Name _____

Respiration: The Breath of Life and the Carbon Cycle

Short Answer Key

1. Aerobic respiration requires oxygen and occurs in mitochondria, producing a large amount of energy. Anaerobic respiration occurs without oxygen and is less efficient, producing lactic acid or ethanol.
2. The energy produced during respiration comes from the breakdown of glucose. It is used for various cellular activities such as muscle contractions, brain function, and growth.
3. Respiration releases carbon dioxide, while photosynthesis absorbs it. This balance ensures that the carbon cycle remains stable, preventing excess carbon dioxide buildup in the atmosphere.
4. When organisms die, their bodies decompose, and the carbon in their organic matter is returned to the environment in the form of carbon dioxide through decomposition.
5. Respiration is fundamental because it provides the energy needed for all life processes, ensuring the survival and growth of living organisms.

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