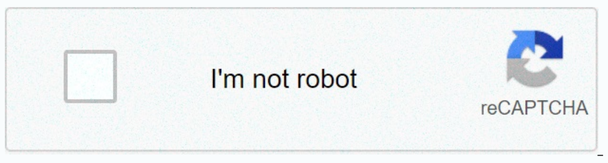

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Virtual lab photosynthesis answers

Site: bit.ly/pholab experiment question: What colors of the spectrum of light are the most important for plant growth? 1. Make a hypothesis about which color is the visible spectrum that causes most plants to grow and which causes the least amount of plant growth. Plants grow best [red/purple/blue/green/orange] light (circle) Plants don't grow well [red/purple/blue/green/orange] light (circle) 2. Collect data by changing the color of the light. Test each plant type and use the ruler to measure height. Take an average of each plant of any color. Color spinach radisk salad red individual average individual average individual average orange green blue purple akbolyga 3. Write the conclusions, which include the answer to the original question / hypothesis. Your answer should be in a full sentence. This simulation allows you to manipulate many variables. Already observed how bright colors affect the growth of the plant, in this simulation you can directly measure the rate of photosynthesis by counting the number of oxygen bubbles released. Suggest hypotheses about how these variables affect the production of oxygen from a plant. (under circle) a) Increasing the light intensity [increases / decreases] the rate of photosynthesis. b) Increasing CO2 levels [increases /decreases] the ratio of photosynthesis. c. Increase in temperature [increases / decreases] rate of photosynthesis. Question I: How does the intensity of light affect the degree of photosynthesis? Procedure: The purple slider can change the light level. You will count the number of bubbles in each level. The timer in the square box can be used to measure 30 seconds. Light intensity 0 5 10 15 20 25 30 35 40 45 50 Number of bubbles (30 sec) A) Based on light tests, the rate of photosynthesis increases/ decreases / remains the same when increasing the intensity of light]. (new) B) How do you know? C) What are the bubbles really showing? Question II: How does carbon dioxide affect photosynthesis? Procedure: Set the light to the maximum intensity (50). Set the CO2 level by clicking on the bottle. Total CO2 Half CO2 Number of bubbles (30 sec) *Write your conclusion in a full sentence describing how your CO2 levels affect the rate of photosynthesis. (Use question 1A to help you write this. This is what it's going to look like. Question III: How does temperature affect the rate of photosynthesis? Create a data table (using the above to help) and enter values for at least 3 temperatures. Use the data to write a conclusion. This in an entire sentence. Which colors of the light spectrum are most important for the growth of plants? Site: bit.ly/pholab (you can type in glencoe photosynthesis in a google search to find this resource) - Read the summary in the side bar that explains how colors of light affect plant growth. - Read the procedure. Many of your tasks will be recorded in the diary, which you will print to make soup - you will need to answer 5 questions in the diary, using complete, thoughtful sentences for each question. - You can also record the measurements in the table to be printed and turned on. * Print the questions and tables that you inject. (Alternatively, the teacher can print this document for you) Site 2: Photolab (search for kscience photolab) This simulation allows you to manipulate many variables. Already observed how bright colors affect the growth of the plant, in this simulation you can directly measure the rate of photosynthesis by counting the number of oxygen bubbles released. There are three other possible variables you can test with this simulation: the amount of carbon dioxide, the intensity of light and the temperature. Keep the light settings white light (we've tested color light in the last experiment.) Choose a variable and design and experiment to test how this factor affects the rate of photosynthesis. Keep in mind that when designing an experiment, you must keep all variables constant, except for the variable you are testing. Collect the data and write a summary of the findings, which includes: Hypothesis or experimental question data table conclusions Site 3: Photosynthesis tutorial This is a useful study guide to photosynthesis. Read this tutorial to learn more about the process of photosynthesis, especially calvin cycle, photolization and carbon capture. Consider limiting factors for photosynthesis photosynthesis