

Autumn Science: Nature's Seasonal Cycle

Learning objective: To identify and describe the life cycle of flowering plants and understand how deciduous trees respond to the changing seasons in autumn.

Read each question carefully and use your scientific knowledge of plant life cycles and seasonal changes to write your answers. Use full sentences where appropriate.

Nova the barn owl is observing the forest as the days grow shorter and the temperature drops. The trees are preparing for winter by changing the colour of their leaves and eventually shedding them to conserve energy.

Word bank: deciduous · chlorophyll · dormancy · photosynthesis · nutrient · seed dispersal

1. Explain why many trees in the UK are called 'deciduous' and what happens to their leaves during the autumn months. (2 marks)

2. Chlorophyll is the substance that makes leaves look green. Why do you think leaves change colour to yellow, orange, or brown when the amount of sunlight decreases in autumn? (2 marks)

3. Max the monkey has noticed that many plants drop their seeds in autumn. Describe one way a seed might be dispersed during this season to ensure a new plant can grow next spring. (2 marks)

4. Why is it important for a tree to go into a state of 'dormancy' during the cold winter months instead of trying to grow new leaves? (2 marks)

5. If a farmer sells 15kg of harvested autumn pumpkins at £2.50 per kilogram, what is the total amount of money they make? Show your calculation. (2 marks)

Draw: Draw a scientific diagram of a deciduous tree in autumn. Label the trunk, the changing leaves, and show one method of seed dispersal (such as wind, water, or animal movement) occurring nearby.



Extension challenge: Research why some trees, like holly or pine, stay green all year round. Write a short paragraph explaining the difference between these 'evergreen' trees and the 'deciduous' trees you studied today.