

Nova's Botanical Investigation

Learning objective: To identify and describe the functions of different parts of flowering plants and understand the life cycle of plants.

Read each question carefully and use your knowledge of plant biology to provide clear, scientific explanations. Think about how plants grow, reproduce, and stay healthy.

Nova the owl has been observing the meadow garden. She wants to understand how the plants around her grow from seeds into tall, flowering specimens. Use your scientific knowledge to help Nova answer her questions about the life cycle of plants.

Word bank: pollination · germination · stamen · carpel · photosynthesis · nutrient · sepal · dispersal

1. Nova notices a bee landing on a flower. Explain the process of pollination and why it is essential for the plant's life cycle. (2 marks)

2. Name the three main requirements a seed needs to begin the process of germination. (3 marks)

3. The stem of a plant acts as a transport system. What two substances does the stem carry between the roots and the leaves? (2 marks)

4. Explain how wind dispersal and animal dispersal differ when a plant is spreading its seeds to new locations. (2 marks)

5. If a plant is kept in a dark cupboard for two weeks, predict what will happen to the plant and explain why, using the term 'photosynthesis'. (3 marks)

Draw: Draw and label a cross-section of a flower, including the stamen, carpel, petals, and sepal. Add arrows to show where pollen might travel.



Extension challenge: Research a specific plant that uses 'explosion' as a method of seed dispersal. Write a short paragraph explaining how the seed pod works and why this is a clever survival strategy.