

# Science Knowledge Organiser – All Living Things and their Habitats - STRAND: Biology

Year: 5

Spring Term 2

## Key Vocabulary

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

**Sexual reproduction:** A cyclical process: germination, pollination, fertilisation and dispersal.

**Asexual reproduction:** involves plants producing an identical copy of themselves, for example, some create bulbs (daffodils) and tubers (potatoes).

**Germination:** Growth from a seed with roots forming under the soil and a stem, leaves and flower shoots above the surface.

**Pollination:** Pollen is produced by the flower and 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 on the wind.

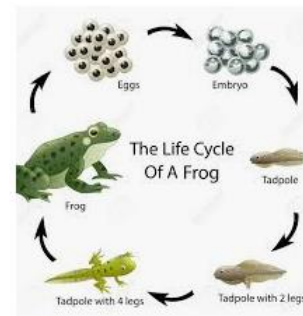
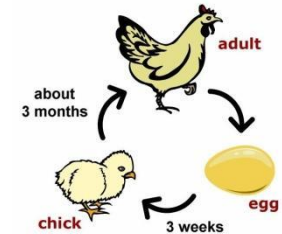
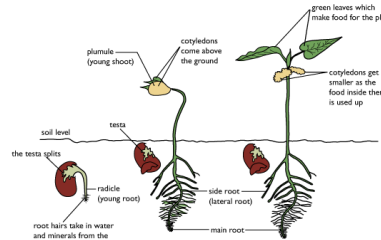
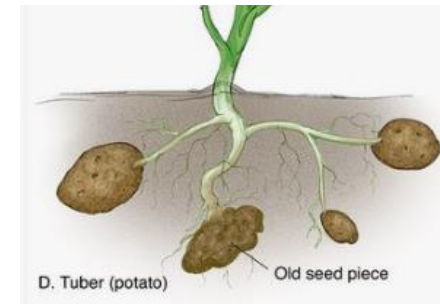
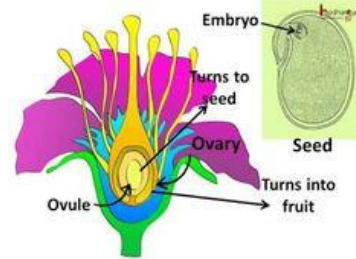
**Life cycle:** The series of changes that an animal goes through in life, including reproduction - mammals, amphibians, insects and birds.

**Gestation:** the period of time that a mammal carries her offspring, or babies, inside her body before giving birth and this varies depending on the mammal.

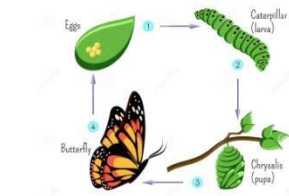
**Embryo:** An animal or a plant in its earliest stage of development.

**Metamorphosis:** A process some animals go through to become adults. It is a series of physical changes, especially common in insects.

## Diagrams / Pictures



## BUTTERFLY LIFE CYCLE



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### Key Facts:

- There are differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- The life process of reproduction in some plants and animal is different.
- Mammals have a three stage life cycle: the gestation period, grows and develops independence and the adults mate to reproduce.
- Many amphibians have a five stage life cycle, e.g. the frog: the female lays eggs fertilised by the male, breathes in water through gills, grows fins and develops lungs, grow front legs and can breathe out of the water, and starts to eat insects and plants.
- Most insects have a four stage life cycle: eggs laid by female insect, eggs hatch into larva, the pupa is formed and the adult breaks out of the pupa and matures.
- Birds have a three stage life cycle: eggs laid by the mother and cared for until hatching, the bird is fed until independent and the adult mates to reproduce.
- Investigations involve changing one variable while keeping others the same.
- A conclusion is written using scientific ideas.
- Repeat experiments help get accurate readings.
- Test results are used to make predictions to set up further comparative and fair tests.
- A comparative test has a research question, possible hypothesis, procedures, and conclusion.

### Important People:

**Sir David Attenborough:** an English broadcaster and naturalist and is extremely well known for his documentaries for the BBC.

**Jane Goodall:** a British scientist who has studied chimpanzees for many years. She is considered to be the world expert on chimpanzees and their behaviour.



### INVESTIGATE!

- Dissect a flower and identify the different parts of it. Label the different parts and explain their functions.
- Compare the life cycles of mammals, amphibians, insects and birds. What is similar about their life cycles? What is the difference?
- Observe life cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment.
- Compare the life cycles of plants and animals in the local environment with other plants and animals (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences.
- Compare how different animals reproduce and grow. · Compare what you already know about David Attenborough, and compare his work to that of Jane Goodall's.