

The Life of a Plant: A Botanical Investigation

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

Use this writing frame to document your scientific findings. Ensure you use precise botanical vocabulary to explain how plants grow, survive, and reproduce. Refer to your observational sketches and class experiments to justify your conclusions.

As Bea the honeybee observes from the meadow, every green stem and colourful petal plays a vital role in the plant's remarkable journey from seed to maturity.

Word bank: germination · photosynthesis · nutrient absorption · pollination · consequently · furthermore · in contrast · vascular system · essential · vibrant

1. Introduction: Define the role of the roots and stem. Start by saying: The primary functions of the roots and stem are... (2 marks)

2. The Process of Photosynthesis: Explain why plants need sunlight to survive. Start by saying: Plants are unique because they can create their own food through... (3 marks)

3. Reproduction and Pollination: Describe how flowers attract pollinators. Start by saying: Many plants rely on insects, such as bees, to assist with reproduction by... (3 marks)

4. Life Cycle Comparison: Compare the stages of germination to the stage of seed dispersal. Justify why seed dispersal is a crucial survival strategy. (4 marks)

5. Scientific Prediction: What might happen to the growth of a plant if it were placed in a dark room without access to light? Explain your reasoning. (3 marks)

6. Conclusion: Summarise why plants are essential for life on Earth. Start by saying: In conclusion, plants are fundamental to the ecosystem because... (2 marks)

Extension challenge: Design an experiment to test which type of soil—sandy, clay, or peat—is most effective for the germination of a bean seed. Write a hypothesis predicting the outcome and explain how you will ensure your test is fair.