

SECTION 7-1 REVIEW**GLYCOLYSIS AND FERMENTATION****VOCABULARY REVIEW** Define the following terms.

1. cellular respiration _____

2. glycolysis _____

3. lactic-acid fermentation _____

4. alcoholic fermentation _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. Glycolysis takes place
- | | |
|-------------------------|-------------------------------|
| a. in the cytosol. | c. only if oxygen is present. |
| b. in the mitochondria. | d. only if oxygen is absent. |
- _____ 2. During glycolysis, glucose is
- | | |
|---|---|
| a. produced from two molecules of pyruvic acid. | c. partially broken down and some of its stored energy is released. |
| b. converted into two molecules of ATP. | d. partially broken down and its stored energy is increased. |
- _____ 3. Both lactic-acid fermentation and alcoholic fermentation produce
- | | |
|--|--|
| a. a two-carbon molecule from a six-carbon molecule. | c. ATP from ADP and phosphate. |
| b. CO ₂ from a three-carbon molecule. | d. NAD ⁺ from NADH and H ⁺ . |
- _____ 4. The efficiency of glycolysis is approximately
- | | | | |
|-----------|----------|---------|----------|
| a. 0.35%. | b. 3.5%. | c. 35%. | d. 350%. |
|-----------|----------|---------|----------|
- _____ 5. The anaerobic pathways provide enough energy to meet all of the energy needs of
- | | |
|---|--|
| a. all organisms. | c. many unicellular and some multi-cellular organisms. |
| b. all unicellular and most multi-cellular organisms. | d. no organisms. |

SHORT ANSWER Answer the questions in the space provided.

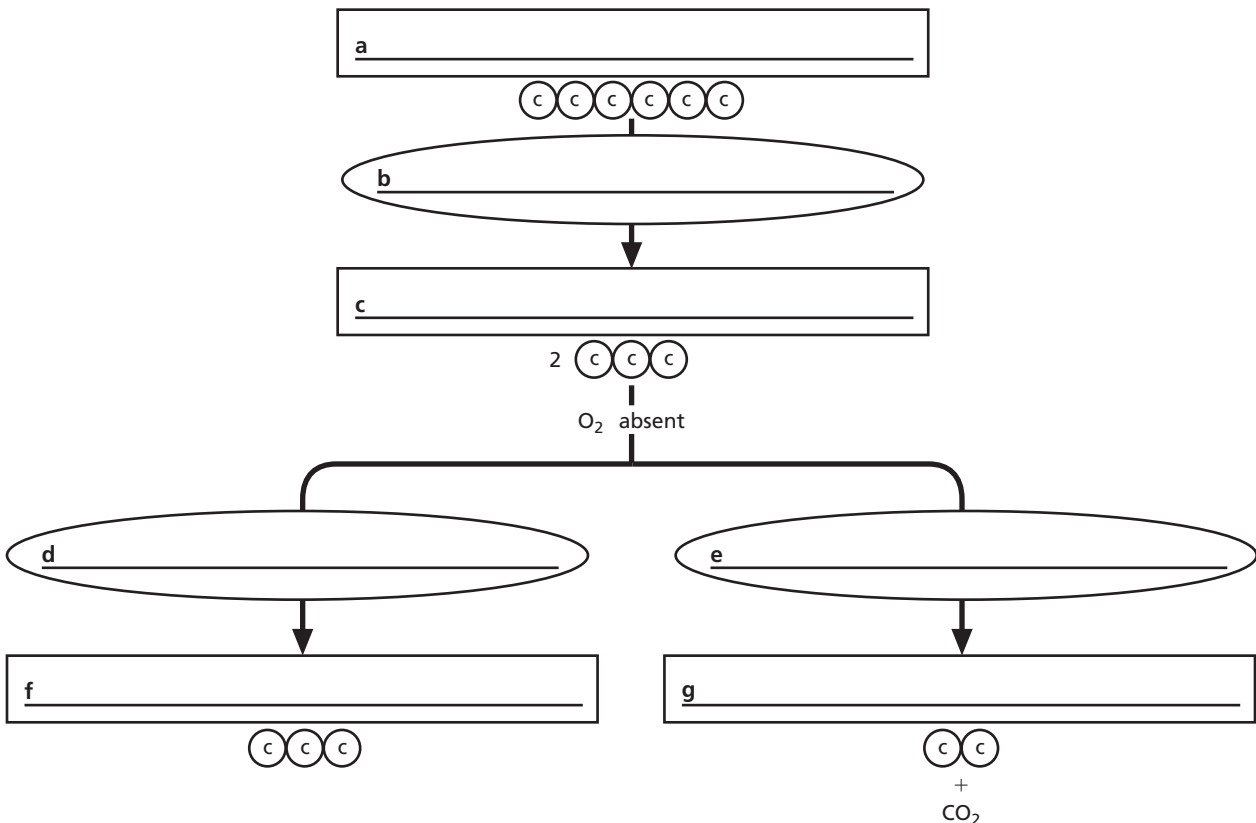
- Why are the fermentation pathways referred to as “anaerobic” pathways? _____

- What are the energy-containing products of glycolysis? _____

- Of what importance are lactic-acid fermentation and alcoholic fermentation to the cells that use these pathways? _____

- Critical Thinking** The vitamin niacin is an essential component of NAD^+ . Niacin can be consumed in food or manufactured in the body from tryptophan, an amino acid. How would a person’s ability to break down glucose through glycolysis be affected if the person’s diet were deficient in both niacin and tryptophan? Explain your answer. _____

STRUCTURES AND FUNCTIONS The diagram below depicts the stages of glycolysis and fermentation. Complete the diagram by writing the names of the pathways in the ovals and the names of the molecules in the boxes.



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