Lab Partners: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**LAB**: Investigating Photosynthesis: Discovering what plants need for photosynthesis

**1. (15 minutes) Think about these questions**:

What do plants need to live? What do they need to carry out photosynthesis (to photosynthesize)?

Fill in the table below with as many ideas as you can. The purpose of this activity is to find out what you know *before* studying photosynthesis, so don’t worry about being right or wrong.

**What Plants Need**

|  |  |
| --- | --- |
| **What do plants need/use/consume? (reactants)** | **What do plants give off? (products)** |
|  |  |

Based on what you wrote above, try to write a summary equation for photosynthesis.

**Example**: Cake mix + Egg + Oil Cake

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On the left of the arrow put things that go into photosynthesis and to the right put the things that come out of the process.

**2. (10 minutes) The Tools/Safety Precautions**: Tools for this experiment will be demonstrated and safety precautions noted.

**3. (15 minutes to plan, discuss and write-up) The Investigation**

**The Question: Do plants consume (use) CO2 or release it when they are in the light, photosynthesizing?**

With your group members, develop a plan to answer this question. Decide how you will collect convincing evidence. Write your procedure below and be ready to turn this in to your teacher. *Create a data table for data collection on the back of this sheet in the space provided. What evidence for CO2 will you collect?* (When finished please fold your paper in half together with your partner’s paper.)

Procedure:

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**DATA TABLE:**

**Analyzing Your Results**: Reflect on your experiment and answer the questions below.

1. Do plants consume CO2 or release it when they are in the light, photosynthesizing? What is your evidence for this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Now again try to write the general summary equation for photosynthesis.

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1. Do plants consume or release O2 (oxygen) in photosynthesis? Support your answer.

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1. How do you now think differently about photosynthesis than you did at the beginning of this inquiry?

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1. What is the purpose of photosynthesis?

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