Knowledge Organiser: **Science – Living Things and their habitats** **YEAR 5:** Autumn 2

**Scientific knowledge:**

Most animals reproduce sexually. This involves two parents where the sperm from the male fertilises the female egg.

Animals including humans have offspring which grow into adults. In humans and some animals these offspring will be born live, such as babies or kittens, and then grow into adults. In other animals, such as chickens or snakes, there may be eggs laid that hatch to young which then grow to adults.

Some young undergo a further change before becoming adults e.g. caterpillars to butterflies. This is called a metamorphosis.

As part of their life cycle plants and animals reproduce.

**Scientific vocabulary:**

**Challenge**

**Metamorphosis** – The process of transformation from an immature form to an adult form in two or more distinct stages

**Sexual reproduction** – Offspring get genes from both mum and dad, inheriting a mix of features from both

**Asexual reproduction** – Offspring get genes from one parent so are clones of their parents

**Embryo** - An embryo is an early stage of development of an organism

**Subject Specific**

**Mammal** – A warm-blooded vertebrate animal, distinguishable by the possession of hair or fur, females secreting milk for young and typically giving birth to live young

**Amphibian** – A cold-blooded vertebrate animal that compromises frogs, toads, newts, salamanders and caecilians

**Vertebrate** – An animal with possession of a backbone/ spinal column.

**Life cycle** – The series of changes in the life of an organism including reproduction

**Habitat** – The natural home or environment of an animal, plant or other organism

**Organism -** A living thing that has (or can develop) the ability to act or function independently.

**Fertilise -** To grow and develop a new individual by introducing male and female reproductive materials.

**Pollination -** Pollination is the transfer of pollen from a male part of a plant to a female part of a plant, enabling later fertilisation and the production of seeds, most often by an animal or by wind.

**Plantlets -** Plantlets are young or small plants.

**Reproduce** - produce offspring

**Gills** – Breathing organ for a fish and some amphibians.

**Larval** – The active immature form of an insect.

**Pupae** – An insect in its inactive immature form between larval and adult,

**Sperm** - A sperm is a cell which is produced in the sex organs of a male animal

**Stamen** – Male part of the plant including anther and filament

**Carpel** – Female part of a plant including stigma, style and ovary

**Basic**

Live young, bulbs, bird, sperm, egg insect, male, female, external, hatch, offspring, cycle,

**Key objectives:**

* describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
* describe the life process of reproduction in some plants and animals.



**Useful Websites:**

<https://www.natgeokids.com/uk/>

<https://www.bbc.com/bitesize/topics/zx882hv>

<http://interactivesites.weebly.com/habitats.html>

<http://www.scienceforkidsclub.com/plant-lifecycle.html>

**Homework challenges:**

*I can present my understanding of the life cycle of a range of animals in different ways e.g. drama, pictorially, chronological reports, creating a game.*

*I can compare two or more animal life cycles studied creating a fact file of the information I find.*

**Scientific knowledge:**

Plants reproduce both sexually and asexually. Bulbs, tubers, runners and plantlets are examples of asexual plant reproduction which involves only one parent. Gardeners may force plants to reproduce asexually by taking cuttings. Sexual reproduction occurs through pollination, usually involving wind or insects.

*Note: at this stage, children are only required to know the names of different parts of a flower (other than stigma and stamen – see vocabulary section). If viewing electronically, those pupils wanting further information can* [*click*](https://www.dkfindout.com/uk/animals-and-nature/plants/parts-flower/) *on the image below.*

**Parts of a flower:**



**Famous people/jobs:**

**Jane Goodall**

* Anthropologist. Studied chimpanzees in 1960.
* Observed and recorded the chimp's actions and behaviours.

**David Attenborough**

* English broadcaster and naturalist.
* Extremely well known for his documentaries for the BBC.
* He cares for the future of our planet and is concerned about protecting the environment.