Name _____ **Per.** _____ **Date** _____

Section 8.1 and 8.2- Energy and Life and Photosynthesis: An Overview

At the end of this lecture you should know:

Standards

1f. Usable energy is captured from sunlight by chloroplasts and is stored through the synthesis (making) of sugar from carbon dioxide

Section 8.1- Energy and Life

Review Questions

1. What is the main source of energy that cells use to drive cellular activities and chemical reactions?

2. What bonds are broken in ATP in order for energy to be release?

Fill In Notes

_____ is the ability to do work.

I. Autotrophs and Heterotrophs
   A. Plants and some organisms are able to use light energy from the _____ to produce food.
      1. Organisms that make their own food are called _____.
      2. Organisms that consume other organisms to obtain energy are called _____.

II. Chemical Energy and ATP
   A. List the 3 forms energy can come in.

   B. The principle compound that cells use to store and release energy is _____.
      1. List the parts of an ATP molecule.

      2. Storing Energy
         a. How is energy stored by a cell?

      3. Releasing Energy
         a. How is energy released by a cell?

III. Using Biochemical Energy
   A. List 3 cellular activities that ATP can supply energy to.

   B. Cells can regenerate ATP from ADP by using the energy in foods like _____.
   C. Draw and label an ATP molecule.

Lecture Notes

Section 8.2- Photosynthesis: An Overview

Review Questions

3. In the equation of photosynthesis, which are the reactants and which are the products?

Reactants:

Products:

4. In the equation of photosynthesis, what is the chemical formula for glucose (sugar)?

5. Explain how sunlight is a form of energy.

Fill In Notes

I. The Photosynthesis Equation

A. Write the overall equation of photosynthesis.

B. What is the purpose of photosynthesis?

C. Photosynthesis is a reaction. What energy source drives this reaction?

II. Light and Pigments

A. List the 2 things other than water and carbon dioxide that photosynthesis requires.

B. Plants gather the sun's energy with light-absorbing molecules called _____.

C. The principle light-absorbing pigment of plants is called _____.

D. What colors are absorbed very well by chlorophyll?

E. What color is reflected by chlorophyll?

F. The light absorbed by chlorophyll is transferred as energy to _____ in the

Lecture Notes

Summary/Thinking Map

Using ATP as the connection, explain how the light-dependent reaction is related to the Calvin Cycle.

Key Vocabulary

Define the Key Vocabulary for this section. Be sure to number and underline your Key Vocabulary word.