

Chapter 4
Cells and Energy
Objectives and Vocab

Objectives:

I will be able to explain that all cells require chemical energy and describe what chemical energy is.

I will be able to describe the process of photosynthesis and how this process is advantageous to plants.

I will be able to explain photosynthesis and what the products of this process are.

I will be able to articulate the difference between cellular respiration and photosynthesis

I will be able to explain what cellular respiration is and how this process is advantageous to organisms.

I will be able to apply the differences between cellular respiration and photosynthesis to real life scenarios and make connections about how the two processes work together.

I will be able to conduct experiments related to photosynthesis and cellular respiration and analyze my results from those experiments and determine why the results are important.

I will be able to explain how fermentation and cellular respiration are both similar and different.

I will be able to apply the processes of fermentation and cellular respiration to real life scenarios and explain why these processes are beneficial to organisms.

I will be able to identify organisms that undergo fermentation, cellular respiration, and photosynthesis.

Recognize the importance of ATP as an energy-carrying molecule

Identify energy sources used by organisms

Relate producers to photosynthesis

Describe the process of photosynthesis

Describe the light-dependent reactions in which energy is captured

Describe the light-independent reactions in which sugar is produced

Describe the process of cellular respiration

Compare cellular respiration to photosynthesis

Describe the process of glycolysis

Describe the details of the Krebs cycle and the electron transport chain

Describe the process of fermentation

Summarize the importance of fermentation

Vocab:

ATP:

ADP:

Chemosynthesis:

Photosynthesis:

Chlorophyll:

Thylakoid:

Light-dependent reactions:

Light-independent reactions:

Photosystem:

Electron transport chain:

ATP synthase:

Calvin cycle:

Cellular respiration:

Aerobic:

Glycolysis:

Anaerobic:

Krebs cycle:

Fermentation:

Lactic acid: