TMS Science Launchpad - Year 2023/2024
Year 3 - Biology : Plants

Substantive knowledge:

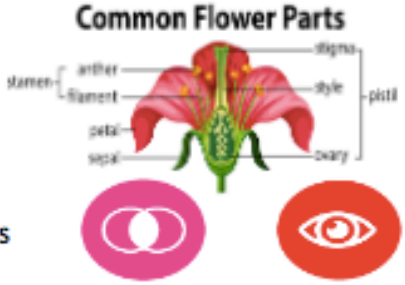
Different plants need different amounts of **air, light, water, nutrients** from the soil and **room to grow**. (orchids don't need soil)

Seed dispersal:

Water (coconuts)
Wind (sycamore)
Animals in droppings (fruit)
Animals on fur (barbed seed i.e. burdock)
Exploding

Every part of a flowering plant has a function:

Flower: has petals to attract insects for reproduction
Leaves: absorb sunlight and carbon dioxide (**photosynthesis** to make their own food - they are **PRODUCERS**)
Stem/trunk: - transports water and supports the leaves
Roots: act as an anchor and draws water from the soil



Pollination: The act of transferring pollen grains from the male anther of a flower to the female stigma. This is producing offspring for the next generation. (4 stages)

- Insects attracted by **bright colours and sweet nectar**
- **Pollen stays** onto the insect
- Insect flies to another plant attracted by the bright colours and sweet nectar and the **pollen rubs off**
- **Fertilisation** happens
- Seeds are produced

Stamen is the male part; **Stigma** is the female part

Vocabulary:

air, light, water, nutrients, soil, support, anchor, reproduction, pollination, dispersal, transportation, flower, energy, growth, seedling, carbon dioxide, oxygen, nectar, photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal, wind dispersal, animal dispersal, water dispersal, stigma, style, ovary, ovale, anther, filament, sepal

Disciplinary knowledge

Identify and classify	Identify and classify	Comparative test	Observation over time	Pattern seeking	Identify and classify
How many different ways can you **group** our seed collection? (observe closely)	How are seeds dispersed? (present results)	Do plants need soil to grow? (plan an enquiry)	**What happens** to **celery** when it is left in a glass of coloured water? (observe closely) (interpret results and draw conclusions)	What colour flowers do pollinating insects prefer? (ask scientific questions) (interpret results and draw conclusions)	What are the different parts of the flower? (observe closely)

Research

What are all the different ways that seeds disperse?
Why do plants have flowers?