows his lawn twice each month. He claims that it is better to leave the clippings on the ground. Which long term effect will this MOST likely have on his lawn?**
- A. It will eventually cause the grass to stop growing.
  - B. It will prevent bacteria from invading the lawn.
  - C. It will provide the lawn with needed nutrients.
  - D. It will reduce the insect population.

19. The picture shows a pond ecosystem.

**Pond Ecosystem**



**Which abiotic factor is the basis for this ecosystem?**

- A. insects
  - B. frogs
  - C. water
  - D. wind
20. **As a habitat with a small pond goes through a long drought, which of these is MOST likely to happen to many of the fish in the pond?**
- A. They would adapt to the dry environment.
  - B. They would live on other sources of water.
  - C. They would move to another habitat.
  - D. They would be unable to survive.
21. **An abiotic factor that MOST influences the organisms living in a salt marsh is**
- A. fish.
  - B. water.
  - C. predators.
  - D. grasses.



22. Coconut palm trees can be found in large populations in Florida and other tropical areas.

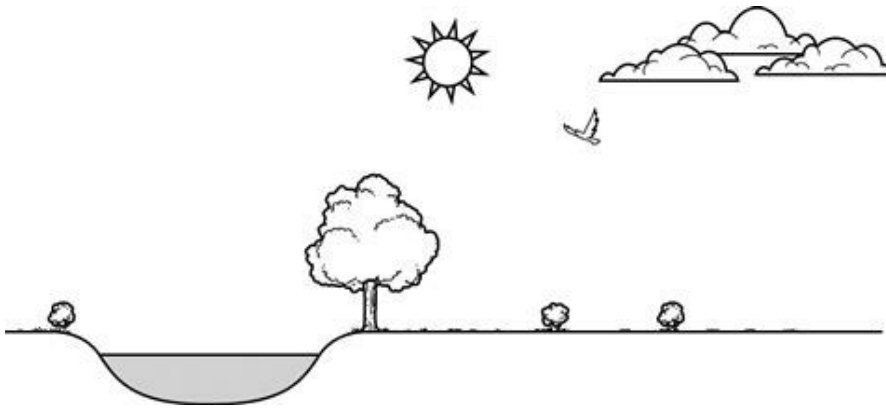


**Coconut Palm Tree**

**Which factor is the MOST likely reason coconut palm trees have trouble growing in the states to the far north?**

- A. less rainfall
  - B. less sunlight
  - C. cooler climate
  - D. poor soil nutrients
23. **A spring-fed stream forms a pond that contains watercress plants, minnows, and crayfish. The pond receives 5 hours of direct sunlight every day. Which of the following is an abiotic factor in this ecosystem?**
- A. the pond water
  - B. the watercress plants
  - C. the minnows
  - D. the crayfish

24. A picture is shown below.



Based on this picture, which is a biotic factor?

- A. the water
  - B. the clouds
  - C. the tree
  - D. sunlight
25. **Plants that can live in sandy soils MOST likely have the ability to withstand**
- A. fires.
  - B. salt.
  - C. cold temperatures.
  - D. dry conditions.
26. **In the geologic past, abiotic factors such as volcanic eruptions have had an impact on the availability of resources. How can volcanic eruptions impact the availability of resources?**
- A. by decreasing the thickness of soil
  - B. by causing more heavy rains to erode topsoil
  - C. by disrupting the sunlight from reaching producers
  - D. by causing the surface of Earth to be warmer than usual
27. **Which of these BEST describes biomes?**
- A. large ecosystems that have distinctive organisms and a particular climate
  - B. a group of individuals of the same species that live together in the same area
  - C. a system made up of parts that work together
  - D. external conditions that affect an organism

28. Nicole was studying different ecosystems. She compared the number of plants living in a forest to those in a desert. Which factor BEST explains why more plants may survive in a forest?
- A. There is more rain in the forest.
  - B. There is more oxygen in the forest.
  - C. There is more sunlight in the forest.
  - D. There is more competition in the forest.
29. Rain forests contain more species of trees than any other biome. However, scientists have found that the soil of the forest floor is relatively nutrient poor. What could MOST likely account for this?
- A. The lack of weathering reduces the availability of the minerals.
  - B. The nutrients are being utilized by the plant life.
  - C. The forest floor does not get enough sunlight.
  - D. The animals eat the nutrients.
30. An ecosystem is described below.

**Marsh Ecosystem**

<b>1</b>	Snails, mussels, insects
<b>2</b>	Bacteria, fungi, algae
<b>3</b>	Herbaceous plants, marsh grasses
<b>4</b>	Low elevation, high salinity (salt)

Which row contains abiotic factors?

- A. 1
  - B. 2
  - C. 3
  - D. 4
31. Red mangroves grow in salt water or in areas that are frequently flooded with salt water. How will the population of red mangroves in a saltmarsh MOST likely change if an irrigation project diverts large volumes of fresh water into the marsh?
- A. The population of red mangroves will increase.
  - B. The population of red mangroves will decrease.
  - C. The population will not change but the trees will grow faster.
  - D. The population of red mangroves will not be affected by adding more water.

32. The chart below shows the amount of sunlight and types of organisms found at different depths in the ocean.

**Ocean Life and Sunlight Availability at Ocean Depths**

<b>Water Depth (m)</b>	<b>Amount of Sunlight</b>	<b>Organisms</b>
0 – 200	visible sunlight	green seaweed, dolphins
200 – 1,000	small amount of light; light fades fast	giant squid, shrimp
1,000 and deeper	no sunlight; complete darkness	tube worms, lantern fish

Which **best** summarizes the relationship between ocean depth and the availability of sunlight and ocean life?

- A. Sunlight is available only at depths of 200 m to 1,000 m.
  - B. Sunlight is available for organisms at depths of 0 m to 2,000 m.
  - C. Plants are found mainly at depths of 0 m to 200 m because sunlight is available.
  - D. Plants are found at depths of 0 m to 2,000 m because sunlight is available.
33. Which statement **BEST** explains why few plants grow on a tropical rainforest floor?
- A. Heavy rains fall throughout the year.
  - B. Temperatures in a tropical rainforest stay warm.
  - C. Many different kinds of animals live on a rainforest floor.
  - D. Layers of trees keep sunlight from reaching the forest floor.