

Photosynthesis



Real World Energy
Learner Worksheet Answer Key
Grade Level: 9-12

Name:

Read the photosynthesis backgrounder and answer the following questions.

1. Describe the process of photosynthesis.

The process of photosynthesis happens in chloroplasts. Sunlight is absorbed by chlorophyll where it rearranges water and carbon dioxide to make sugar (glucose) and to release oxygen. The glucose provides energy to all the plant's cells and other living things.

2. Explain why photosynthesis is important to all living things.

Photosynthesis is an important process because it creates glucose and oxygen. Glucose is the basic food source for all living things. Green plants are the only organisms that make their own glucose. A by-product of photosynthesis is oxygen. Plants produce the oxygen required for life on Earth.

3. In which situation, light or dark, would photosynthesis be most vigorous? Why?

Photosynthesis would be most vigorous in light. Energy from the sun, water and carbon dioxide are the ingredients required for photosynthesis to occur. Photosynthesis does not occur in darkness.

4. Besides light, what other conditions could you change to INCREASE the rate of photosynthesis in a plant?

The other conditions that could be changed to increase the rate of photosynthesis would be to increase the amount of water and carbon dioxide.

5. What is the importance of oxygen as a by-product of photosynthesis?

All the oxygen in the atmosphere comes from photosynthesis. Without it, oxygen-breathing organisms such as animals, fungi, and most bacteria would never have evolved on Planet Earth.

6. What is cellulose and how is it related to photosynthesis?

Cellulose is a fibrous material made by plants from glucose, one of the by-products of photosynthesis. Cellulose is found in the cell walls of most plant cells, and it gives strength to the stems and other parts of plants.