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Chap 9 & 10: Photosynthesis and Cellular Respiration

(Chapter 9 & 10 Review Packet; Pages 280-301, Chap 9 & Pages 308-329, Chap 10)

*SC.912.L.18.7: Identify the reactants, products, and basic functions of photosynthesis.*

*SC.912.L.18.8: Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.*

*SC.912.L.18.9: Explain the interrelated nature of photosynthesis and cellular respiration.*

*SC.912.L.18.10: Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.*

**Vocab:**

ATP-

Photosynthesis-

Pigment-

Chlorophyll-

Thylakoid-

Stroma-

NADP+-

Light-dependent reactions-

Light-independent reactions-

Photosystem-

Electron transport chain-

ATP synthase-

Calvin cycle-

Calorie-

Cellular respiration-

Aerobic-

Anaerobic-

Glycolysis-

NAD+-

Krebs cycle-

Matrix-

Fermentation-

**Questions:**

Describe how heterotrophs and autotrophs differ in the way they obtain energy?

Describe how ATP can release and store energy for the cell, as described on page 283.

Write the basic equation for photosynthesis in symbols and in words as seen on page 289.

Briefly describe the Light-independent reactions. Briefly describe the Light-dependent reactions. How do these reactions rely on each other?

Write the chemical equation for cellular respiration in symbols and in words as found on page 311.

What does it mean if a process is “anaerobic”? Which part of cellular respiration is anaerobic?

What is NAD⁺? Why is it important?

Summarize what happens during the Krebs cycle. What happens to high-energy electrons generated during the Krebs cycle?

How are fermentation and cellular respiration similar?

Describe how Photosynthesis and Cellular Respiration are interrelated.