

TOPIC	NATIONAL CURRICULUM	KEY VOCABULARY	POSSIBLE TRIP
PLANTS	- Observe and describe how seeds and bulbs grow into mature plants. - Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	TIER 2 (Academic): Observe, measure, condition, requirement, compare, germinate, record, diagram, predict. TIER 3 (Topic Specific): Seeds, bulbs, temperature, roots, stem, leaf, flower, germinate, grain, life cycle, life process, food store, light, warmth, water.	Planting a class fruit/vegetable garden or visiting a local garden centre/nursery.
PRIOR LEARNING	Y1 Identifying wild and garden plants, deciduous/evergreen trees, labelling basic plant parts (roots, stem, leaves, petals).		

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
ENQUIRY QUESTION	How are seeds and bulbs structured inside?	Do big seeds germinate faster than small seeds?	How do seeds and bulbs grow over time?	Do plants need light to germinate and grow?	How does temperature affect plant growth and health?	What combination of conditions keeps plants healthy?
LEARNING OBJECTIVES	To dissect and classify seeds and bulbs.	To investigate germination rates across seed sizes.	To observe and record plant development over time.	To set up a comparative test for light requirements.	To investigate the effect of temperature on plant growth.	To analyse comparative test data and evaluate plant health.
ACTIVITY WORKING SCIENTIFICALLY SKILLS	CLASSIFYING & DISSECTING: Soak and dissect large beans/bulbs. Identify internal food store and embryo using magnifiers.	PATTERN SEEKING: Plant seeds of different sizes (sunflower, cress, pumpkin). Track daily germination.	OBSERVING OVER TIME: Measure shoot/root length of planted bulbs/seeds weekly using rulers. Record in growth diaries.	COMPARATIVE TESTING: Place planted seeds in light vs dark cupboard. Observe stem color and height differences.	COMPARATIVE TESTING: Place cress pots in fridge vs warm windowsill. Record health and growth differences.	EVALUATING & RECORDING: Compare test pots across all variables (light, water, warmth). Summarize requirements.
ASSESSMENT	Identify seed coat, food store, and shoot embryo.	State whether seed size affected germination speed based on data.	Produce accurate labelled growth diagrams.	Describe differences between light and dark grown sprouts.	State that suitable warmth is needed for healthy plant growth.	List water, light, and warmth as essential plant health needs.
END POINT ASSESSMENT	Pupils can describe plant growth from seeds and bulbs, identify internal food stores, and demonstrate that plants require water, light, and suitable warmth to grow and remain healthy.					

HIGHER ORDER QUESTIONS	Why do bulbs have thick layers while seeds have outer shells?	Why does a seed not need sunlight while underground?	Why does the root grow downwards before the shoot grows upwards?	Why are plants grown in darkness long, thin, and yellow?	Why don't garden seeds grow during cold winter months?	What would happen to rainforest plants if moved to a cold climate?
FURTHER OPTIONAL QUESTIONS BIG QUESTIONS FOR DISPLAY	- Why does a seed contain its own lunchbox? - Can a seed grow in total darkness? - Why don't plants grow as well in the freezer as in a greenhouse?					
INCLUSION & ADAPTATION	Large soaked kidney beans for easy physical handling.	Visual seed size sorting chart (Small, Medium, Large).	Pre-measured ruler strips with color markers for height logging.	Light vs Dark picture cards placed beside test pots.	Warm vs Cold thermometer visual icon cards.	Checklist table with symbol icons (Sun, Water droplet, Thermometer).
GREATER DEPTH	Research how bulbs store energy to survive dormant winter seasons.	Graph seed size vs germination time data on a scatter chart.	Compare growth rates between seeds and bulbs over a 4-week period.	Explain photosynthesis at an introductory level (light energy making food).	Evaluate agricultural greenhouse heating systems.	Design an optimal automated plant growth chamber.