

Year 5 Science Assessment: The Life Cycle and Biology of Plants

Learning objective: To assess pupils' understanding of plant reproduction, life cycles, and the function of plant parts.

Read each question carefully. Use your scientific vocabulary to provide detailed explanations. Ensure your answers are clear and concise.

Nova the Barn Owl has been observing a beautiful wildflower meadow. She notices that some plants grow from seeds, while others seem to sprout from runners or bulbs. She wants to understand how these plants ensure their species survives throughout the changing seasons.

Word bank: pollination · fertilisation · germination · stamen · carpel · sepal · asexual · dissemination · ovary · anther

1. Identify the two main parts of a flower involved in reproduction and briefly describe their specific roles. (2 marks)

2. Explain the process of pollination. How does the wind or an insect assist in this process? (3 marks)

3. Nova observes a plant spreading its seeds by 'explosive' means. Compare and contrast this method of seed dissemination with seeds that are carried by the wind. (4 marks)

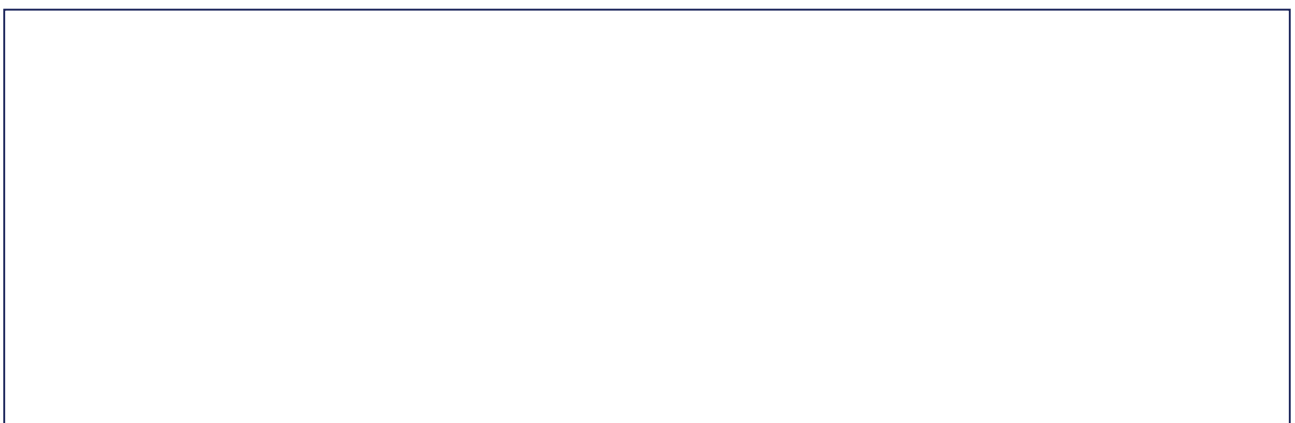
4. Define 'germination'. What are the three essential conditions a seed requires to begin this process? (3 marks)

5. Some plants reproduce asexually. Justify why a gardener might prefer to use strawberry runners instead of seeds to grow new plants. (3 marks)

6. Describe the life cycle of a flowering plant. Include the stages from seed formation to the death of the parent plant. (5 marks)

7. What might happen to a plant population if all the pollinators in a meadow suddenly disappeared? Explain the long-term impact on the ecosystem. (5 marks)

Draw: Draw and label a cross-section of a flower, clearly identifying the stamen, carpel, ovary, and petals.



Extension challenge: Total: /25. Challenge: Research and write a short paragraph explaining the difference between self-pollination and cross-pollination. Why might cross-pollination be more beneficial for the genetic diversity of a plant species?