

## Cellular Processes Review

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

Fill in the following blanks using the words for the reactants, products, and catalyst for photosynthesis.

Reactants: \_\_\_\_\_ + \_\_\_\_\_ ----->

Products: \_\_\_\_\_ + \_\_\_\_\_

Fill in the following blanks using the words for the reactants, products, and catalyst for cellular respiration.

Reactants: \_\_\_\_\_ + \_\_\_\_\_ ----->

Products: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

1. During photosynthesis, which macromolecule is produced?

- A) carbohydrates
- B) nucleic acids
- C) lipids
- D) proteins

2. If an organism can undergo photosynthesis, is it an autotroph or a heterotroph? How do you know? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Scientists discovered a new organism that can make its own chemical energy through photosynthesis. They took cells from the organism and studied the cells under a microscope. Which of the following would most likely **NOT** be found in these cells?

- A) Cell membrane
- B) Cell wall
- C) Chloroplast
- D) Small vacuoles

4. Scientists recently found a forest that has very high CO<sub>2</sub> levels. Would you expect the trees in this forest to be larger, smaller, or the same size as trees found in a forest with much less CO<sub>2</sub>? Assume that all other conditions are exactly the same (amount of water, sunlight, temperature, etc.). Explain your answer in terms of photosynthesis.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. What do humans give plants that plants use in photosynthesis?

- A) Oxygen
- B) Glucose
- C) Carbon Dioxide
- D) Sunlight

6. Why is photosynthesis important to humans? You should have TWO reasons.

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7. What is the catalyst for photosynthesis?

- A) Carbon Dioxide
- B) Sunlight
- C) Oxygen
- D) Glucose

8. **True or False:** Plants need oxygen to do photosynthesis.

9. Use the following words to complete the paragraph about cellular processes.

|                       |   |
|-----------------------|---|
| <i>Photosynthesis</i> | <i>Cellular Respiration</i>               |
| <i>Light</i>          | <i>Glucose</i> <i>ATP</i> <i>Chemical</i> |
| <i>Autotrophs</i>     | <i>Heterotrophs</i>                       |

\_\_\_\_\_ energy from the sun is converted into \_\_\_\_\_ energy during the process of \_\_\_\_\_ which occurs only in plants. Then, that chemical energy (in the form of \_\_\_\_\_) is changed into another form of chemical energy called \_\_\_\_\_ during the process of \_\_\_\_\_. Humans and animals are \_\_\_\_\_ because they need to eat other things to obtain their energy, but plants are \_\_\_\_\_ because they make their own food.

10. A scientist measures the initial amount of ATP produced from yeast. After two days, the rate of ATP in the yeast has increased. Which process can explain the increase?

- A) Photosynthesis
- B) Chemical reactions
- C) Diffusion
- D) Cellular Respiration

11. **True or False:** Oxygen is required for lactic acid fermentation.

12. Aerobic respiration produces **MORE/LESS** (circle one) ATP than anaerobic respiration

13. After football practice, Deonte is always hungry so he eats an apple right after he gets home. As a result of photosynthesis, that apple has a specific type of chemical energy stored in it. What is that chemical energy?

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14. When he eats the apple, Deonte's cells perform what cellular process to release energy in the apple?

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15. This process produces what form of energy that Deonte's cells can use directly? \_\_\_\_\_

16. Draw a picture below of an animal and a plant and show how they give each other the molecules they need. (Hint: You should show the reactants and products of cellular respiration and photosynthesis).