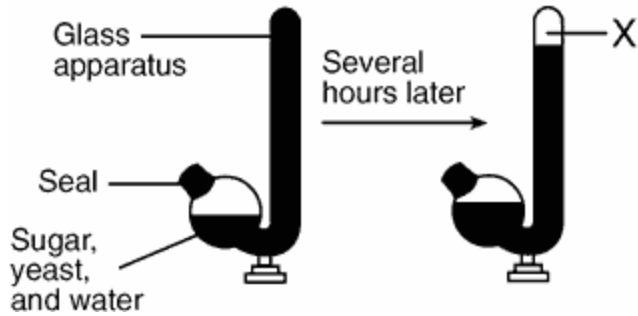


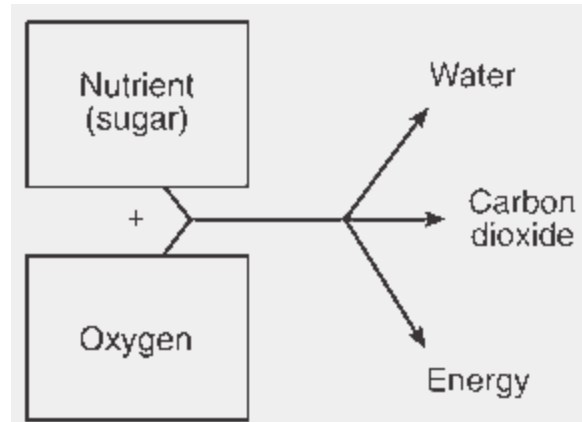
1. An investigation was carried out and the results are shown below. Substance *X* resulted from a metabolic process that produces ATP in yeast (a single-celled fungus).



Which statement best describes substance *X*?

- A) It is oxygen released by protein synthesis.
 B) It is glucose that was produced in photosynthesis.
 C) It is starch that was produced during digestion.
 D) It is carbon dioxide released by respiration.
2. Which term best defines a bacteria that can survive without oxygen?
- A) aerobic B) anaerobic
 C) heterotrophic D) saprophytic
3. What is one similarity between human skeletal muscles and some bacteria?
- A) Both reproduce asexually, using binary fission and regeneration.
 B) Both lack a nuclear membrane surrounding the chromosomes.
 C) Both carry out autotrophic nutrition when food becomes scarce in the environment.
 D) Both produce lactic acid when oxygen is not available for respiration.
4. Which metabolic process is responsible for the muscle fatigue and cramping an athlete may experience after running a race?
- A) alcoholic fermentation
 B) dehydration synthesis
 C) lactic acid fermentation
 D) aerobic respiration

5. During the process of cellular respiration, energy is released from
- A) carbon dioxide B) oxygen atoms
 C) water molecules D) chemical bonds
6. Base your answer to the following question on the diagram below. The diagram illustrates a process by which energy is released in organisms.



The energy released in this process was originally present in

- A) sunlight and then transferred to sugar
 B) sunlight and then transferred to oxygen
 C) the oxygen and then transferred to sugar
 D) the sugar and then transferred to oxygen
7. Base your answer to the following question on The flow of energy through an ecosystem involves many energy transfers. The diagram below summarizes the transfer of energy that eventually powers muscle activity.

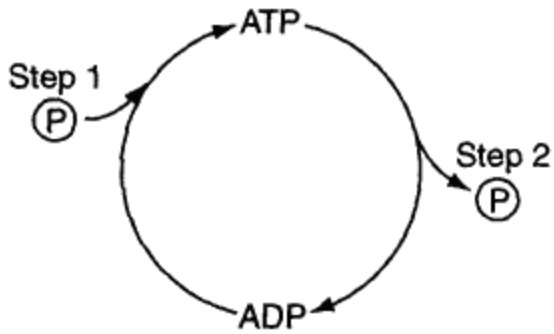


The process of cellular respiration is represented by

- A) arrow *A*, only B) arrow *B*, only
 C) arrow *C*, only D) arrows *A*, *B*, and *C*

Name: _____

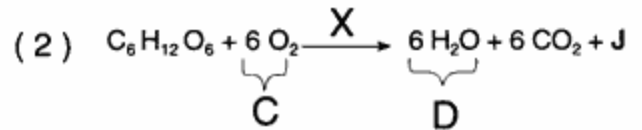
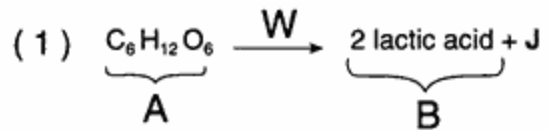
8. The diagram below represents part of the process of cellular respiration.



Energy is released and made available for metabolic activities at

- A) step 1, only
- B) step 2, only
- C) both step 1 and step 2
- D) neither step 1 nor step 2

9. Base your answer to the following question on the chemical reactions below and on your knowledge of biology.

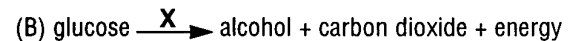
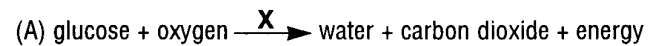


What is the chemical compound represented by letter *J*?

- A) a protease
- B) a polysaccharide
- C) ATP
- D) ADP

10. Base your answer to the following question on the two processes represented below and on your knowledge of biology.

Processes



In both processes, the **X** represents

- A) catalysts
- B) hydrogen acceptors
- C) monosaccharides
- D) hormones

11. Which process produces the *greatest* quantity of ATP per molecule of glucose oxidized?

- A) aerobic respiration
- B) lactic acid production
- C) photosynthesis
- D) fermentation