- Most green algae are able to obtain carbon dioxide from the environment and use it to synthesize organic compounds. This activity is an example of
 - 1) hydrolysis
 - 2) saprophytism
 - 3) cellular respiration
 - 4) autotrophic nutrition
- 2. Eating a sweet potato provides energy for human metabolic processes. The original source of this energy is the energy
 - in protein molecules stored within the potato
 - 2) from starch molecules absorbed by the potato plant
 - 3) made available by photosynthesis
 - in vitamins and minerals found in the soil
- One immediate cause of a decrease in the rate of photosynthesis is a reduction in the availability of
 - 1) carbon dioxide 3) hydrogen
 - 2) carbon monoxide 4) nitrogen
- 4. Which gas is excreted as a waste product of autotrophic nutrition in maple trees?
 - 1) nitrogen 3) carbon dioxide
 - 2) oxygen 4) methane
- 5. Which substances must a green plant obtain from its environment to carry on photosynthesis?
 - 1) glucose and water
 - 2) oxygen and chlorophyll
 - 3) carbon dioxide and water
 - 4) carbon dioxide and oxygen

- 6. In photosynthesis, chlorophyll functions in changing
 - 1) glucose molecules to starch
 - 2) water and carbon dioxide to sugar
 - 3) light energy to chemical bond energy
 - 4) hydrogen bonds to water
- 7. Which cell structure is represented by the three-dimensional diagram below?



- 1) chloroplast
- 2) mitochondrion
- 3) plasma membrane
- 4) replicated chromosome
- 8. In the human body, oxygen is absorbed by the lungs and nutrients are absorbed by the small intestine. In a single-celled organism, this absorption directly involves the
 - 1) nucleus 3) cell membrane
 - 2) chloroplasts 4) chromosomes
- 9. Which molecule will most likely diffuse through a cell membrane?
 - 1) starch 3) protein
 - 2) water 4) DNA
- 10. Which process requires cellular energy?
 - 1) diffusion 3) active transport
 - 2) passive transport 4) osmosis

Cell Processes Review

11. As the depth of the ocean increases, the amount of light that penetrates to that depth decreases. At about 200 meters, little, if any, light is present. The graph below illustrates the population size of four different species at different water depths.



Cell Processes Review

15. The diagram below shows the relative concentration of molecules inside and outside of a cell.



Which statement best describes the general direction of diffusion across the membrane of this cell?

- 1) Glucose would diffuse into the cell.
- 2) Protein would diffuse out of the cell.
- 3) Carbon dioxide would diffuse out of the cell.
- 4) Oxygen would diffuse into the cell.
- 16. The diagram below represents a cell organelle involved in the transfer of energy from organic compounds.



The arrows in the diagram could represent the release of

- 1) ATP from a chloroplast carrying out photosynthesis
- 2) oxygen from a mitochondrion carrying out photosynthesis
- 3) glucose from a chloroplast carrying out respiration
- 4) carbon dioxide from a mitochondrion carrying out respiration

- 17. The production of energy-rich ATP molecules is the direct result of
 - 1) recycling light energy to be used in the process of photosynthesis
 - releasing the stored energy of organic compounds by the process of respiration
 - 3) breaking down starch by the process of digestion
 - 4) copying coded information during the process of protein synthesis
- The flow of energy through an ecosystem involves many energy transfers. The diagram below summarizes the transfer of energy that eventually powers muscle activity.

Sun
$$\xrightarrow{A}$$
 Food \xrightarrow{B} ATP \xrightarrow{C} Muscle Activity

The process of cellular respiration is represented by

- 1) arrow A, only
- 2) arrow B, only
- 3) arrow C, only
- 4) arrows A, B, and C

Cell Processes Review

19. The diagram below represents some events that take place in a plant cell.



In which organelle would these events most likely occur?

- 1) mitochondrion 3) lysosome
- 2) chloroplast
- 4) centriole

20. Base your answer to the question on the diagram below and on your knowledge of biology. The diagram shows an investigation performed over a period of 12 hours.



The gas released in this investigation can be used in cellular respiration to form an energy-storing compound known as

- 1) H₂O
- 2) CO₂
- 3) adenosine triphosphate
- 4) deoxyribonucleic acid

Cell Processes Review Answer Key [New Exam]

- 1. _____
- 2. <u>3</u>
- 3. <u>1</u>
- 4. ____
- 5. <u>3</u>
- 6. <u>3</u>
- 7. <u>3</u>
- 8. <u>3</u>
- 9. ____
- 10. <u>3</u>
- 11. 2
- 12. <u>3</u>
- 13. ____
- 14. ____
- 15. <u>3</u>
- 16. ____
- 17. ____
- 18. ____
- 19. <u>1</u>
- 20. <u>3</u>