

Respiration in Plants

Chapter 7: Respiration in Plants · Topic 1

Key Concept

Respiration occurs in all plant cells, using oxygen to break down glucose, releasing energy, carbon dioxide, and water as byproducts.

Unlike photosynthesis (which only occurs in light), respiration occurs continuously, day and night, in all living plant cells.

The equation for respiration is: $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + \text{energy}$, showing glucose and oxygen converting to carbon dioxide, water, and energy.

Understanding plant respiration helps us see how plants use stored energy from photosynthesis for growth and other life processes.

Quick Revision Notes

- Respiration occurs in all plant cells.
- It uses oxygen to break down glucose.
- It releases energy, CO₂ and water.
- Respiration occurs continuously, day and night.
- Photosynthesis only occurs in light.
- Equation: glucose+oxygen→CO₂+water+energy.
- This energy supports growth and life processes.
- Respiration and photosynthesis are complementary.

Practice Questions

- 1 Write the equation for respiration.
- 2 Discuss why respiration occurs continuously.
- 3 Explain the difference between respiration and photosynthesis.
- 4 Research how respiration provides energy for growth.
- 5 Discuss why plants need both processes.
- 6 Explain respiration in your own words.