



Year 5 Science Knowledge Organiser: Life cycles



Key vocabulary

fertilise	The action of fusing the male and female sex cells in order to develop an egg.
seed dispersal	it is the way seeds get from the parent plant to a new place.
stigma	the stigma is the area where pollen is received.
stamen	the stamen is the part of the flower that produces pollen. There are two main parts of the stamen: the filament and anther.
life processes	there are seven life processes that every living thing has in common.
asexual reproduction	offspring obtain all of their information from just one individual (one parent).
pollination	the transference of pollen to a flower, or plant to allow fertilisation. Happens in sexual reproduction
life cycles	the series of changes that an animal or plant goes through from the beginning to the end of its life.
root	the part of a plant which attaches it to the ground. It transfers water and nutrients to the rest of the plant.
germination	the development of a plant from a seed or spore after a period of dormancy

Focus scientists

Sir David Attenborough, a naturalist, who has

dedicated his life to the study of natural history .

He has produced, written and presented

many of the world's most famous

wildlife documentaries, watched by millions of people all

over the world. Not only has he shown us the beauty of our planet, but he has also introduced us to animals and

plants never seen before.



Jane Goodall, a

behaviourist(1934), is

best known for her 60

year research on social interactions of wild

chimpanzees.



Key Knowledge

Reproduction in mammals

Mammals use sexual reproduction to produce their offspring. The male sex cell, called the sperm, fertilises the female sex cells. The fertilised cell divides into different cells and will form a baby with a beating heart. The baby will grow inside the female until the end of the gestation period when the baby is born.

Animals that lay egg

Birds are warm blooded and lay eggs.

Fish are cold-blooded vertebrates. Most lay eggs

Amphibians are cold-blooded vertebrates and can live on land and in water. Amphibians lay eggs.

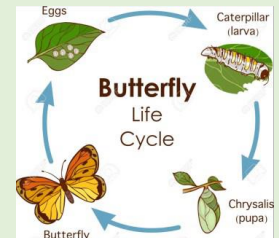
Reptiles use the heat of the sun to keep their blood warm. Most reptiles are oviparous - they produce eggs.

Monotremes are mammals that lay eggs rather than bear live young. Three species of monotremes still exist: the platypus and the short-beaked and long-beaked echidna.

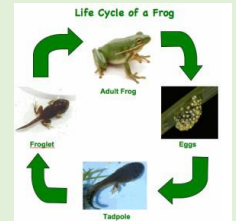
What is metamorphosis?

Some animals go through **metamorphosis** to become an adult.

A Butterfly starts its life as an egg, which hatches into a caterpillar. Eventually, the caterpillar forms a chrysalis . Inside the chrysalis, it undergoes metamorphosis, before emerging as an adult butterfly .



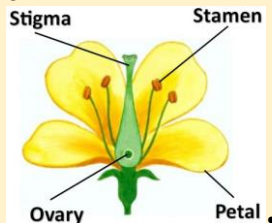
Frogs start off life as a mass of eggs called frogspawn. The eggs then hatch into tadpoles. They then gradually grow a set of back legs, and front legs. They lose their gills, and their tail shrinks.



Plant Reproduction

Sexual reproduction of a plant

- The stamen is the male part of the flower which holds pollen
- The carpel is the female part of the flower which contains eggs.
- Pollen travels from the anthers of one flower to the stigma of another plant. This is called pollination. Plants rely on bees or other insects to carry their pollen while some pollen floats in the wind. After pollination, the pollen grain and the egg join together, fertilisation.
- The fertilised egg will develop into a seed.



Asexual reproduction of a plant

Plant cuttings: Some plants stems can grow roots if they are planted in the correct conditions, such as geraniums. This allows for people to make lots of copies of the same plant.

Runners: Some plants, like strawberry plants, grow runners which have new plants on the end. These plants are an exact copy of the parent plant from which they have grown.

Bulbs: Other plants (onions, daffodils, garlic and tulips) produce bulbs which will grow if they are planted. The bulbs form under the soil. This helps the plant to survive during the winter months

