

Life Science 7

(Copy the following lab activity set up in your science notebook.)

**Title:** Activity 8A Lab: A Producer's Source of Energy

**Challenge Question:** How do scientists study the role of light in photosynthesis?

**Background:**

- The energy for nearly all ecosystems is provided by the sun.
- Energy in an ecosystem is harnessed from sunlight by producers and then transferred to consumers and decomposers through feeding relationships.
- Carbon dioxide, water and light are necessary for photosynthesis to occur. Food and oxygen are the end products of photosynthesis.

**Vocabulary:**

Term	Definition	Picture or Example
consumer		
producer		
decomposer		
food web		

**Materials:**

*A Producer's Source of Energy* lab packet

*Elodea*

water

bromthymol blue (BTB) solution

4 clear plastic vials with caps

**Procedures:**

1. Read and follow directions in lab packet to complete **Part One: Collecting Evidence**. Record all data in **Recording Results** lab sheet.
2. Answer Analysis Questions. Write answer in Data/Results section.
3. Complete Conclusion section.

**Data/Results:**

*(Write answers to Analysis Questions here.)*

**Analysis Question:**

1. What was the purpose of the vial containing only BTB solution?
2. In the introduction in the lab packet, you were told that plants need carbon dioxide during photosynthesis. What evidence do you have from Part One of your investigation to support this claim?

**Conclusion:**

1. Read and follow the directions in the lab packet to complete **Part Two: The Role of Light**.
2. Submit your lab group's planned experimental procedure, data table and hypothesis on a separate sheet of paper to your teacher for grading.