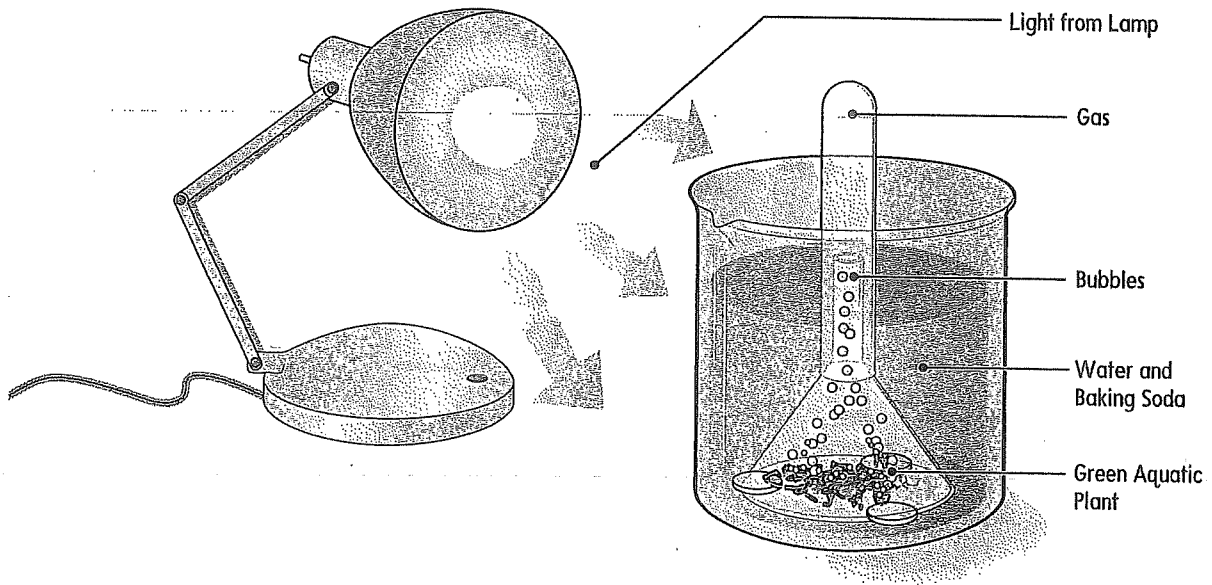


## Rate of Photosynthesis

Use with textbook pages 30-31.

**Photosynthesis** is a process in which plants capture the Sun's light energy and convert carbon dioxide and water into sugar (food) and oxygen. A student wanted to conduct an experiment to determine the effect of light intensity on the rate of photosynthesis. The lab set-up is shown below.



1. What could be a possible hypothesis for this experiment?

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2. What could the student use as a control in the experiment? Why is this necessary?

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3. What is the independent variable in this experiment?

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4. What is the dependent variable in this experiment?

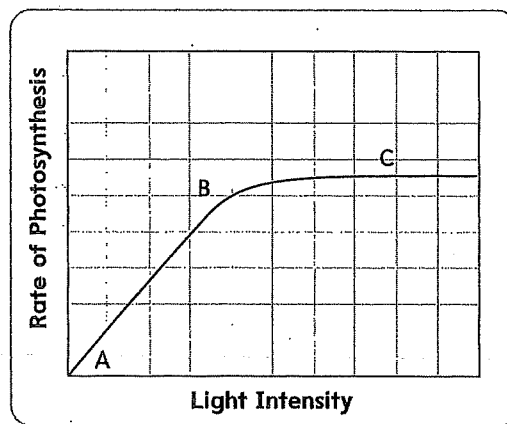
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5. Why was baking soda added to the water?

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6. The student made some observations during the experiment and noticed that as she increased the light intensity, more bubbles formed. The student recorded the number of bubbles formed by the aquatic green plant. What do you think the bubbles represent?
- \_\_\_\_\_

7. Using a data table, the student recorded the number of bubbles that formed and floated to the top of the water in the funnel. The student then plotted a graph, as shown below. The student decided that the rate of photosynthesis was going to be represented by the number of bubbles formed.



Analyze the graph shown above. Describe what each part of the graph represents.

- a) Part A
- \_\_\_\_\_

- b) Part B
- \_\_\_\_\_

- c) Part C
- \_\_\_\_\_

8. The student noticed that after a while the aquatic green plant did not produce as many bubbles as it did at the beginning, even when she increased the light intensity. What could the student do to get the plant to produce more bubbles?
- \_\_\_\_\_

9. What could the student conclude from this experiment?
- \_\_\_\_\_