Springtime Science with Bea the Bee

Learning objective: To identify and describe the functions of parts of flowering plants, understand the life cycle of plants, and explain the importance of pollination during the spring season.

Read each question carefully and use your knowledge of plant biology and the spring season to provide detailed, scientific answers.

Word bank: pollination · germination · photosynthesis · stamen · carpel · nectar · sepal · life cycle

1. Bea the Bee visits a flower to collect nectar. Explain the process of pollination and why it is essential for the plant's life cycle. (3 marks)

2. Compare and contrast the roles of the stamen and the carpel in a flowering plant. Why are both required for reproduction? (3 marks)

3. Spring provides warmer temperatures and longer daylight hours. Justify why these environmental changes are crucial for the germination of seeds. (2 marks)

4. What might happen to the local ecosystem if all the spring-flowering plants were removed from a meadow? (3 marks)

5. A gardener buys a packet of seeds for £2.45 and a bag of soil for £4.75. If they pay with a £10 note, calculate the change and explain how the gardener should care for the seeds to ensure they successfully germinate. (3 marks)

Draw: Draw a scientific diagram of a flowering plant. Label the roots, stem, leaves, petals, stamen, and carpel. Add an arrow showing where a bee might land to collect nectar.

Extension challenge: Design an experiment to test which location in your classroom provides the best conditions for a seed to germinate. Write a hypothesis, list your variables, and explain how you will ensure your results are fair and reliable.