

SECTION 7-2 REVIEW**AEROBIC RESPIRATION****VOCABULARY REVIEW** Define the following terms.

1. aerobic respiration _____

2. mitochondrial matrix _____

3. Krebs cycle _____

4. FAD _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The breakdown product of glucose that diffuses into the mitochondrial matrix for further breakdown is
a. acetyl CoA. b. pyruvic acid. c. oxaloacetic acid. d. citric acid.
- _____ 2. The starting substance of the Krebs cycle, which is regenerated at the end of the cycle, is
a. acetyl CoA. b. pyruvic acid. c. oxaloacetic acid. d. citric acid.
- _____ 3. The Krebs cycle
a. breaks down a two-carbon molecule into two molecules of CO₂. c. produces NAD⁺ from NADH and H⁺.
b. produces a six-carbon molecule from six molecules of CO₂. d. generates most of the ATP produced in aerobic respiration.
- _____ 4. The electron transport chain of aerobic respiration
a. generates O₂ from H₂O.
b. produces NADH by chemiosmosis.
c. pumps electrons into the mitochondrial matrix.
d. pumps protons into the space between the inner and outer mitochondrial membranes.
- _____ 5. The maximum efficiency of aerobic respiration is approximately
a. 0.66%. b. 6.6%. c. 66%. d. 660%.

SHORT ANSWER Answer the questions in the space provided.

1. In the Krebs cycle, what molecule acquires most of the energy that is released by the oxidation of acetyl CoA, and how many of these molecules are produced during each turn of the cycle?

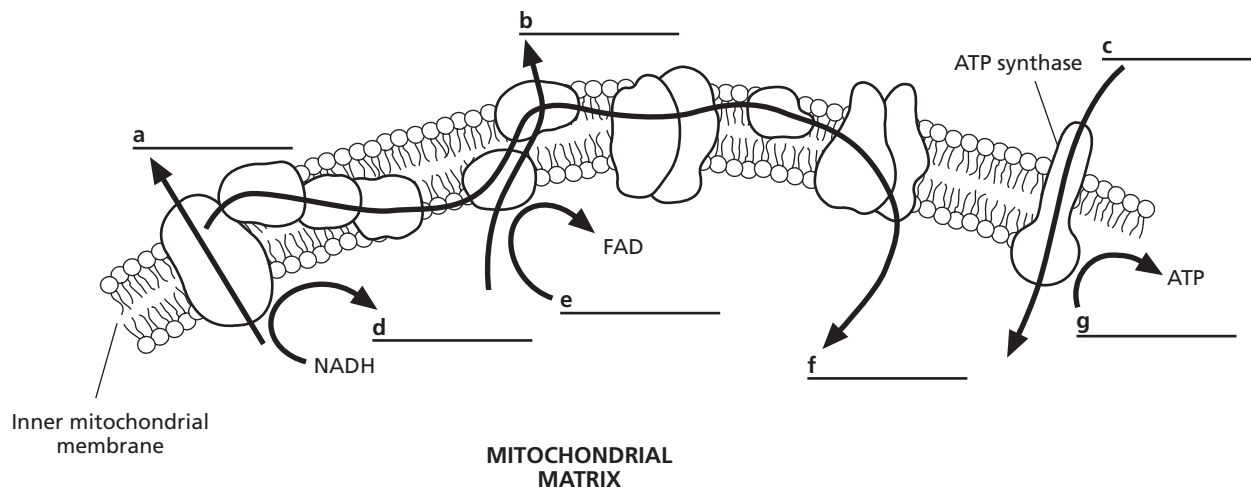
2. Which reactions of aerobic respiration occur in the inner mitochondrial membrane?

3. Write the equation for the complete oxidation of glucose in aerobic respiration.

4. **Critical Thinking** How is the structure of a mitochondrion well adapted for the activities it carries out? _____

STRUCTURES AND FUNCTIONS Use the diagram to answer the following questions.

The diagram below summarizes the electron transport chain and chemiosmosis in aerobic respiration. Label the substances that are transported along the arrows labeled *a–d* in the spaces provided. Label the reactants or products that are represented by *e–g* in the spaces provided.



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