Autumn Science: A Seasonal Transformation

Learning objective: To explain the scientific reasons behind seasonal changes in plants and animals during autumn.

Use this writing frame to structure your scientific report. Nova the owl wants to know how you observe the transition from summer to winter. Use your scientific knowledge about daylight hours, temperature, and life cycles to complete each section.

As the Earth tilts on its axis, the shortening days and cooling temperatures signal the start of a dramatic transformation in our natural world.

Word bank: consequently · photosynthesis · chlorophyll · dormancy · migratory · deciduous · environmental factors · furthermore · adaptation

1. The Changing Leaves: Explain why deciduous trees lose their green colour and shed their leaves. Start your paragraph with: 'During autumn, trees undergo a significant change because...' (3 marks)

2. Animal Adaptations: Describe how different animals prepare for the winter months. You might consider hibernation or migration. Start your paragraph with: 'In addition to changes in plants, many animal species adapt by...' (3 marks)

3. The Role of Daylight: How does the reduction in sunlight affect the rate of photosynthesis? Start your paragraph with: 'A crucial factor in this seasonal shift is the reduction of daylight, which means...' (3 marks)

4. Environmental Impact: What is the benefit to the ecosystem of leaves falling and decaying on the forest floor? Start your paragraph with: 'Once the leaves have fallen, they play a vital role in the ecosystem by...' (2 marks)

5. Conclusion: Summarise why autumn is a necessary part of the annual cycle. Start your paragraph with: 'In conclusion, the adaptations seen in autumn are essential for...' (2 marks)

Extension challenge: Research a specific animal, such as a hedgehog or a swallow, and write a short paragraph explaining exactly how its behaviour changes in response to the autumn climate.