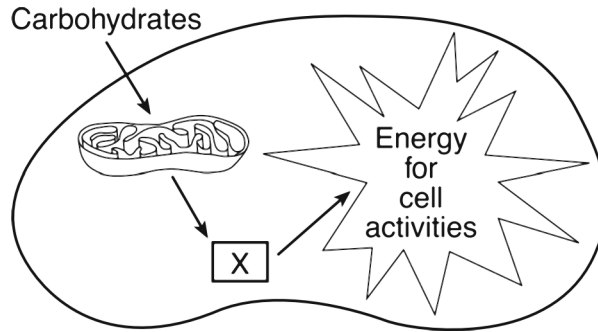


8.L.5.1 Practice Questions

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

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

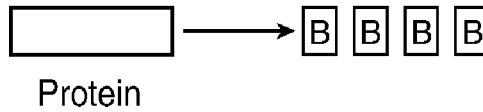
1. The diagram below represents a series of events that occur in living cells.



Which molecule is indicated by X?

- A. glucose                      B. ATP                      C. carbon dioxide                      D. protein
2. The diagram represents one metabolic activity of a human.

Metabolic Activity A

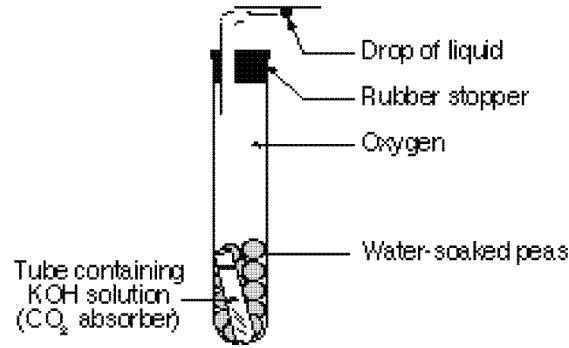


Letters A and B are best represented by which row in the chart?

Row	Metabolic Activity A	B
(1)	respiration	oxygen molecules
(2)	reproduction	hormone molecules
(3)	excretion	simple sugar molecules
(4)	digestion	amino acid molecules

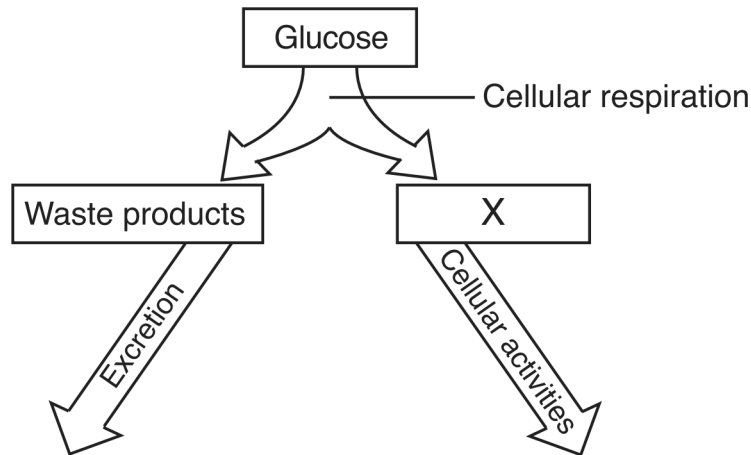
- A. (1)                      B. (2)                      C. (3)                      D. (4)
3. The energy found in ATP molecules synthesized in animal cells comes directly from
- A. sunlight                      B. organic molecules                      C. minerals                      D. inorganic molecules

4. In the accompanying demonstration, which process performed by the peas when they start to grow causes the drop of liquid to move to the left?



- A. protein synthesis      B. photosynthesis      C. digestion      D. cellular respiration

5. The diagram below represents a biochemical process.



Which molecule is represented by X?

- A. DNA      B. starch      C. protein      D. ATP

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

A student is opening and closing clothespins as part of a lab activity. The student begins to experience muscle fatigue, and the rate at which the student is opening and closing the clothespins slows.

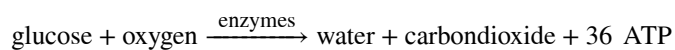
In order for the muscle fatigue to end, the muscle cells must be provided with

- A. oxygen      B. nitrogen      C. carbon dioxide      D. amino acids

7. Which process is directly used by autotrophs to store energy in glucose?
- A. diffusion                      B. photosynthesis                      C. respiration                      D. active transport

8. Organisms release stored chemical energy from nutrients by the process of
- A. assimilation                      B. transportation                      C. respiration                      D. ingestion

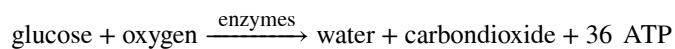
9. This equation represents a process that occurs in both plants and animals.



Within which organelles are most of the 36 ATP molecules produced?

- A. ribosomes                      B. endoplasmic reticula                      C. nuclei                      D. mitochondria

10. This equation represents a process that occurs in both plants and animals.



On a sunny day, much of the carbon dioxide produced by a green plant may be

- A. used for fermentation                      B. used for photosynthesis  
C. stored in vacuoles                      D. converted to oxygen gas

11. Which of the following is broken down in the body to release energy?

- A. sugar                      B. water                      C. salt                      D. oxygen

12. Which of the following is produced when sugar is digested in an animal cell?

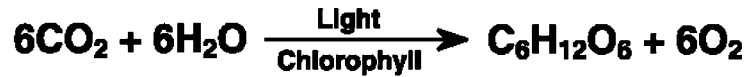
- A. carbon dioxide                      B. chlorophyll                      C. oxygen                      D. sunlight

13. Which molecule in plant cells first captures the radiant energy from sunlight?

- A. glucose                      B. carbon dioxide                      C. chlorophyll                      D. adenosine triphosphate

14. **Photosynthesis**

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



**(Carbon Dioxide + Water, in the Presence of Light and Chlorophyll → Sugar + Oxygen)**

Which statement about green plants is true?

- A. Most green plants do not need food.  
B. Most green plants take in food through their roots.  
C. Most green plants take in food through their leaves.  
D. Most green plants manufacture their own food.

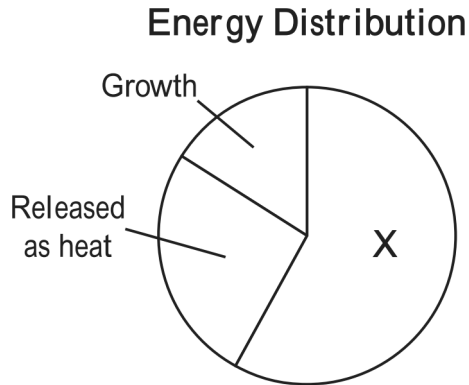
15. The process of cellular respiration occurs in

- A. both plant and animal cells.                      B. plant cells only.  
C. animal cells only.                      D. neither plant nor animal cells.

16. Which of the following statements *best* describes photosynthesis?

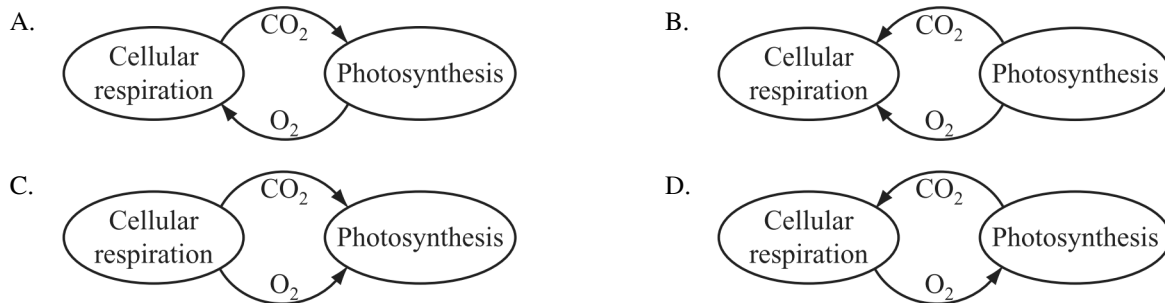
- A. Carbon dioxide and water are turned into sugar and oxygen.  
B. Sugar and oxygen are turned into water and carbon dioxide.  
C. Oxygen and carbon dioxide are turned into water and sugar.  
D. Water and sugar are turned into oxygen and carbon dioxide.

17. Plants absorb solar energy during photosynthesis. The graph below represents how this energy is distributed in some plants.



Which of the following statements describes what happens to the energy represented by the section labeled X?

- A. It is recycled to the Sun.  
 B. It is consumed by decomposers.  
 C. It is lost to the soil and the atmosphere.  
 D. It is used for cellular respiration and maintenance.
18. Which of the following diagrams accurately represents the use of gases in both cellular respiration and photosynthesis?



19. In which of the following ways does the respiratory system help to maintain homeostasis during exercise?
- A. Reserves of oxygen are built up in the alveoli.  
 B. The pharynx supplies glucose so that the muscles can produce ATP.  
 C. Breathing rate is increased to exchange oxygen and carbon dioxide more rapidly.  
 D. The lungs release hemoglobin so that the blood can carry more oxygen to tissues.

20. Giant redwood trees change energy from one form to another. How is energy changed by the trees?
- A. They change chemical energy into kinetic energy.      B. They change solar energy into chemical energy.  
C. They change wind energy into heat energy.              D. They change mechanical energy into solar energy.
21. Which of the following would *most likely* result if the amount of oxygen reaching a cell is greatly decreased?
- A. Mitosis in the cell would begin.                              B. Osmosis in the cell would stop.  
C. The cell would produce less energy.                        D. The cell would produce more carbon dioxide.
22. Which of these would happen to the cell if cellular respiration stopped?
- A. It would not have the energy it needs to perform its functions.  
B. It would grow larger because it would not be able to dispose of wastes.  
C. It would have to access backup energy trapped in the chemical bonds of food.  
D. It would no longer be able to passively transport materials across its cell membrane.
23. During photosynthesis, energy from the sun is trapped in—
- A. chemical bonds.              B. the nuclei of atoms.      C. enzymes.                      D. Golgi bodies.
24. Which statement best compares aerobic and anaerobic respiration?
- A. Less ATP is generated during anaerobic respiration than during aerobic respiration.  
B. More water is generated during anaerobic respiration than during aerobic respiration.  
C. More oxygen is generated during anaerobic respiration than during aerobic respiration.  
D. Less lactic acid is generated during anaerobic respiration than during aerobic respiration.



8.L.5.1 Practice Questions 05/21/2014

- |         |   |         |                                      |
|---------|---|---------|--------------------------------------|
| 1.      |   | 21.     |                                      |
| Answer: | B | Answer: | C                                    |
| 2.      |   | 22.     |                                      |
| Answer: | D | Answer: | A                                    |
| 3.      |   | 23.     |                                      |
| Answer: | B | Answer: | A                                    |
| 4.      |   | 24.     |                                      |
| Answer: | D | Answer: | A                                    |
| 5.      |   | 25.     |                                      |
| Answer: | D | Answer: | B                                    |
| 6.      |   | 26.     |                                      |
| Answer: | A | Answer: | B                                    |
| 7.      |   | 27.     |                                      |
| Answer: | B | Answer: | C                                    |
| 8.      |   | 28.     |                                      |
| Answer: | C | Answer: | D                                    |
| 9.      |   | 29.     |                                      |
| Answer: | D | Answer: | C                                    |
| 10.     |   | 30.     |                                      |
| Answer: | B | Answer: | Sunlight, carbon dioxide, water, air |
| 11.     |   |         |                                      |
| Answer: | A |         |                                      |
| 12.     |   |         |                                      |
| Answer: | A |         |                                      |
| 13.     |   |         |                                      |
| Answer: | C |         |                                      |
| 14.     |   |         |                                      |
| Answer: | D |         |                                      |
| 15.     |   |         |                                      |
| Answer: | A |         |                                      |
| 16.     |   |         |                                      |
| Answer: | A |         |                                      |
| 17.     |   |         |                                      |
| Answer: | D |         |                                      |
| 18.     |   |         |                                      |
| Answer: | A |         |                                      |
| 19.     |   |         |                                      |
| Answer: | C |         |                                      |
| 20.     |   |         |                                      |
| Answer: | B |         |                                      |