Nova’s Autumnal Observations

Learning objective: To understand the biological and environmental changes that occur during the fall season.

Read the passage below carefully and answer the questions using evidence from the text.

As the air turns crisp, Nova the owl spends her evenings perched high in the oak tree, watching the woods transform. Fall is a period of significant change for the natural world. During the summer, deciduous trees produce chlorophyll, a pigment that helps them absorb sunlight for photosynthesis. As the days shorten and the temperature drops, the trees produce less chlorophyll. This allows other hidden pigments, like yellow and orange carotenoids, to finally show through, creating the vibrant colors we see in the canopy. Eventually, the trees stop producing energy altogether and enter a state of dormancy to survive the harsh winter months. Meanwhile, animals prepare for the change in season. Some, like the busy squirrels, spend their days gathering nuts to store for the winter. Others, such as certain bird species, prepare for long-distance migration to warmer climates where food remains plentiful. Nova loves this time of year because the falling leaves reveal the stars she enjoys studying, and the forest creatures display fascinating survival behaviors as they adapt to the cooling environment.

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

1. According to the text, what is the primary reason deciduous trees change color in the fall? (2 marks) (2 marks)

2. Name two specific actions that animals take to prepare for the winter season, as mentioned by Nova. (2 marks) (2 marks)

3. Why might Nova find it easier to study the stars during the fall months compared to the summer? (2 marks) (2 marks)

4. What does the word 'dormancy' imply about how a tree functions during the winter? (2 marks) (2 marks)

5. Do you think fall is the most important season for a tree's survival? Justify your answer using the text. (3 marks) (3 marks)

Draw: Draw a scene from the forest showing a deciduous tree losing its leaves, with a squirrel hiding a nut near the roots and Nova the owl observing from a branch above.

Extension challenge: Research one animal that migrates during the fall and write a short paragraph explaining where it goes and why it needs to move.