

Science Knowledge Organiser

Understanding Plants

Scientific Focus

Biology

WHAT SHOULD I ALREADY KNOW (links to previous learning)

Some examples of plant **life cycles**.
Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
 The processes of **fertilisation** and **germination**.
Reproduction is one of the seven life processes.
 Parts of a **plant**, their features and what their **functions** are.
 Recognise that living things can be grouped in a variety of ways.
 Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.

KEY QUESTIONS? ENQUIRIES

How do plants link to studies of evolution and inheritance?











How do plants link to studies of living things?

How can we describe the process of reproduction in plants?

How can we classify plants based on their characteristics?

Your own question?

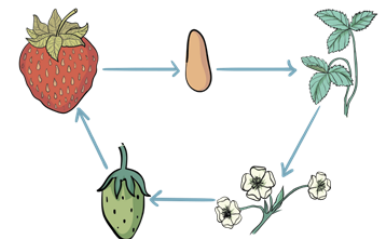
WORKING SCIENTIFICALLY

Science skill		Science skill	
 1	Asking scientific questions	 2	Presenting results
 3	Planning an enquiry	 4	Interpreting results
 5	Observing closely	 6	Drawing conclusions (KS2 only)
 7	Taking measurements	 8	Making predictions (KS2 only)
 9	Gathering and recording results	 10	Evaluating an enquiry (KS2 only)

Dandelion life cycle



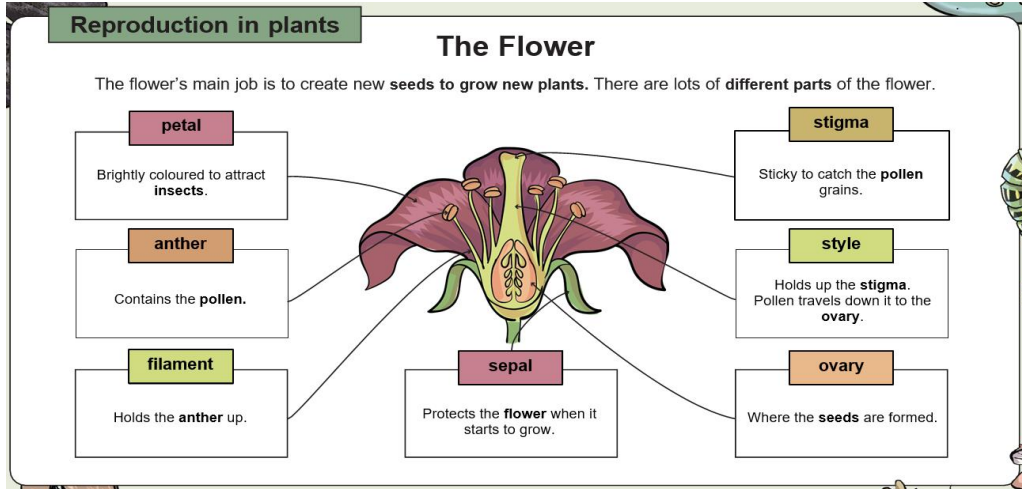
Strawberry life cycle



STICKY KNOWLEDGE

(What we will know by the end of the topic)

- **Reproduction** is when an animal or plant produces one or more individuals similar to itself.



- Pollination is when **pollen** from the anther is **transferred to the stigma**. This can happen **by wind** or **by a pollinator** such as a **bee** or a **butterfly**. Once the pollen is transferred to the stigma, it travels down the style to the **ovary** where the seed grows. Seeds are then dispersed and will grow in **different places**. Seeds can be dispersed by exploding plants, wind, water or animals.
- All plants and animals have a **life cycle** but they are different depending on the type of **animal or plant**.
- Some plants, such as daffodils and potatoes, can also produce **offspring** using **asexual production**.
- Plants may evolve through adaptation to their environment in order to improve its survival.

KEY PEOPLE

Gregor Mendel	His work on pea plants, discovered the fundamental laws of inheritance.
Agnes Arber	A female botanist and plant morphologist
Charles Darwin	His work with plants—particularly orchids—provided credible and enduring evidence in support of his theory of evolution through natural selection.

STICKY VOCABULARY

Anther	The part of the stamen that produces and releases the pollen.
Cell	The smallest of a plant that is able to function independently.
Dispersed	Scattered, separated or spread through a large area.
Dissect	To carefully cut something up in order to examine it scientifically.
Fertilisation	The process of fusion of the female gamete (ovum or egg) with the male gamete (sperm).
Flowering	Trees or plants which produce plants.
Germination	If a seed germinates, or if it is germinated, it starts to grow.
Pollen	A fine powder produced by flowers. It is used to fertilise other flowers.
Pollination	To pollinate a plant or tree means to fertilise it with pollen.
Reproduction	When a plant produces one or more individuals to itself.