Shelby County Schools

Extended Learning Packet

Science

Grade 4

Answer Key

What is Photosynthesis Answer Key

Photosynthesis is a process where plates use light from the sun to convert carbon dioxide from the air and water from the soil into sugar to feed the plant and oxygen is given out in the air.

Living it up with plants

Background knowledge

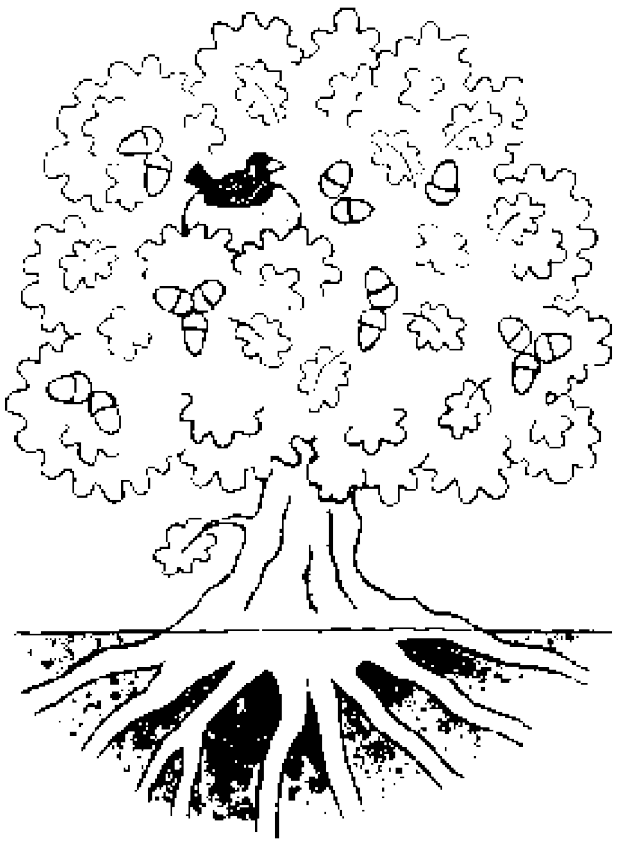
Plants are living things, but they are different from animals. Plants can make their own food inside their leaves. In order to make food, they need sunlight, gas from the air, and water from the soil. Plants use this food to grow and to carry out other life activities. They reproduce to make more plants like themselves. Unlike animals, plants do not move from place to place on their own. Plants are sensitive to light and grow toward it.

Science activity

Here are some observations about an oak tree. Put a check mark (✔) beside any fact that tells you the oak tree is alive.

- ☑ The tree uses its leaves to make food.
- ☐ Birds nest in the branches.
- ☑ It takes in water through its roots.
- ☐ The branches move in the wind.
- ☑ It produces acorns in the autumn.
- ☐ Squirrels eat the acorns.
- ☑ It grows 300 mm each year.

Oak tree



Acorns

Science investigation

The investigator should notice many characteristics of life as he or she watches a plant grow. If the plant is placed by a window, the child will notice that it bends toward the light, illustrating light sensitivity and demonstrating how plants "move."

Potential and Kinetic Energy Answer Key

Description	Kinetic Energy	Potential Energy
A car traveling 100 mph along a flat road	x	
A rubber band that has been stretched		x
A bowling ball rolling down a lane	x	
A piano lifted to a second story window		x
A snowboarder jumping off a roof	x	
An airplane traveling at a speed of 450 mph	x	

Potential & Kinetic Energy

1. The ball has potential energy prior to being thrown.
2. The roller-coaster ride has kinetic energy as it moves downward.
3. The skier has kinetic energy as she travels down the slope.

1. The author begins the passage by having the reader imagine getting on the Kingda Ka to

A. warn the reader about the coaster.

B. make the reader interested in the passage.

C. challenge the reader to ride the coaster.

D. explain the feelings people will have when riding large coasters.

2. When the author says, "You brace yourself," he means you

A. hand over your ticket.

B. put a special brace across your body.

C. secure yourself for the ride.

D. make your partner secure.

3. After the roller coaster has used potential energy, it

A. is launched skyward.

B. stops.

C. is no longer safe.

D. uses kinetic energy.

4. Steve Urbanowicz says that, "The ride is a scream." This means

A. The ride is thrilling.

B. The coaster cars scream when people get on.

C. If you want to ride the coaster, you have to scream while you areon it.

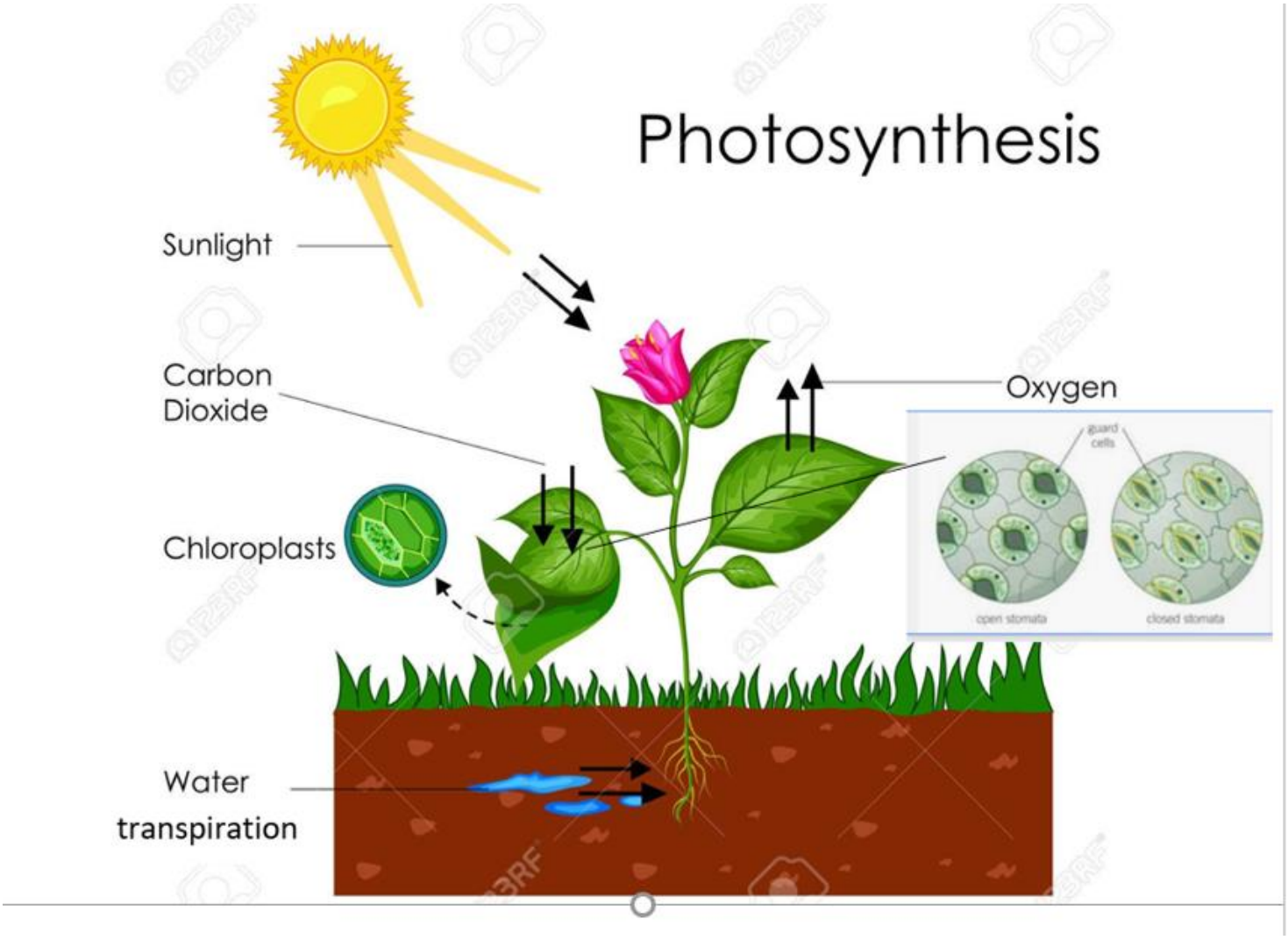
D. The ride makes everyone scream.

5. The author uses a lot of words that mean exciting and scary. List two words that have the same meaning as exciting and scary. Explain what they mean.

Answers will vary. Students should list some figurative language that the author uses and explain what it means. The author uses the word "jaw-dropping" as a way to explain that the ride is scary. The author uses the word "scream" to show that the ride is exciting.

Water's Part in Photosynthesis Answer Key

1.



2. carbon dioxide & water
3. chlorophyll
4. The xylem carries the water up to leaves.
5. The stoma, which is controlled by the guard cells, opens to allow CO_2 to pass into the leaves. The stoma also opens to allow O_2 to pass out of the leaves.
6. The drier atmosphere causes an increase in transpiration.
7. Photosynthesis: the process in which plants use water, sunlight, and carbon dioxide to make food.
Chloroplast: Area of the plant cell that stores chlorophyll
Chlorophyll: the pigment that gives plants their green color.
Glucose: The carbohydrate food produced when chlorophyll absorbs sunlight and uses its energy to convert carbon dioxide and water.
Xylem: plant tissue that carries water from the roots to the leaves.
Stomata: specialized structures on the leaves of plants that allow CO_2 to enter and O_2 to exit the plant.
Guard cells: cells that surround the stoma and controls its opening and closing.
Transpiration: the process in which water travels from the roots of the plant, through the plant, and to the leaves.

Weathering, Erosion, Deposition Answer Key

1. H
2. D
3. A
4. B
5. C
6. E
7. G
8. F
9. M
10. C
11. C
12. M
13. M
14. C
15. M
16. C
17. C
18. Weathering: is the process by which rocks are broken down through mechanical (physical) or chemical means.
    Erosion: is the process by which rocks, sediments, or soil particles are carried from one location to another.
    Deposition: is the process by which rocks, sediments, or soil particles settle into horizontal layers in a new location after being eroded.
19. Wind erosion
20. Landslides
21. Fast
22. Cliffs, shores, or islands
23. Wind
24. River delta
25. Chemical