

Autumnal Investigations with Bea the Bee

Learning objective: To understand the seasonal changes in plants and animals during autumn, including deciduous tree adaptations and the life cycles of local wildlife.

Read each question carefully. Use your scientific knowledge about seasonal changes and the natural world to provide detailed, accurate answers.

Bea the bee is preparing for the colder months. As the days grow shorter and the temperature drops, the trees in the forest are undergoing dramatic changes. Leaves are losing their green pigment, revealing hidden colours, and many creatures are making plans to survive the winter ahead.

Word bank: deciduous · chlorophyll · dormancy · hibernate · migration · photosynthesis · nutrient · temperature

1. Explain why deciduous trees shed their leaves during the autumn months. Why is this a helpful adaptation for survival? (2 marks)

2. Chlorophyll is essential for photosynthesis. What happens to the leaves when a tree stops producing chlorophyll, and how does this change their appearance? (2 marks)

3. Compare and contrast how a squirrel and a migratory bird prepare for the arrival of winter. (3 marks)

4. Justify why many insects, like Bea, become less active as the air temperature decreases in late autumn. (2 marks)

5. If a tree were 'evergreen' rather than 'deciduous', how would its seasonal behaviour differ from the oak trees Bea visits in the forest? (2 marks)

Draw: Draw a scientific diagram of a deciduous tree in autumn. Label the root system, the trunk, and show leaves falling to the ground. Add a small creature preparing for winter near the base of the tree.



Extension challenge: Imagine you are a scientist observing the forest for a full year. Write a short paragraph explaining what might happen to the local ecosystem if the autumn season were to last for six months instead of three. Consider the impact on food chains and animal behaviour.