Photosynthesis

GCSE Biology · Written to the shared content for AQA, Edexcel and OCR

Name _____ Class _____ Date _____

1. Worked example

Write the word equation for photosynthesis and state where the energy comes from. (2 marks)

Step 1 · Equation

carbon dioxide + water → glucose + oxygen

Step 2 · Energy

Light energy, absorbed by chlorophyll in chloroplasts.

Answer: carbon dioxide + water → glucose + oxygen (light, chlorophyll)

Check: Light is written above the arrow; it is not a reactant.

2. Now try one with the steps

Explain why photosynthesis is an endothermic reaction. (2 marks)

Step 1 · Definition

Step 2 · Apply

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Write the word equation for photosynthesis. [2]

2. Name the green pigment that absorbs light. [1]

3. Name the sub-cellular structure where photosynthesis takes place. [1]

4. Give three uses of the glucose made by a plant. [3]

5. Is photosynthesis endothermic or exothermic? [1]

6. Write the balanced symbol equation for photosynthesis. [2]

7. Explain why plants store glucose rather than [2]

8. Name the ions plants need, together with glucose, to make amino acids. [1]

9. Explain why a plant still needs to respire during the day. [2]

10. How many oxygen molecules are produced when 3 glucose molecules are made? [1]

11. Explain why a leaf is first boiled in ethanol before testing with iodine. [1]

12. Explain why ethanol is heated in a water bath and never over a flame. [1]

13. A plant kept in the dark for 48 hours gives a negative starch test. Explain why. [2]

14. Explain why oxygen produced by photosynthesis can be used measure of its rate. [2]

4. Before you hand it in

Writing light or chlorophyll
Light is an energy input; chlorophyll absorbs it. Write them above the arrow, not

"Plants photosynthesise instead of respiring."
Plant cells respire all the time; photosynthesis happens only in light, in green parts.

"Plants get their food from the soil."

Plants make glucose by photosynthesis. The soil supplies water and mineral ions, not food.