

Bea's Botanical Wonders: The Secret Life of Plants

Learning objective: To understand the life cycle of flowering plants and the functions of different plant parts.

Read the text carefully and answer the questions below. Use full sentences to explain your reasoning.

Bea the honeybee loves to buzz through the meadow, examining the complex machinery of plants. Every plant has a vital job to do. Roots act like anchors, stabilising the plant while drinking water and minerals from the soil. The stem is the plant's highway, transporting these essential liquids up to the leaves. It is within the leaves that the magic of photosynthesis occurs; using sunlight, the plant creates its own food. Bea knows that flowers are not just for decoration. They are the plant's way of reproducing. By attracting pollinators like Bea, flowers ensure that seeds are formed. Once a seed finds a patch of healthy soil, it begins the process of germination, eventually growing into a brand-new plant. Without these green wonders, our world would be a very different place. From the tallest oak tree to the smallest garden daisy, every plant plays a crucial role in maintaining the balance of our ecosystem. Next time you walk through a garden, look closely at the leaves and stems—you are witnessing a masterclass in natural engineering.

Word bank: photosynthesis · pollination · germination · nutrient · stomata · transpiration

1. According to the text, what are the two main jobs of a plant's roots? (2 marks)

2. What does the plant use to create its own food during photosynthesis? (2 marks)

3. Why does the author describe the stem as a 'highway'? (2 marks)

4. How might the life cycle of a flowering plant be affected if there were no pollinators like Bea in the meadow? (2 marks)

5. The author calls plants 'natural engineering'. Do you agree with this description? Justify your answer using examples from the text. (3 marks)

Draw: Draw a diagram of a flowering plant and label the following parts: roots, stem, leaves, and flower. Draw an arrow showing the direction water travels through the stem.



Extension challenge: Compare and contrast how a plant obtains its energy to how a human obtains its energy. Justify why plants are considered 'producers' in a food chain. What might happen to the Earth's atmosphere if all plants suddenly stopped performing photosynthesis? Explain your scientific reasoning.