St Mark's CE School – Knowledge Organiser

Subject: Science	Year: 5	Topic: Living Things and their Habitats

Life Cycles

A life cycle is the different stages of life for a living thing.

Mammals	Amphibians	Insects	Birds
Mammals have a 3-stage life cycle. Stage 1: Gestation Period – the baby grows inside the mother. Stage 2: The young mammal grows and develops independence. Stage 3: Adults reproduce to make babies.	**Many amphibians have a 5-stage cycle.** Stage 1: Females lay eggs which are fertilised by the males. Stage 2: Tadpoles are produced. Stage 3: Fins grow and lungs are developed. Stage 4: Tadpole grows legs and leaves the water (froglet). Stage 5: It takes 2-4 years to become an adult.	**Most insects go through metamorphosis and have a 4-stage cycle.** Stage 1: Eggs laid by female insect. Stage 2: Eggs hatch into larva (caterpillar). Stage 3: The pupa is formed. Inside this the larva transforms. Stage 4: The adult breaks out of the pupa and matures.	**Birds have a 3-stage cycle.** Stage 1: Eggs laid by the mother. The parents care for the egg until a hatchling. Stage 2: Mother and father feed the bird until it grows. Stage 3: Adult mates in order to reproduce.

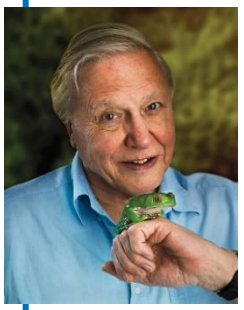
Reproduction in Animals

For most animals which live on the land, offspring are fertilised inside the mother's body. This happens in 1 of 3 ways:

1. The young develop inside the female and are born alive (most mammals).
2. Fertilised eggs are laid outside the female's body and develop in the egg

Scientists

A natural scientist (naturalist) studies plants and animals through observation rather than experiments. Sir David Attenborough is an example of this. An animal behaviourist makes scientific studies of everything animals do from observation to experimentation. Jane Goodall studied chimps for 55 years!

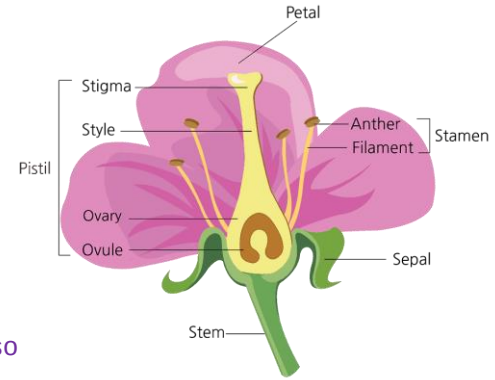


Reproduction in plants

1. Pollen is carried by insects or blown by the wind from one flower to another. This process is called pollination.
2. Pollen reaches the new flower and travels to the ovary where it fertilises egg cells (ovules) to make seeds. This is fertilisation.
3. The seeds are scattered by animals or the wind. This process is called dispersal. Some of the seeds will grow into new plants.

Some plants, such as daffodils and potatoes, can also produce offspring using asexual reproduction.

Parts of a flower



Key Vocabulary	
Asexual reproduction	Offspring get genes from only one parent so they are an exact clone of their parent.
Sexual reproduction	Offspring get genes from two parents so they inherit a mix of features from both parents.
Offspring	Young born of living organisms eg seed/baby
Metamorphosis	A process organisms go through to become an adult. This means the adults and babies look completely different from each other.
Amphibian	A cold-blooded vertebrate that lives on the land and in water eg frog
Mammal	A warm-blooded vertebrate that breaths air. Female mammals have glands that produce milk.
Gestation Period	The amount of time a mammal carries her offspring or babies inside her body before giving birth.