

Name \_\_\_\_\_

Per. \_\_\_\_\_ Date: \_\_\_\_\_

### PRE-LAB

Photosynthesis is the process by which plants take carbon dioxide from the atmosphere, add water, and use the energy of sunlight to produce sugar.

Photosynthesis occurs in the chloroplast, an organelle in plant cells that contains the molecule chlorophyll. Chlorophyll absorbs the energy of sunlight. That light energy is converted to chemical energy through the steps of photosynthesis.

Bromothymol blue is an indicator solution to those used to test for food nutrients. It starts as a blue solution in water, and **turns yellow-green in the presence of carbon dioxide**. A small piece of elodea will be introduced to a solution containing bromothymol blue and CO<sub>2</sub>. The point is to determine whether the elodea will have an affect on CO<sub>2</sub> levels.

Write a **hypothesis** about what will happen to CO<sub>2</sub> levels in a solution if an aquatic plant is photosynthesizing.

If elodea is added to the BTB, then the solution will turn \_\_\_\_\_ because \_\_\_\_\_.

#### Materials

Bromothymol blue  
Elodea plant  
Water container  
Scissors  
Test tube or container  
Tinfoil  
Tape  
Marking pen

#### Procedure

1. Obtain a test tube/cup with water and add about 20 drops of BTB from the bottle
2. GENTLY start bubbling through the straw. (Like how you blow bubbles in chocolate milk)
3. Now add a sprig of elodea. Let it sit for the rest of the period.

#### **Data Collection.**

1. What happened to the solution of BTB when you blew into the straw

\_\_\_\_\_

### Analysis Questions

1. BTB is an indicator used to detect the presence of \_\_\_\_\_ gas.
2. What did you initially blow into the solution to turn it yellow? \_\_\_\_\_
3. What is the equation for photosynthesis? \_\_\_\_\_

### Conclusion and Results

1. INFER what **will happen** if the Elodea sat overnight in the BTB solution?

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2. Explain how producers and humans are an example of MUTUALISM

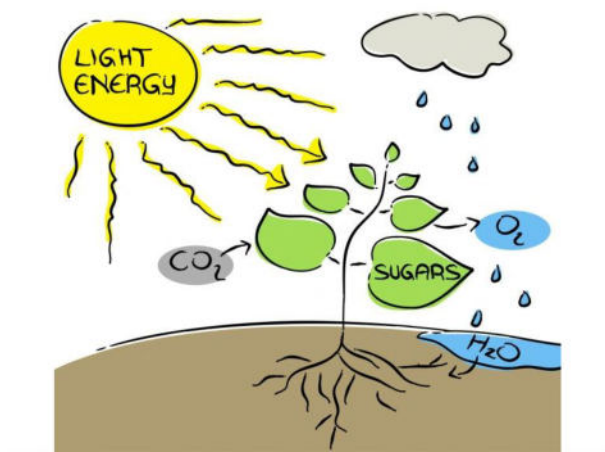
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3. **Infer what will happen** to Ms. Scillieri's covered example of Elodea and BTS solution

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**Conclusion: What is the process of photosynthesis? How is this process used with living organisms?**

**Claim: Elodea goes through the process of photosynthesis.**

**Evidence: BTB and Elodea show photosynthesis**

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**Reasoning: Scientists put living things in different groups because**

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