

Springtime Science: Life Cycles and Growth

Learning objective: To identify, describe, and explain the life cycles of plants and animals, and to understand how environmental changes in spring influence biological development.

Read each question carefully. Use your scientific knowledge to provide detailed explanations. For calculations, ensure you include the correct currency symbol (£) where required.

Nova the owl is observing the woodland awakening after winter. As the hours of daylight increase and temperatures rise, flora and fauna undergo rapid changes. Seeds are beginning to germinate, and many animals are entering their most active breeding seasons.

Word bank: germination · photosynthesis · metamorphosis · deciduous · pollination · stamen · carpel · habitat

1. Nova observes a plant germinating in the garden. Explain the process of germination and identify the two primary environmental factors that 'trigger' a seed to begin this transition. (2 marks)

2. Bea the honeybee is busy visiting flowers. Describe the role of the bee in the lifecycle of a flowering plant. Why is this interaction essential for the plant to produce seeds? (2 marks)

3. Max the monkey is helping a farmer plant sunflower seeds. One packet of seeds costs £2.45. If Max buys 4 packets and pays with a £20 note, how much change should he receive? (2 marks)

4. Compare and contrast the life cycles of an amphibian (such as a frog) and a mammal. What are the key differences in how their young develop during the spring months? (3 marks)

5. Justify why many deciduous trees begin to grow new leaves specifically in spring, rather than in winter. Consider the role of sunlight in your answer. (2 marks)

Draw: Draw a labelled diagram showing the life cycle of a flowering plant, starting from a seed and ending with a mature plant that produces its own seeds.



Extension challenge: What might happen to the local food chain if spring temperatures remained consistently cold, delaying the emergence of insects? Write a paragraph explaining the ripple effect this would have on birds and other predators.