

Bea's Botanical Investigation: The Life of a Plant

Learning objective: To identify and describe the functions of different parts of flowering plants, including roots, stem/trunk, leaves, and flowers.

Use this template to record your observations of a plant you have chosen to study. Think like a scientist! Observe the physical features carefully and describe how each part helps the plant to grow, survive, and thrive in its environment. Use the word bank to help you write precise, scientific descriptions.

Word bank: photosynthesis · nutrient · absorb · transport · pollination · support · stomata · xylem · reproduction

1. Root System: Describe the appearance of the roots and explain why they are vital for the plant's survival. (3 marks)

2. The Stem's Journey: Explain how the stem acts as a transport system. What might happen to the plant if the stem were damaged? (3 marks)

3. Leaf Function: Why are leaves essential for a plant to make its own food? Use the term 'photosynthesis' in your explanation. (4 marks)

4. Flower Power: Compare the role of the flower to the role of the roots. How do their purposes differ in the plant's life cycle? (4 marks)

5. Justify: If you were to move your plant into a dark cupboard for two weeks, what changes would you observe? Justify your prediction using your knowledge of plant needs. (5 marks)

6. Higher-Order Thinking: Compare and contrast a large oak tree with a small wildflower. How do they both achieve the same life processes despite their size differences? (5 marks)

Extension challenge: Design an experiment to test which color of light (e.g., using different colored cellophane) affects the growth of a seedling the most. Write a hypothesis predicting the outcome and explain the scientific reasoning behind your choice.