8.

Date: \_

## Name:

1. The yucca moth of the Arizona desert lays its eggs inside the flower of the yucca plant. When the eggs hatch, the moth larvae eat some of the plant seeds. When the moth flies away from the plant, it takes pollen from the yucca flower with it.

How does the yucca moth help the yucca plant?

- A. lays eggs B. eats seeds
- C. hatches larvae D. spreads pollen
- 2. Which part of the ecosystem is alive and provides oxygen for animals?
  - A. soil B. plant
  - C. water D. mushroom
- 3. Which would help a plant survive in dry environments?
  - A. ripe fruit to attract animals
  - B. large leaves to collect rainwater
  - C. waxy leaves to reduce water loss
  - D. colorful petals to attract insects
- 4. Which of these possible plant functions *best* explains why plants are important to animals?
  - A. Plants use food and release oxygen.
  - B. Plants make food and release oxygen.
  - C. Plants use food and release carbon dioxide.
  - D. Plants make food and release carbon dioxide.
- 5. Which of the following gases do plants use in photosynthesis?

A.	hydrogen	В.	oxygen	
	2 0		20	

- C. carbon dioxide D. carbon monoxide
- 6. Which of the following is broken down in the body to release energy?
  - A. sugar B. water C. salt D. oxygen
- 7. Which molecule in plant cells first captures the radiant energy from sunlight?
  - A. glucose B. carbon dioxide
  - C. chlorophyll D. adenosine triphosphate

## Photosynthesis

The following equation represents the process of photosynthesis in green plants.

 $6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow[\text{Chlorophyll}]{Light} \succ \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ 

(Carbon Dioxide + Water, in the Presence of Light and Chlorophyll ----> Sugar + Oxygen) What happens to most of the light energy during photosynthesis?

- A. It is transformed into heat energy.
- B. It is transformed into chemical energy.
- C. It is changed into carbon dioxide.
- D. It is changed into oxygen.
- 9. Use the diagram to answer the question.



The diagram shows the gases that enter and leave a plant during the process of photosynthesis. Which gases do arrows 1 and 2 represent?

- A. Arrow 1 is nitrogen, and arrow 2 is oxygen.
- B. Arrow 1 is oxygen, and arrow 2 is nitrogen.
- C. Arrow 1 is oxygen, and arrow 2 is carbon dioxide.
- D. Arrow 1 is carbon dioxide, and arrow 2 is oxygen.
- 10. In which part of a plant does photosynthesis take place?
  - A. bark B. flowers C. leaves D. roots

11. Through cell respiration, plants get energy from glucose. The energy stored in glucose originally came from

A.	plants.	B.	animals.

- C. the sun. D. geothermal sources.
- 12. Which statement best describes the process of respiration?
  - A. Oxygen and sugar are used in the process that provides energy to cells; water and carbon dioxide are its waste products.
  - B. Water and sugar are used to in the process that provides energy to cells; oxygen and carbon dioxide are its waste products.
  - C. Oxygen and carbon dioxide are used in the process that provides energy to cells; sugar and water are its waste products.
  - D. Carbon dioxide and sugar are used in the process that provides energy to cells; water and oxygen are its waste products.
- 13. Which of the following *best* describes how plants use the energy they receive from sunlight?
  - A. They change water into heat.
  - B. They produce their own food.
  - C. They make minerals for their roots.
  - D. They break down nutrients into rocks.
- 14. Which of the following materials are direct products of photosynthesis?
  - A. fats and starches B. oxygen and sugar
  - C. proteins and amino acids D. carbon dioxide and water
- 15. Plants use many gallons of water every day. Almost all of the water used by plants is absorbed through the roots. Water leaves plants by which process?
  - A. infiltration B. precipitation
  - C. runoff D. transpiration
- 16. How do the spines of a cactus help it survive?
  - A. Spines help the cactus get moisture.
  - B. Spines anchor the cactus in the ground.
  - C. Spines protect the cactus from animals.
  - D. Spines support the stems and branches of the cactus.

- 17. Which of the following *best* explains how stems transport water to other parts of the plant?
  - A. through a chemical called chlorophyll
  - B. by using photosynthesis
  - C. through a system of tubes
  - D. by converting water to food
- 18. Peach trees have sweet-smelling blossoms and produce rich fruit. What is the main purpose of the flowers of a peach tree?
  - A. to attract bees for pollination
  - B. to create flower arrangements
  - C. to protect the tree from disease
  - D. to feed migratory birds
- 19. Plants, like all other organisms, are composed of cells.

Generally, plants that grow in the shade have larger leaves in comparison to plants that grow in full sun. The advantage of having larger leaves in a shaded environment is \_\_\_\_\_.

- A. an increase in water supply
- B. an increase in light absorption.
- C. a decrease in water loss
- D. a decrease in heat production
- 20. Look at the flower diagram below.



## Parts of a Flower

Which part protects the flower before it opens?

A. Pistil B. Petals C. Sepals D. Stamen

21. Chloroplasts are organelles that are found in plant cells. Some plant tissue contains cells with large numbers of chloroplasts, while other tissue contains few chloroplasts.

Which type of plant tissue contains cells with many chloroplasts?

- A. Stem, because chloroplasts are needed for plant growth
- B. Root, because chloroplasts are needed for water uptake
- C. Leaf, because chloroplasts are needed for photosynthesis
- D. Flower, because chloroplasts are needed for reproduction
- 22. Vascular plants transport water and nutrients to all parts of the plant through—
  - A. diffusion.
  - B. phagocytosis.
  - C. xylem and phloem.
  - D. cellular respiration and photosynthesis.
- 23. Which of these structures is responsible for transporting water from plant roots to the rest of the plant?

А.	Chloroplast	В.	Phloem
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- C. Stoma D. Xylem
- 24. Redwood trees can grow much taller than other plants. Which of the following structures supports the height of these trees?
  - A. Stomata B. Apical buds
  - C. Chloroplasts D. Vascular tissue
- 25. Flowers aid in the survival of plant species because they contain structures with what function?
  - A. Gravitropism B. Photosynthesis
  - C. Reproduction D. Respiration
- 26. If the xylem in a young tree is damaged, which process is *first* affected?
  - A. performing photosynthesis
  - B. transporting sugar to the roots
  - C. transporting water to the leaves
  - D. absorbing water from the soil

- 27. Which structure in the leaf controls the opening and closing of the stoma?
  - A. cuticle B. epidermis
  - C. guard cell D. spongy mesophyll
- 28. What is the main function of a plant stem?
  - A. to collect pollen from other plants to make seeds
  - B. to absorb water and plant nutrients from the soil
  - C. to carry food and water to the rest of the plant
  - D. to make food for the plant
- 29. Four parts of a sunflower plant are identified by numbers in the picture below.



Which numbered part of the sunflower plant is *mainly* responsible for reproduction?

A. part 1 B. part 2 C. part 3 D. part 4