

Year 6 Science Assessment: The Life of Plants

Learning objective: To demonstrate understanding of plant classification, life cycles, and the function of vascular systems.

Read each question carefully. Use your scientific knowledge to provide clear, detailed answers. Ensure you use scientific vocabulary where appropriate.

Nova the barn owl has been observing the local woodland. She notices that some plants, like ferns and mosses, grow differently compared to the tall oak trees and flowering wildflowers. Max the monkey is curious about how the water travels from the roots all the way up to the highest leaves of the oak tree, even against gravity.

Word bank: Xylem · Phloem · Photosynthesis · Stomata · Transpiration · Vascular · Reproduction · Germination

1. Explain the role of the xylem in a vascular plant. Why is it essential for the plant's survival? (2 marks)

2. Describe the process of photosynthesis. Where does it take place in the plant and what are the three main 'ingredients' a plant needs for this to occur? (3 marks)

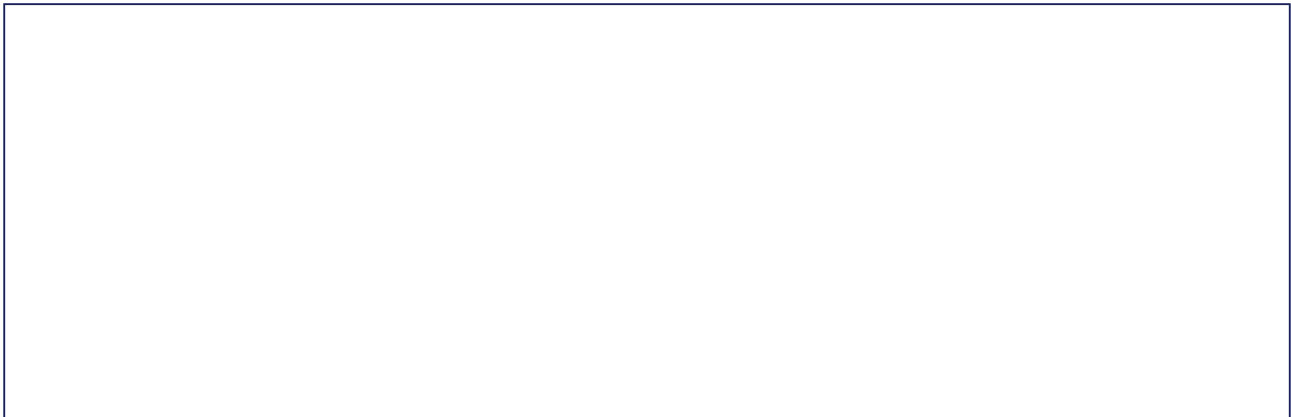
3. Max the monkey wants to know how water escapes from leaves. Name this process and explain how the stomata contribute to it. (3 marks)

4. Compare and contrast the reproduction methods of flowering plants and non-flowering plants (such as ferns). (4 marks)

5. Bea the honeybee is visiting a flower. Explain the process of pollination and why it is a vital step in the plant life cycle. (4 marks)

6. Extended Writing Task: Imagine you are a water molecule starting in the soil. Describe your journey through the plant, explaining the structures you pass through and the process of how you reach the leaf to help the plant make food. Use at least four keywords from the word bank. (9 marks)

Draw: Draw and label a cross-section of a plant stem, clearly indicating the positions of the xylem and the phloem.



Extension challenge: Total: /25. Research task: Investigate how environmental factors, such as light intensity or temperature, might affect the rate of transpiration in a plant.