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1. Complete the equation for photosynthesis:

- Carbon dioxide + **water** → **glucose** + oxygen

2. What type of energy is required for photosynthesis?

- **Answer:** Light energy

3. What is the source of this energy?

- **Answer:** The Sun
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Question 2 Explanation on Leaf Test

• **Which parts of Leaf A would turn black?**

- Only the areas of Leaf A that were exposed to light would turn black, while the covered section (under the card) would not turn black.

• **Explanation:**

- When iodine is added, it turns black in the presence of starch. Photosynthesis, which produces starch, only occurs in areas exposed to light. Therefore, the uncovered parts of Leaf A, which received light, would have produced starch and will turn black with iodine. The area covered by the card did not receive light, so photosynthesis did not occur there, and it would not turn black.
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On the provided outline of Leaf A, shade in the exposed areas outside of where the card was positioned to show where it would turn black. The covered area should remain unshaded to represent the absence of starch production.

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To answer the questions accurately, follow these steps:

1. Plotting the Graph:

- Use the given data to create a graph with:
 - **X-axis:** Distance between the pondweed and light source (cm).
 - **Y-axis:** Number of bubbles produced per minute.
- Plot the points for each distance and draw a line or curve connecting them:
 - (10 cm, 20 bubbles)

- (20 cm, 12 bubbles)
- (30 cm, 7 bubbles)
- (40 cm, 3 bubbles)
- (50 cm, 0 bubbles)

2. Describing the Effect of Light Intensity on the Rate of Photosynthesis:

- **Answer:** The data shows that as the distance between the light source and the pondweed increases, the number of bubbles produced per minute decreases. This suggests that a higher light intensity (closer light source) increases the rate of photosynthesis, as indicated by more oxygen bubbles. Conversely, a lower light intensity (greater distance) reduces the rate of photosynthesis, eventually stopping it when light intensity is too low.



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