

#Jenny



Finally I get this ebook, thanks for all these I can get now!

#Rio



Cool! I'am really happy

#Markus Jensen



I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu



wtf this great ebook for free?!

#Che Salsa



My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler



so many fake sites. this is the first one which worked! Many thanks

Explore Learning

**Photosynthesis Lab** Answer Key


**Vocabulary:** carbon dioxide, chlorophyll, glucose, limiting factor, manometer, photosynthesis, wavelength

**Prior Knowledge Questions** (Do these BEFORE using the Gizmo.)  
*(Note: The purpose of these questions is to activate prior knowledge and get students thinking. Students are not expected to know the answers to the Prior Knowledge Questions.)*

- To survive, what gas do we need to breathe in? *Oxygen*
- Where is this gas produced? *in plants*

**Gizmo Warm-up**  
During **photosynthesis**, plants use the energy of light to produce **glucose** ( $C_6H_{12}O_6$ ) from **carbon dioxide** ( $CO_2$ ) and water ( $H_2O$ ). Glucose is a simple sugar that plants use for energy and as a building block for larger molecules.

A by-product of photosynthesis is oxygen. Plants use some of the oxygen they produce, but most of it is released. In the **Photosynthesis Lab Gizmo™**, you can monitor the rate of photosynthesis by measuring oxygen production.



- Observe the left pane closely. What do you think the bubbles are? *Oxygen*
- Select the **BAR CHART** tab. On the graph, notice the **Oxygen production** bar. Move the **Light intensity** slider back and forth. How does light intensity affect oxygen production?  
*Up to 40%, increasing the light intensity increases the oxygen production. Beyond 40% there is no effect.*
- Experiment with the vertical **Temperature** slider (upper left) and the **CO<sub>2</sub> level** slider.
  - How does temperature affect oxygen production?  
*Oxygen production is maximized around 25°C. Oxygen production goes down when temperature is too hot or too cold.*
  - How does CO<sub>2</sub> level affect oxygen production?  
*Up to about 200–400 ppm, increasing CO<sub>2</sub> production increases oxygen production. Beyond about 400 ppm, there is no change in oxygen production as CO<sub>2</sub> level is increased.*
  - How does oxygen production relate to the rate of photosynthesis?  
*A greater rate of oxygen corresponds to a higher rate of photosynthesis.*

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