

HS-LS1-7: Cellular Respiration Notes

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. [Clarification Statement: Emphasis is on the conceptual understanding of the inputs and outputs of the process of cellular respiration.] [Assessment Boundary: Assessment should not include identification of the steps or specific processes involved in cellular respiration.]

p. 221-225 9-1 Chemical Pathways

Define:

- calorie:
- Glycolysis:
- Cellular respiration:
- Fermentation:
- Aerobic:
- Anaerobic:
- ATP

Where does cellular respiration take place (what organelle, what structures/parts of that organelle)?

True or False: Only animal cells contain mitochondria.

Figure 9-2 p. 222 Cellular Respiration: An Overview

Where does the glucose used in cellular respiration come from?

How do you know this series of reactions occurs in the presence of oxygen?

Write the chemical equation for cellular respiration:

Write the word equation for cellular respiration:

Explain what both equations are illustrating:

Where does the oxygen come from?

Where does the glucose come from?

What is the energy released by the reaction used for?

What form is this energy in?

Where does the carbon dioxide go?

Where does the water go?

Create your own model to illustrate the process of cellular respiration. Your model should include the following labeled items: energy (ATP), eukaryotic cell, carbon dioxide (CO_2), water (H_2O), oxygen (O_2), sugars ($\text{C}_6\text{H}_{12}\text{O}_6$)