

Knowledge Organiser: Year 5 Science (Living Things and their Habitats: Life Cycles)

Vocabulary

life cycle	The stages that a living thing goes through from birth until death. Animals need to reach adulthood so that they can reproduce and continue their species.
reproduction	The process of new living things being made.
reproduce	To make a new living thing.
sexual reproduction	Two parents are needed to make offspring, which are similar but not identical to either parent.
fertilisation	The process of fusing the male and female sex cells in order to develop an egg.
egg	An oval or rounded body surrounded by a shell by which some animals (birds, fish, insects, and reptiles) reproduce and from which the young hatches out.
live young	Rather than the female laying an egg, some animals (mammals) give birth to live young.
metamorphosis	An abrupt and obvious change in the structure of an animal's body and their behaviour.
pollination	The transfer of pollen to a stigma to allow fertilisation.
asexual reproduction	Only one parent is needed to create an offspring, which is an exact copy of the parent.
tubers	The thickened part of an underground stem of a plant, such as the potato, with buds from which new plant shoots (stems and young leaves of a new plant) grow.
bulbs	The part of some plants, mostly in the soil, that stores food while the plant is resting from growing (a storage organ).

How do life cycles of animals compare?

Mammal - In most mammals (examples: humans, dogs, bears), a fertilised egg develops in the womb into an embryo and is then born and fed on milk before it is weaned onto the food that is adapted to eat; it then develops to maturity in a period called adolescence after which it can reproduce and the cycle can begin again.

Amphibian - In amphibians (e.g. frogs), a fertilised egg is laid in water where it develops into an embryo and then hatches into larvae (e.g. tadpole); the larvae develops adult characteristics, then metamorphoses into the adult form after which it can reproduce and the cycle can begin again.

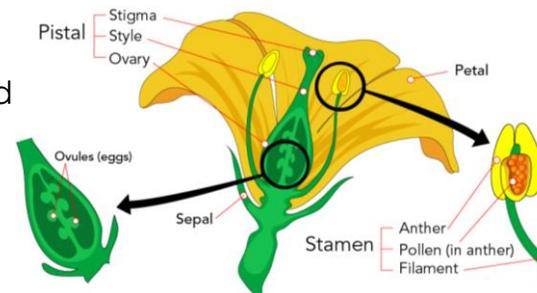
Insect - In many insects (e.g. butterflies), a fertilised egg develops into wingless feeding form called a larva (e.g. caterpillar); the larva feeds then later becomes a pupa (e.g. chrysalis) with a protective cocoon; inside this cocoon, the pupa metamorphoses into the adult butterfly after which it can reproduce and the cycle can begin again. This is called complete metamorphosis.

In other insects (e.g. dragonflies), a fertilised egg hatches into a nymph which looks similar to the adult but they are smaller and don't have wings. Nymphs eventually develop into the adult form, sometimes by shedding their skin.

Bird - In birds, a fertilised egg hatches in a nest and is fed by its parents until it is ready to fly. It then leaves the nest and grows into an adult, after which it can reproduce and the cycle can begin again.

How do plants reproduce sexually?

In most flowering plants, pollen, which contains the male sex cells, is produced by a plant. Pollen is carried by an insect or the wind to another plant (pollination). Pollen lands on the stigma of the flower and travels down the style to the ovary where it fertilises an ovule (female sex cell) and forms a seed. Seeds are scattered and some of these will start to grow new plants.



How do plants reproduce asexually?

Some plants can reproduce themselves by producing bulbs (daffodils/ snowdrops) or tubers (potatoes) that sit under the soil and develop into new plants the next year.

