Welton Primary School—Science Knowledge Organiser

Year: 5	Living Things and their Habitats	Biology

What should I already know?

- I know that animals, including humans, have offspring which grow into adults.
- I know the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal.

Vocabulary

egg	Female reproductive cell.
life cycles	Series of changes that an animal or plant passes through from the
reproduce	To produce another living thing of the same kind.
sexual	Process of reproduction that require both male and female of a species.
sperm	Male reproductive cell.
fertilises	When a new individual is produced following a male reproductive cell meeting a female reproductive cell.
live young	An embryo develops inside the body of the parent eventually being born alive.
metamorphosis	Develops and changes into something completely different.
asexual	Identical offspring produced from only one parent.
plantlets	Form between leaves eventually falling off to produce a new plant.
runners	Thin stem that usually grows along the ground producing roots and shoots.
bulbs	A root shaped like an onion that grows into a flower or plant.
cuttings	A piece of the root or stem that is used to create another plant.

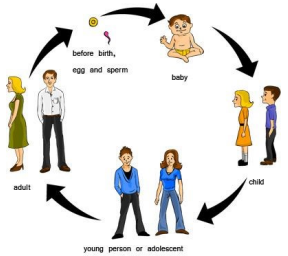
Animal Life Cycles

A life cycle is the series of changes that an animal goes through in its life.

Mammals

Mammals have a 3-stage life cycle:

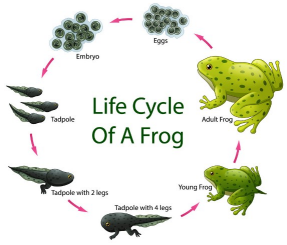
- Stage 1: The gestation period - the embryo grows inside the mother and is dependent on her even after it is born.
- Stage 2: The young mammal grows and develops independence.
- Stage 3: Adult mates in order to reproduce.



Amphibians

Many amphibians have a 5 - stage life cycle:

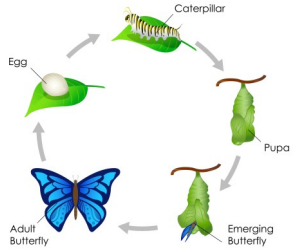
- Stage 1: Females lay eggs, fertilized by the male.
- Stage 2: Tadpoles breathe in water through gills.
- Stage 3: Tadpoles grow fins and develop lungs.
- Stage 4: Tadpoles grow front legs. Jump from water onto land.
- Stage 5: Start to eat insects/plants. Takes 2-4 years to become an adult.



Insects

Most insects undergo metamorphosis and have a 4 - stage life cycle:

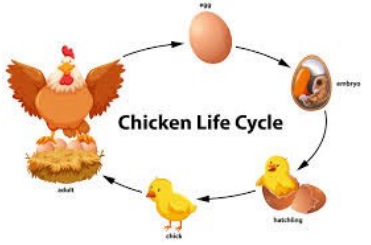
- Stage 1: Eggs laid by female insects.
- Stage 2: Eggs hatch into larva, e.g. caterpillars, maggots, grubs.
- Stage 3: The pupa (hard coating) is formed. Inside this, the larva transforms.
- Stage 4: The adult breaks out of the pupa and matures.



Birds

Birds have a 3 - stage life cycle:

- Stage 1: Eggs laid by the mother. Parents care for the egg until hatching.
- Stage 2: Mother and father feed the bird until it is independent.
- Stage 3: Adult mates in order to reproduce.



Plant Life Cycles

Plants are able to reproduce in two ways - sexual reproduction and asexual reproduction.

Sexual reproduction in plants is cyclical, following this process:

- Germination - The plant begins to grow from a seed. Roots form under the soil and a stem, leaves and flower shoots above the surface.
- Pollination - Pollen produced by the flower is carried by insects or blown by the wind to another flower.
- Fertilisation - The pollen reaches another flower and makes its way to the ovary, where it is fertilised.
- Dispersal - The seeds are scattered by animals or the wind.

Asexual reproduction involves plants producing an identical copy of themselves.

This can happen in a number of different ways. Some plants are able to produce bulbs (e.g. daffodils and snowdrops).

Others, like potatoes produce tubers. Tubers lie below the soil and grow into plants the next year.