

Year 5, Spring 1: Living Things & their Habitats.

What differences can I discover in the life cycles of both plants and

Key Vocabulary

Albumen	The white part of an egg
Amphibian	A cold-blooded vertebrate that breathes with gills at larva stage and lungs when an adult.
Asexual reproduction	The process where a clone of the parent is made.
Clone	An organism that is genetically identical to its parent.
Embryo	Early developmental stage for an unborn/ unhatched offspring.
Fertilisation	Fusion of a male gamete with a female gamete during sexual reproduction.
Fusion	Combining two or more items to make something new.
Foetus	Unborn or unhatched offspring of a mammal (next stage of development after embryo)
Gametes	Sex cells of a living thing (organism)
Gestation	The time taken for offspring to develop in the womb.
Larvae	Early stage of development for animals that undergo metamorphosis.
Metamorphosis	Changing form (of a living thing) as it matures into an adult.
Marsupial	Animal, whose newborns are only partially formed and then develop within mother's pouch.
Monotreme	Mammals that lay eggs rather than give birth to live young.
Ovules	Part of a plant containing female gamete (that develops into a seed following fertilisation).
Placental	Organ in a mammal that provides a developing embryo and foetus (with nutrients and oxygen).
Pollination	Transfer of pollen (containing male gamete) to stigma to allow fertilization
Pupa	A stage in development of an insect between larvae and adult form.
Sexual reproduction	Production of new living organism through the fusion of a male and female gamete.

Key Knowledge - Plants:

Living things need to reproduce (make more of themselves) so that the species will not die out. There are two types of reproduction: sexual and asexual. Sexual reproduction happens when a male gamete fuses with a female gamete, producing offspring that are similar to the parents but not identical.

In plants the male gametes are contained in the pollen and the female gametes are contained in the ovules. For reproduction to occur, the gametes must come together. When this happens, this is called **pollination**. When the male and female gamete fuse together, this is called **fertilisation**.

Asexual reproduction only needs one parent plant to make new plants.

As there is only one parent plant, there is no fusion of gametes, and no mixing of genetic information. The new plants are identical to the parent plant. They are clones.

Some plants, such as strawberries, reproduce both sexually and asexually. Some non-flowering plants can also reproduce asexually.

Key Knowledge - Animals:

Animals reproduce sexually when a male sperm cell fuses with a female ovum.

The life cycles of different animals can vary significantly.

Some animals undergo metamorphosis as they develop through their lifecycle, meaning that can appear very different as they develop into an adult, e.g. insects.

Even within one class of animals, there may be differences within life cycles, e.g. birds are sexually mature at different ages/ birds' offspring are independent at different ages.

Working Scientifically



Observe and record the role of runners, bulbs and tubers in asexual reproduction.



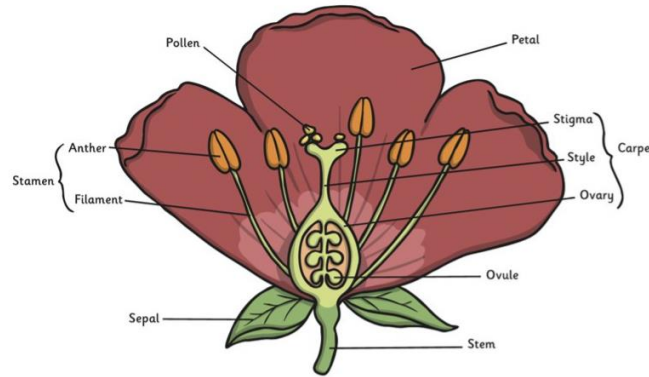
Research how the young of monotremes, marsupials and placentals develop into adults.

Research the difference in lifecycles between mammals, insects, amphibians - and different birds.



How does the weight of a mammal affect its lifespan?

Parts of a flowering plant - sexual reproduction:



Male: stamen
Female: carpel

Examples of asexual reproduction:



Runners



Tubers

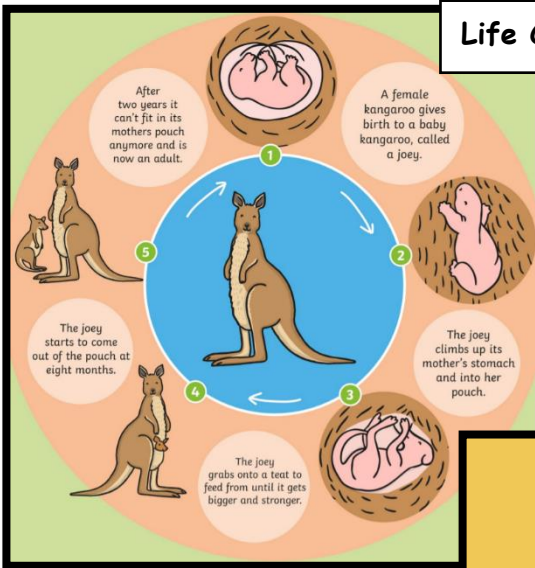


Bulbs

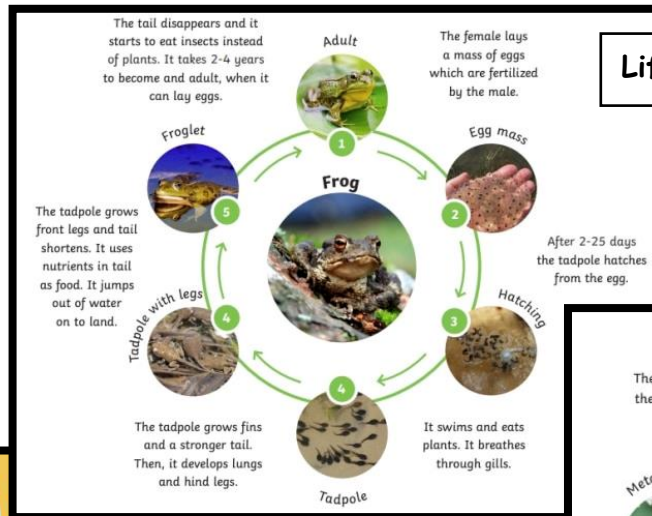
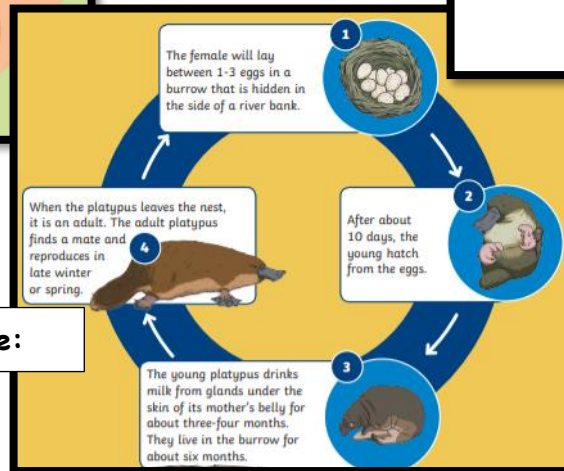
Many flowering plants reproduce both sexually and asexually...



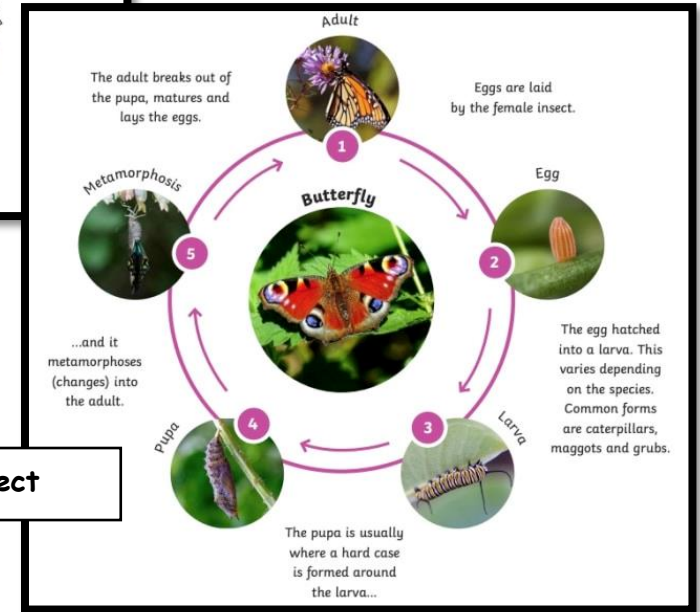
Life Cycle - Marsupial.



Life Cycle - Monotreme:



Life Cycle - Amphibian



Life Cycle - Insect