

Springtime Science: The Life Cycle Investigation

Learning objective: To identify and describe the life cycle of common flowering plants and understand the environmental factors that trigger growth in spring.

Bea the honeybee is busy documenting the rapid changes in the meadow as spring arrives. Use the words from the bank to complete the sequencing of a plant's life cycle. Then, answer the deeper investigation questions to explain how changing conditions affect these living things.

Word bank: germination · photosynthesis · pollination · seed dispersal · temperature · dormancy

1. 1. Sequence the life cycle: First, the seed wakes from its winter _____. Then, the seed begins _____ as the roots push down. Once the plant grows leaves, it uses sunlight for _____. Finally, after the flower blooms, _____ by insects allows new seeds to form. (4 marks)

2. 2. Explain why many plants start to grow rapidly only when the air and soil temperature increases in spring. (2 marks)

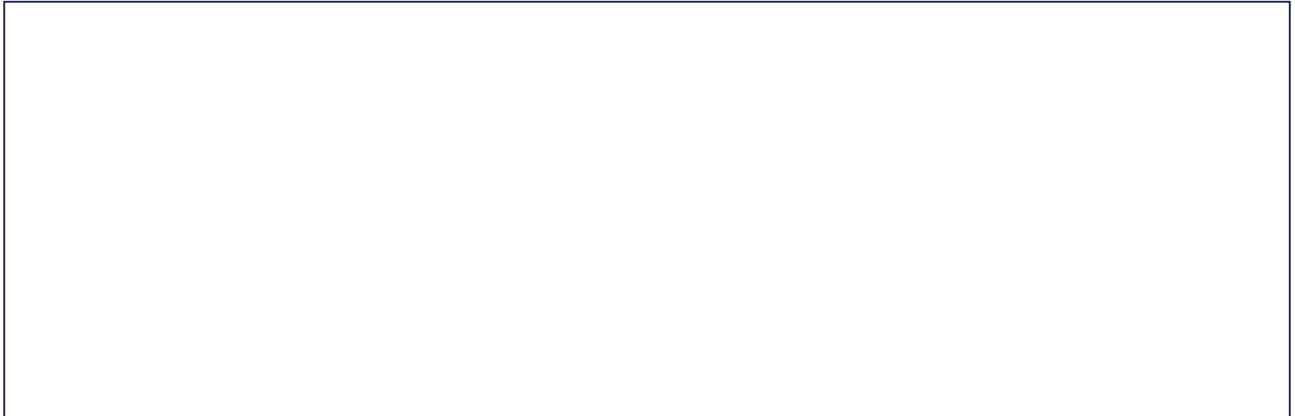
3. 3. Compare and contrast how a plant might grow in a dark cupboard versus a sunny garden. Justify your answer using scientific reasoning. (3 marks)

4. 4. What might happen if the spring season arrived two months earlier than usual? Predict the impact on local pollinators like Bea. (2 marks)

5. 5. Justify your answer: Is a seed 'alive' while it is in its winter state? Give a reason for your choice. (2 marks)

6. 6. If a packet of sunflower seeds costs £1.50 and you want to plant three rows of five seeds, how much would it cost if each seed must be purchased individually at 10p each? Show your working. (2 marks)

Draw: Draw and label a diagram showing a plant at three different stages of its spring development: the initial sprout, the flowering stage, and the seed dispersal stage.



Extension challenge: Design a 'Spring Survival Guide' for a garden plant. Write a short paragraph explaining how your plant adapts to the changing weather and what it needs to thrive as the days grow longer.