

TOPIC	NATIONAL CURRICULUM	KEY VOCABULARY	POSSIBLE TRIP
PLANTS (2)	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	TIER 2 (Academic): Sequence, dissect, classify, evaluate, mechanism, transfer, structure. TIER 3 (Topic Specific): Reproduction, Dispersal, Pollination, Seed formation, Germination, Petal, Stamen, Carpel, Anther, Stigma, Nectar, Food store, Air, Light, Water, Nutrients, Soil.	Kew Gardens (Royal Botanic Gardens): Offers dedicated Key Stage 2 workshops focusing on plant structure, seed dispersal, pollination, and plant requirements for growth inside their glasshouses and outdoor learning spaces. Chelsea Physic Garden: Features hands-on sessions where pupils investigate soil types, dissect flower parts, and explore plant adaptations in London's oldest botanic garden.
PRIOR LEARNING	Y3: Functions of plant parts (roots, stem, leaves, flowers) and growth requirements.		

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
ENQUIRY QUESTION	What are the internal reproductive parts of a flower?	How do insects and wind help plants with pollination?	What happens inside a flower after pollination occurs?	Why do plants disperse their seeds far away from the parent plant?	How do seeds and bulbs germinate into new plants?	What are the stages in the complete life cycle of a flowering plant?
LEARNING OBJECTIVES	To dissect flowers and identify reproductive parts (stamen, anther, stigma, ovary).	To investigate and model insect and wind pollination mechanisms.	To describe seed formation following successful fertilization.	To classify and model different methods of seed dispersal.	To observe seed/bulb germination and identify internal food stores.	To sequence and synthesize the full flowering plant life cycle.
ACTIVITY WORKING SCIENTIFICALLY SKILLS	DISSECTING & OBSERVING: Carefully dissect lily/tulip flowers; mount and label male (stamen/anther) and female (stigma/ovary) organs.	MODELLING & RESEARCHING: Model insect pollination using sticky pipe-cleaners (bee legs) and glitter (pollen) transferred between flower models.	RESEARCHING: Track pollen tube growth down to ovary; illustrate seed and fruit formation process.	CLASSIFYING & MODELLING: Test paper seed models (wind parachute, animal hook velcro, water floater, explosive pod); classify by mechanism.	OBSERVING OVER TIME: Dissect soaked bean seeds to locate embryo and food store; observe germination stages in clear cups.	MODELLING & RECORDING: Construct full interactive plant life cycle wheels (Germination → Growth → Flowering → Pollination → Dispersal).

ASSESSMENT	Identify male (pollen-producing) and female (seed-producing) flower structures.	Explain how pollen moves from anther to stigma via insects or wind.	Explain that fertilization forms seeds inside fruit/pods.	Categorize seed dispersal types: wind, animal, water, explosion.	State that seeds contain internal food stores enabling germination before photosynthesis.	Chronologically sequence all key stages of the plant life cycle.
END POINT ASSESSMENT	Pupils can dissect a flower to identify reproductive organs (stamen, anther, stigma, carpel), detail insect/wind pollination, explain seed formation, classify seed dispersal mechanisms, and sequence the plant life cycle from germination to reproduction.					
HIGHER ORDER QUESTIONS	Why do wind-pollinated flowers have dull green petals while insect-pollinated flowers have bright petals?	What would happen to insect-pollinated crops if bee populations declined dramatically?	Why do fruit trees wrap their seeds in sweet fleshy fruit?	What would happen to young seedlings if all seeds fell directly under the parent plant's shadow?	Why does a germinating seed not need sunlight until its first leaves open?	How does seed dispersal ensure the survival of plant species across changing environments?
FURTHER OPTIONAL QUESTIONS/BIG QUESTIONS FOR DISPLAY	- Why do flowers spend energy growing brightly coloured petals? - Why do dandelion seeds have miniature parachutes? - What is stored inside a seed before it sprouts?					
INCLUSION & ADAPTATION	Large lily dissecting mats with sticky tape mounting strips and bold text label tags.	Hands-on glitter insect transfer simulation with step-by-step visual poster.	Simple 3-step sequence visual: Pollen lands → Seed grows → Fruit forms.	Seed sorting trays with real samples: Sycamore (Wind), Burdock (Hook), Cherry (Animal).	Soaked kidney bean opening activity with magnifier loupes and embryo picture cards.	Circular 5-piece life cycle puzzle with visual arrow cues.
GREATER DEPTH	Compare structural adaptations of pollen grains in wind vs insect pollinated species.	Research cross-pollination vs self-pollination evolutionary advantages.	Investigate how pericarp tissues develop into hard nut shells vs fleshy fruits.	Design and drop flight-tested paper helicopter seeds; measure drop distance vs terminal velocity.	Investigate seed dormancy conditions and temperature activation thresholds.	Present a complete research report on plant reproductive strategies across varied biomes.