

3 star cellular respiration

Name: _____

Date: _____

1. The energy found in ATP molecules synthesized in animal cells comes directly from
 - A. sunlight
 - B. organic molecules
 - C. minerals
 - D. inorganic molecules

2. A green plant is kept in a brightly lighted area for 48 hours. What will most likely occur if the light intensity is reduced slightly during the next 48 hours?
 - A. Photosynthesis will stop completely.
 - B. The rate at which nitrogen is used by the plant will increase.
 - C. The rate at which oxygen is released from the plant will decrease.
 - D. Glucose production inside each plant cell will increase.

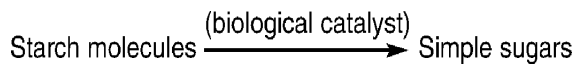
3. Which phrase best describes cellular respiration, a process that occurs continuously in the cells of organisms?
 - A. removal of oxygen from the cells of an organism
 - B. conversion of light energy into the chemical bond energy of organic molecules
 - C. transport of materials within cells and throughout the bodies of multicellular organisms
 - D. changing of stored chemical energy in food molecules to a form usable by organisms

4. An iodine test of a tomato plant leaf revealed that starch was present at 5:00 pm on a sunny afternoon in July. When a similar leaf from the same tomato plant was tested with iodine at 6:00 am the next morning, the test indicated that less starch was present. This reduction in starch content most likely occurred because starch was
 - A. changed directly into proteins
 - B. transported out of the leaves through the guard cells
 - C. transported downward toward the roots through tubes
 - D. changed into simple sugars

5. Dodder is a creeping vine that is parasitic on other plants. Which characteristic does dodder share with all other heterotrophs?

- A. It produces nutrients by photosynthesis.
- B. It must grow in bright locations.
- C. It consumes preformed organic molecules.
- D. It remains in one place for its entire life.

6. A word equation is shown below.



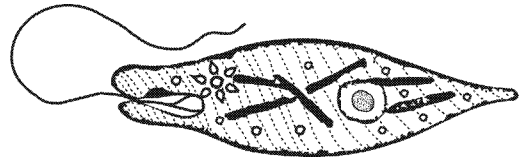
This reaction is most directly involved in the process of

- A. reproduction
- B. protein synthesis
- C. replication
- D. heterotrophic nutrition

7. Cyanide is a poison that limits the ability of an animal cell to manufacture ATP. In a cell containing a small amount of cyanide, which process would be *least* affected?

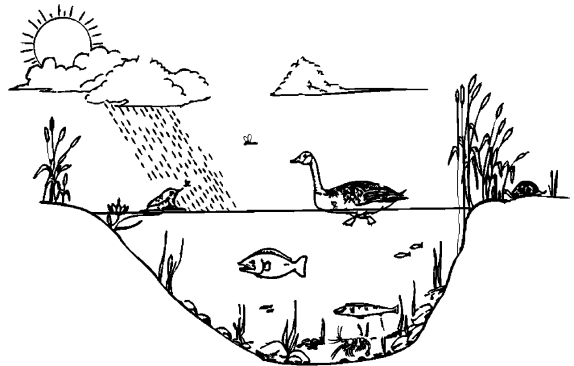
- A. movement
- B. cell division
- C. active transport
- D. diffusion

8. Base your answer(s) to the following question(s) on the information and the diagram below which represents a single-celled organism known as *Euglena*.



State *one* reason the process you chose is essential for the survival of the *Euglena*.

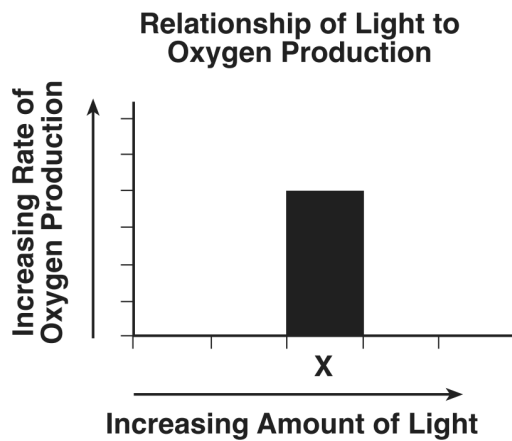
9. Base your answer(s) to the following question(s) on the lake ecosystem represented below and on your knowledge of biology.



State one piece of evidence from the diagram that indicates that light penetrates to the bottom of the lake.

10. Base your answer(s) to the following question(s) on the information and graph below and on your knowledge of biology.

A student conducts an experiment to determine how the amount of light affects the rate of oxygen production in a plant. The graph represents the rate of oxygen produced for one trial, X, in the experiment. By the end of the experiment, the plant had not reached maximum oxygen production.



Identify the biochemical process occurring in this cell that produces the oxygen.

Process:

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1.
Answer: B
2.
Answer: C
3.
Answer: D
4.
Answer: D
5.
Answer: C
6.
Answer: D
7.
Answer: D
8.
Answer: Photosynthesis produces food (or oxygen).
OR Respiration provides energy.
9.
Answer: There are plants growing on the lake
bottom. OR Plants are living in the
deepest part of the lake.
10.
Answer: – photosynthesis
– autotrophic nutrition
– photosynthesis