

Springtime Science Assessment

Learning objective: To demonstrate understanding of life cycles, seasonal changes, and the environmental factors affecting plant and animal life in Spring.

Read each question carefully. Use your scientific knowledge to provide detailed explanations. Ensure your spelling and grammar are accurate.

As the Earth tilts towards the sun, the UK experiences longer daylight hours and rising temperatures. Be the honeybee notices the first blossoms appearing on fruit trees, signalling the start of the spring season. Across the meadows and woodlands, life begins to stir as animals emerge from winter dormancy and seeds begin to sprout.

Word bank: germination · photosynthesis · life cycle · deciduous · migration · pollination · temperature · habitat

1. Explain why many deciduous trees begin to grow new leaves during the spring season. (2 marks) (2 marks)

2. Describe the process of pollination and explain why it is essential for the survival of flowering plants. (3 marks) (3 marks)

3. Compare and contrast the needs of a seed during germination with the needs of an adult plant. (3 marks) (3 marks)

4. Nova the owl observes that some birds return to the UK in spring after spending winter in warmer climates. Justify why this migration is necessary for their survival. (3 marks) (3 marks)

5. Max the monkey is calculating the cost of planting a garden. If he buys 4 packets of sunflower seeds at £1.25 each and a bag of soil for £3.50, how much does he spend in total? Show your working. (3 marks) (3 marks)

6. What might happen to the local ecosystem if the arrival of spring was delayed by several weeks due to an unusually long winter? Provide two specific consequences. (4 marks) (4 marks)

7. Write a scientific summary explaining the relationship between rising temperatures, increased sunlight, and the life cycle of plants. (5 marks) (5 marks)

Draw: Draw and label a diagram showing the life cycle of a flowering plant, including the stages of seed, germination, seedling, and adult plant.



Extension challenge: Imagine you are an ecologist. Design an experiment to test which temperature is most effective for the germination of bean seeds. Include your hypothesis, independent variable, and the equipment you would need. Total: /25