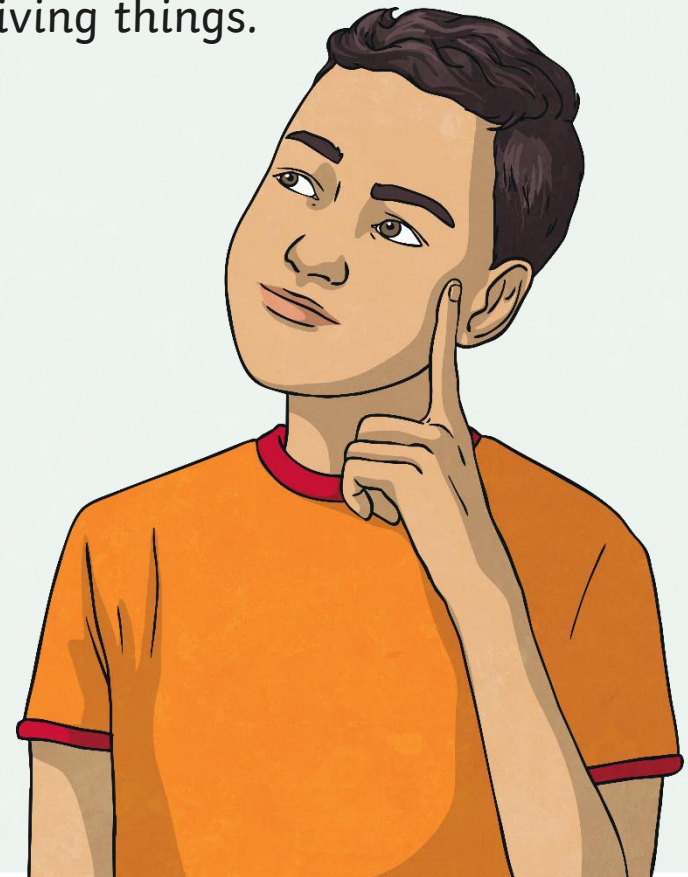


Task 3: What is a Lifecycle?

- What is a life cycle?
- What life cycles do you know about?
- Can you describe the life cycle of an animal or plant?
- Let's compare the different life cycles of living things.



Mammals

LO: To understand the lifecycle of a mammal.

The lifecycle of a mammal involves 3 main stages:

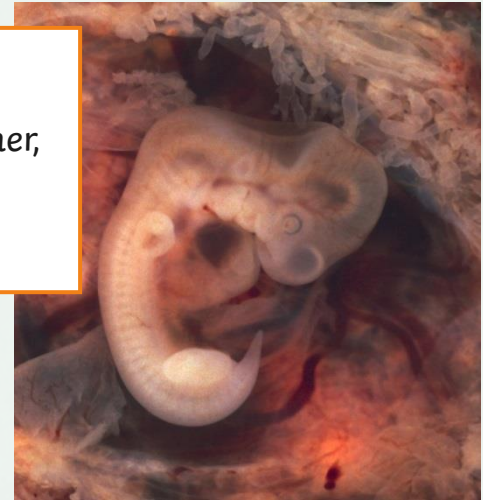


Independent adult usually seeks company from the opposite sex and mates. Adult female nurses their young.

Mammals:

- have hair or fur
- warm-blooded
- feed babies milk
- give live birth

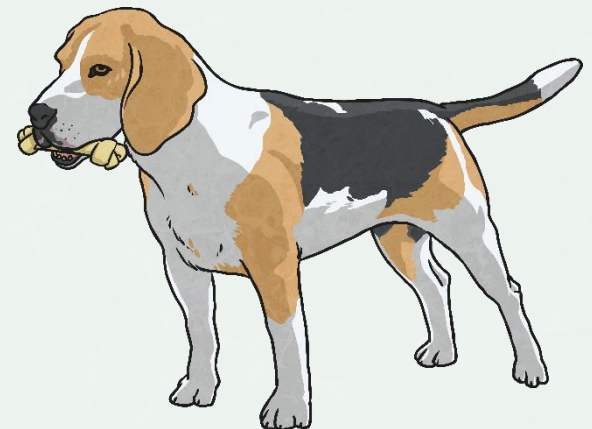
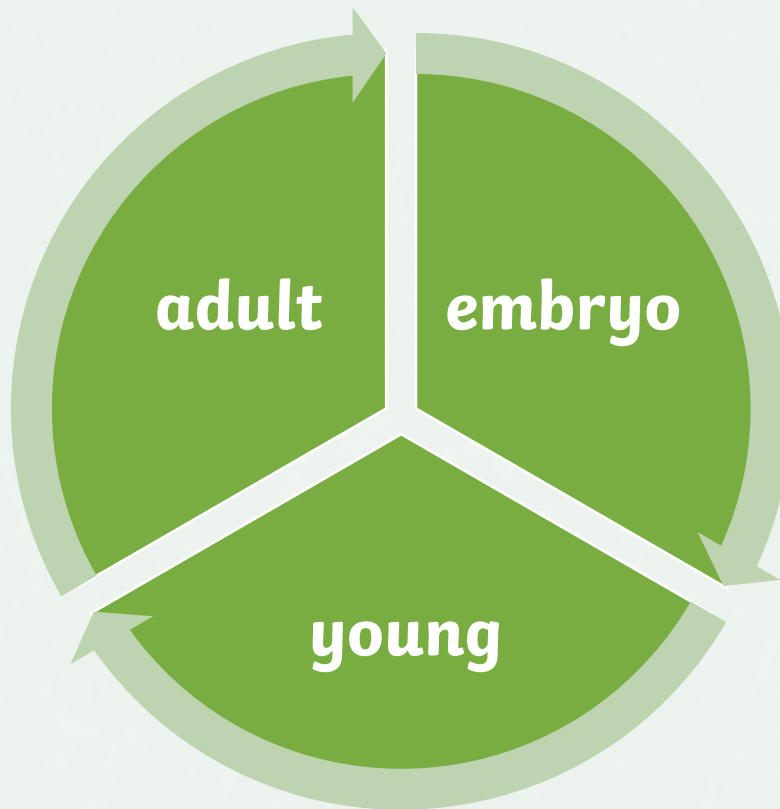
Gestation: Embryo growing inside the mother, where it is completely reliant upon the mother.



Young: Main period of growth and developing independence from the parents.

Mammals

LO: To understand the lifecycle of a mammal.



Amphibian

LO: To understand the lifecycle of an amphibian.

The lifecycle of a frog involves 5 main stages:



The tail disappears and it starts to eat insects instead of plants. It takes 2-4 years to become an **adult frog**, when it can lay eggs.

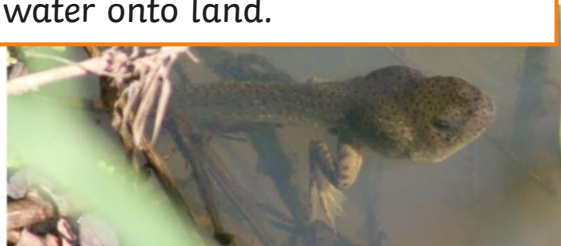
Amphibians:

- live in water and on land
- moist slimy skin
- lays eggs
- babies different from adults

The tadpole grows fins and a stronger tail. Then it develops lungs and hind legs.



The tadpole grows front legs and tail shortens. Uses nutrients in tail as food. It jumps out of water onto land.



The female lays mass of **eggs** which are fertilised by the male.



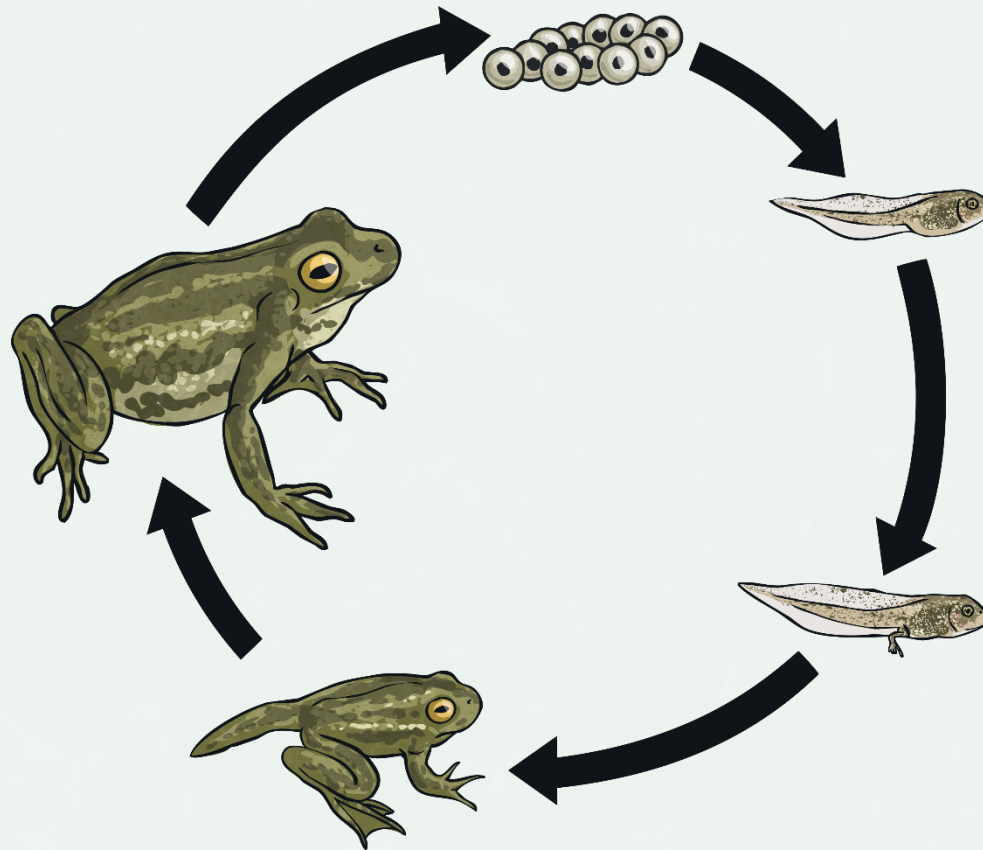
After 2-25 days the **tadpole** hatches from the egg. It swims and eats plants. It breathes through gills.



Amphibian

LO: To understand the lifecycle of an amphibian.

The lifecycle of a frog involves 5 main stages. Can you name these stages:



Reptiles

LO: To understand the life cycle of a reptile.



When fully grown the adult reptile will begin to mate.

The female and male mate, then the female reptiles lays fertilised eggs. An embryo starts to grow within the egg. Most reptiles bury their eggs and leave them to hatch alone.



The hatchling begins to grow and becomes a juvenile. The juvenile looks just like the adult reptile. The juvenile grows slowly over a long period before reaching adulthood.

Interesting Fact

Although most reptiles lay eggs, a few species give birth to living offspring.



Reptiles:

- most hatch from eggs.
- are cold blooded.
- have dry, scaly skin

Interesting Fact

Due to the Mother burying her eggs and leaving them to hatch, the hatchlings have to fend for themselves from the moment they leave their egg.

When the embryo is fully formed, it is called a hatchling. It uses an egg tooth to break out of the egg or 'hatch'.

Insects

LO: To understand the lifecycle of an insect (**complete** metamorphosis).
Most insects undergo complete metamorphosis. This involves 4 main stages:



The **adult** breaks out of the pupa and matures.

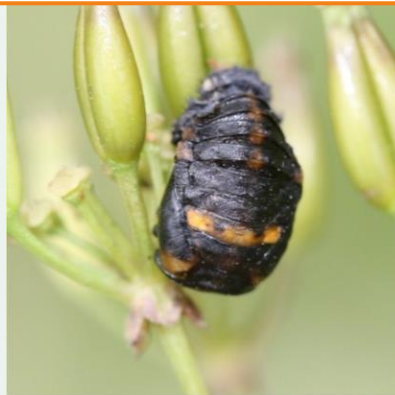
The **pupa** is formed when the larva moults for the last time. Pupa have a hard protective coating and are often camouflaged. The larva transforms completely inside the pupa.



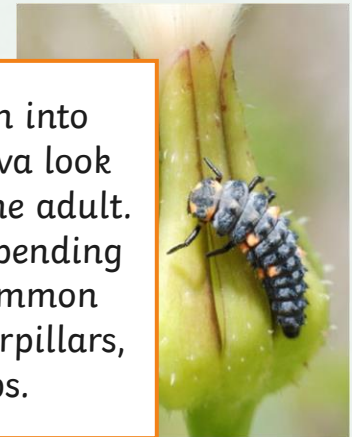
Eggs are laid by the female insect.

Insects:

- hatch from eggs
- some look like parents and shed skin as grow
- some go through metamorphosis young and adult are different.



The eggs hatch into **larva**. The larva look nothing like the adult. This varies depending on species. Common forms are caterpillars, maggots, grubs.



Insects

LO: To understand the lifecycle of an insect (**incomplete** metamorphosis).
The lifecycles of insects that don't complete metamorphosis involve 3 main stages:



The nymph grows into the **adult** form, sometimes shedding skin. In winged insects fully functional wings mark the adult stage. Adult females lay eggs.



Eggs are laid by the female insect.

Eggs hatch into **nymphs**. Appearance varies depending on species. Nymphs look like a smaller adult insect and usually share the same habitat and food as the adult.

Insects

LO: To compare life cycles of insects.

The lifecycle of insects that complete metamorphosis involves **4** main stages:

complete metamorphosis



incomplete metamorphosis



Birds

LO: To understand the lifecycle of a bird.

The lifecycle of a bird involves 3 main stages:



Independent adult usually seeks company from the opposite sex and mates.

Birds:

- have feathers and wings
- warm-blooded
- lays eggs

Eggs are laid by the mother and the mother and father care for the egg until it hatches.



Mother and father feed the young bird until it is old enough to fly and find its own food.



Task 3: Compare the life cycle of a few of the different living things. You might want compare an amphibian to a bird. Or an insect to a reptile. Is there anything similar in all the living things we discussed?

Similarities

Differences

Task 3: Life Cycle Comparison

Example

Compare the life cycles of mammals and birds.

Similarities

- 3 main stages
- First stage is where embryo forms and grows
- Second stage is where young is supported by parents.
- Third stage is adult stage where reproduction takes place.

Differences

- Mammals give birth to live young
- Birds lay eggs
- Mammal usually nursed by mother
- Young birds usually fed by adult male and female.

Task 4: Flowering Plant

LO: To understand the lifecycle of a **flowering** plant.

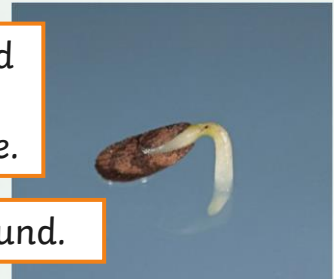
The lifecycle of a bean involves 5 main stages.



Seeds are spread out so they can grow where they are not fighting for space with the parent plant.

Germination: The seed starts to grow when conditions are suitable.

Roots grow, usually underground.



Flowering Plants:

- have flowers
- flowers produce seeds
- seeds in fruit



The pollen in the flowers is used to make seeds.



A stem and leaves form, and the plant makes its own food (photosynthesis).

Non-Flowering Plant

LO: To understand the lifecycle of a **non-flowering** plant.

The lifecycle of a fern involves 5 main stages.



Seeds are spread out so they can grow where they are not fighting for space with the parent plant.

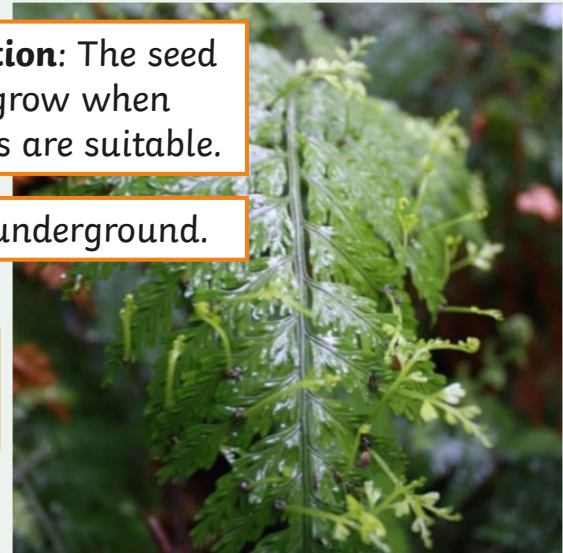
Non-flowering Plants:

- have no flowers
- seeds or spores are produced by pollen being spread (e.g. by wind)

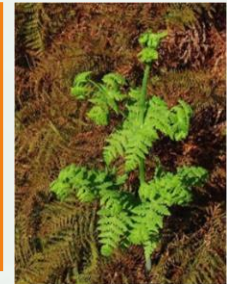
Germination: The seed starts to grow when conditions are suitable.

Roots grow, usually underground.

Seeds are produced (without flowers)

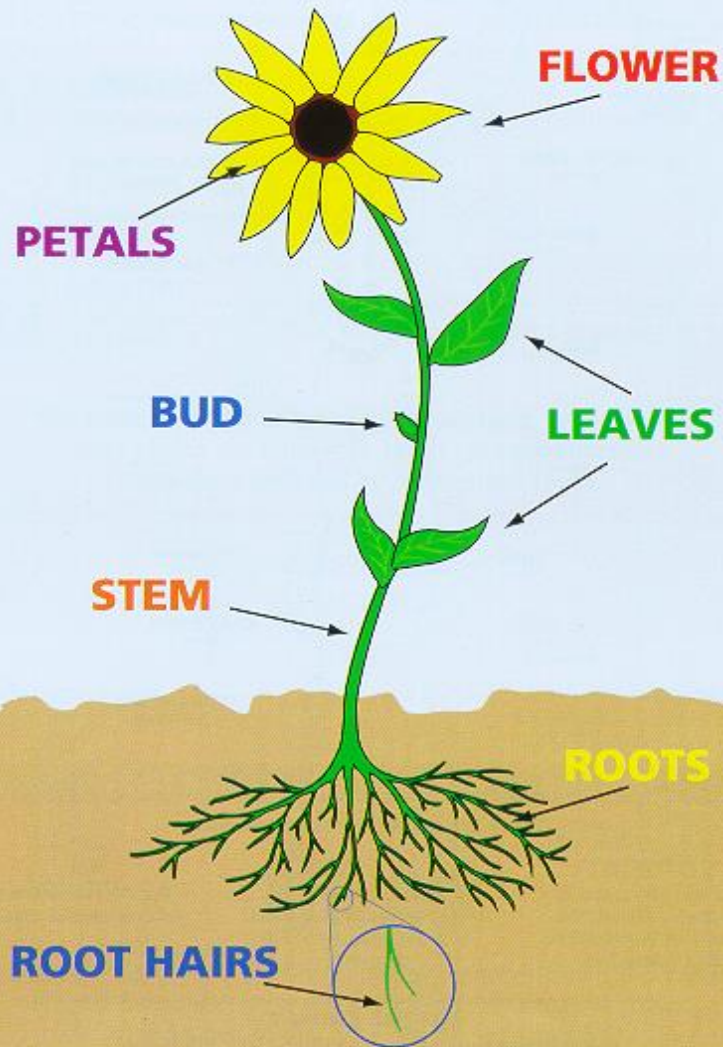


A stem and leaves form, and the plant makes its own food (photosynthesis).









PLANTS

Plants need light, air and water to grow.
They usually grow better in warm conditions.

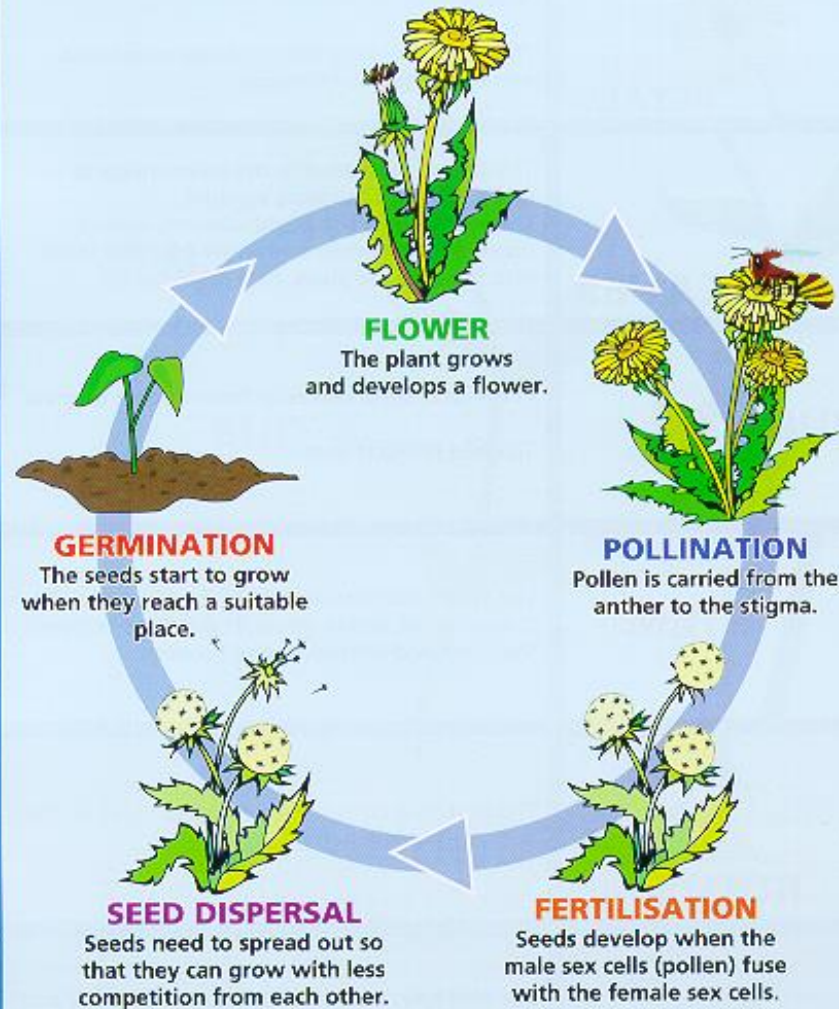


PARTS OF A PLANT

Name of Part	Function
FLOWERS  PETALS	<p>The reproductive organs of a plant are in the flower.</p> <p>Flowers are usually colourful and sometimes smell to help attract insects.</p>
 LEAVES	<p>The green chlorophyll in the leaves helps to make food by absorbing sunlight. The energy of the sunlight converts carbon dioxide from the air, and water from the roots, into food for the plant. (photosynthesis)</p>
BUD 	<p>In the bud, small leaves or flowers start to grow.</p> <p>The bud protects them.</p>
 STEM	<p>The stem's function is to hold the plant upright. It also carries water, minerals and food between the roots and the leaves and flowers.</p>
 ROOTS	<p>The root anchors the plant in the ground, so that it does not blow away.</p>
 ROOT HAIRS	<p>The root hairs help the root to absorb water and minerals from the soil. Water is essential for photosynthesis in the leaves.</p>

LIFE CYCLE OF A PLANT

Reproduction is the process by which a plant produces seeds to make a new plant. This life cycle shows the different stages in plant reproduction.



POLLINATION

POLLINATION occurs when pollen from the anther becomes attached to the stigma.

SELF POLLINATING

Some plants are self pollinating.



This happens on the same plant.

CROSS POLLINATING

Some plants are cross pollinating.



This happens from one plant to another plant.

HOW IS THE POLLEN CARRIED?

BLOWN BY THE WIND



When anthers are held by long filaments outside the flower, the pollen is blown by the wind. The stigma is usually feathery to catch the pollen.

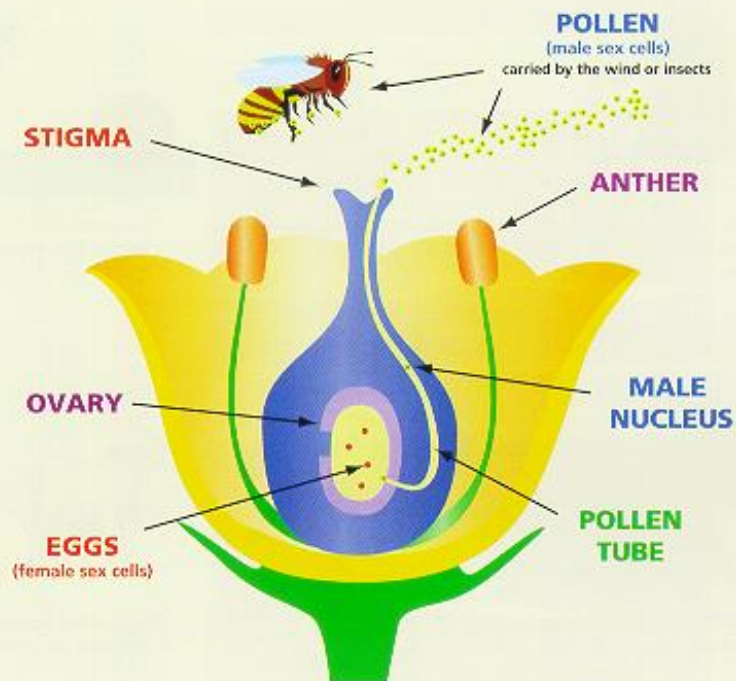
BY INSECTS



Pollen from the anther of a plant sticks to the insect's body and brushes on to the stigma of another plant.

FERTILISATION

Once pollination has occurred, the nucleus of the male sex cell moves down the pollen tube to the female sex cell in the ovary.



FERTILISATION occurs when the **nucleus** of the **male sex cell** fuses with the **nucleus** of the **female sex cell** and becomes a seed.



The ovary swells to form the fruit of the plant.

GERMINATION

Germination occurs when a seed starts to grow into a plant.

Seeds need the right conditions
to germinate properly.

WATER

WARMTH

OXYGEN



The seed absorbs
water from the soil.



The root sprouts from
the seed absorbing
water and minerals.



The root grows down
into the soil and the shoot
grows up towards the sun.



The shoot continues
to grow and
leaves develop.

SEED DISPERSAL

Seeds need to spread out so that they can grow with less competition from each other.
Different seeds are dispersed in different ways.

BY THE WIND OR BY WATER



The wings on sycamore seeds help them fly away.



Dandelion seeds are light enough to be blown away.



Coconuts can float across the ocean.

BY ANIMALS



Squirrels carry acorns away from oak trees.

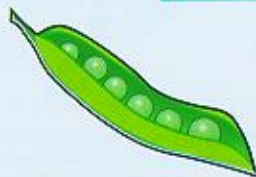


Some seeds are eaten by creatures and come out in droppings.



Some seeds have hooks that catch on animal fur.

BY EXPLOSION



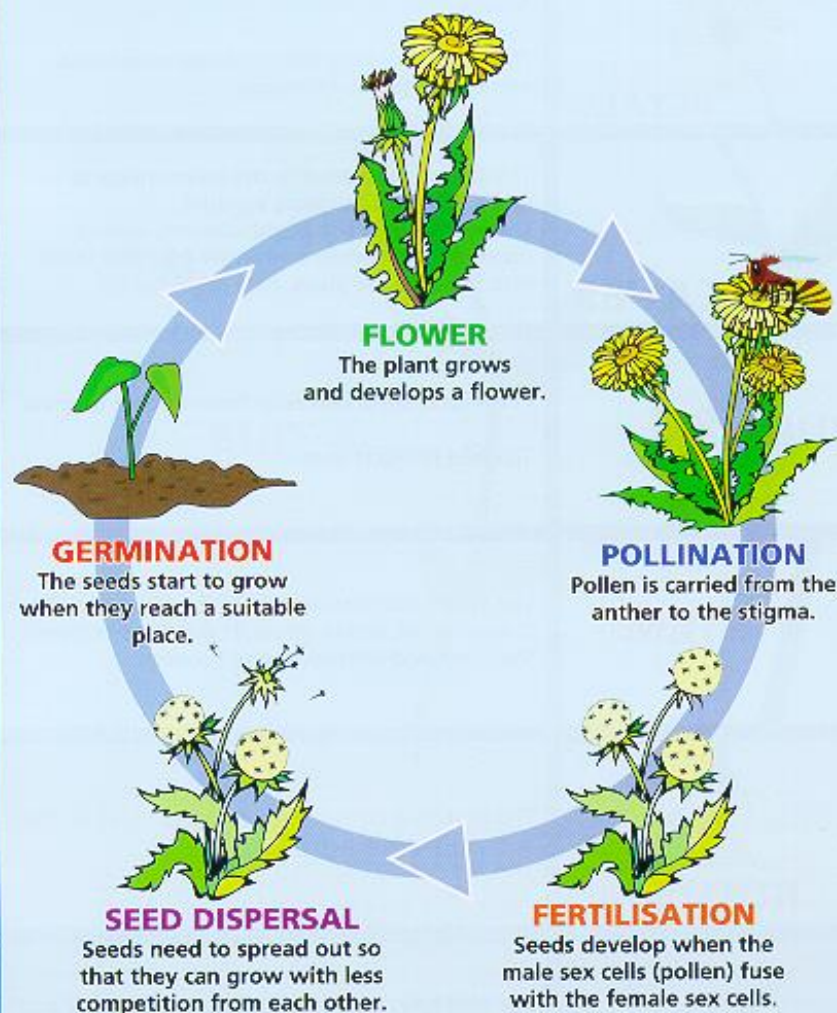
The seeds shoot out when the pods are dry.



Some fruits burst, shooting the seeds in all directions.

LIFE CYCLE OF A PLANT

Reproduction is the process by which a plant produces seeds to make a new plant. This life cycle shows the different stages in plant reproduction.



Task 4: Tell me about the life cycle of a plant

Your task is to use the information from the slides and the video and make up your own presentation on the life cycle of a plant.

You can use PowerPoint, a video, make up a song/rap, write a report, make a cartoon representation, etc.

Task 5

Have a go at the quizzes provided on the plan.

Can you make your own quiz on life cycles now?

Think about what you have learnt and how you can make it exciting and creative.

Challenge those in your family or send it to a friend or teacher, what do they know about life cycles?

Good luck!

