St Peter's Primary School

Year 5 Science:

Living things and their habitats

What I should already know:

Reproduction is one of the seven life processes.

Animals including humans have offspring which grow into adults.

Animals can be grouped into vertebrates and invertebrates.

Parts of a plant, their features and what their functions are.

The part that flowers play in the life cycle of flowering plants, including the processes of pollination, seed formation and seed dispersal.

The word metamorphic means 'a change of form' (in the context of rocks).

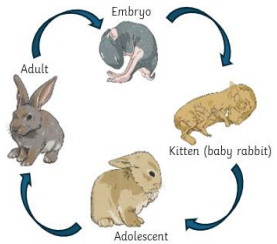
At the end of this topic, I will know:

The differences in the life cycles of a mammal, an amphibian, an insect and a bird and be able to describe and compare these.

The life process of reproduction in some plants and animals and be able to describe these.

Key Facts:

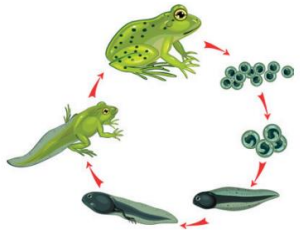
Mammals



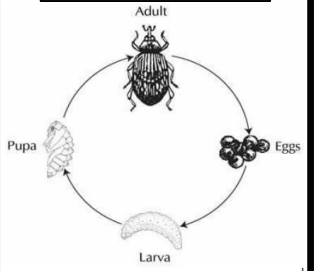
Mammals use sexual reproduction to produce offspring. The life cycle of a mammal has four main stages: foetus, young, adolescent and adult. Most mammals give birth to live young. Most mammals have mammary glands that produce milk to feed their young. When mammals become adults, they can reproduce.

Amphibians

Amphibians are small vertebrates that need water or a moist environment to survive. The life cycle of a frog has four main stages: frogspawn, tadpole, froglet and adult frog. Tadpoles have gills to help them to breathe under water, a tail to help them to swim and a mouth to feed. Tadpoles take around 14 weeks to transform into frogs. An adult frog has no tail and is fully equipped to live both on land and in water.



Insects

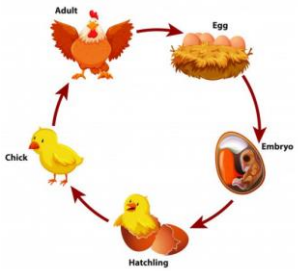


Most insects undergo metamorphosis and have a life cycle of 4 stages:

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

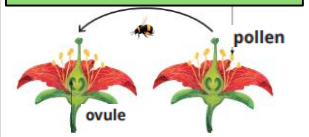
Birds

Birds are vertebrates with wings, feathers and a beak. The life cycle of birds includes five stages: egg, hatchling, nestling, fledgling and adult bird. Birds reproduce by laying eggs. Eggs are incubated by parents until they hatch. A young bird is looked after by its parent until they can live independently. An adult bird can reproduce and will have all its feathers.



Human life cycle

Plants: Sexual reproduction



Some plants reproduce sexually through pollination. Pollination involves the transfer of pollen from the male anther of a flowering plant to the female stigma of a flowering plant. many plants cannot pollinate themselves and rely mainly on pollinators (like bees) or wind to transfer the pollen to other plants. Once the pollen grain has attached to the sticky stigma, it travels down the style into the ovary and joins with an ovule – this is fertilisation. The fertilised ovule will then turn into a seed, which can then be dispersed to grow into a new plant.

Plants: Asexual reproduction

This involves only one parent and results in offspring that are identical to the parent. Certain plants, such as daffodils and onions, can reproduce asexually by producing bulbs. Other plants, such as potatoes, create tubers. Bulbs and tubers stay beneath the soil and eventually develop into a new plant in the soil. Strawberries produce new plants at the ends of runners.

Vocabulary

life cycle	A series of stages a living thing goes through during its life.
offspring	The young of a living thing.
reproduction	The process of new living things being made.
sexual reproduction	Two parents are needed to produce offspring which are similar but not identical to either parent.
asexual reproduction	Only one parent is needed to create an offspring, which is an exact copy of the parent.
sperm cells	The male sex cells which are produced in the testes.
egg cells	The female sex cells that develop in the ovaries.
fertilisation	In animals – when the male sperm cell joins with the female egg cell to create a new life. In plants – when the male pollen reaches the female ovule.
metamorphosis	The process by which the young form of an insect or amphibian changes into a distinct adult form.
clone	A plant or animal that was produced asexually and is identical to its parent.
runners	A stem that grows horizontally along the ground and produces new clone plants.
tuber	A thick stem that grows underground that produces new clone plants.
bulbs	Some plants begin life as a bulb. It has layers which store food and produces new clone plants.
cuttings	A section of a plant that has been cut off a parent plant.