Year 5 – Knowledge Organiser – Living things and their habitats

What I should already know

-There are seven common features of living things – Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion & Nutrition.

-Animals can be grouped into vertebrates (have backbone) and invertebrates (have no backbone). They can be grouped into further categories, e.g. mammals, reptiles, birds, etc.

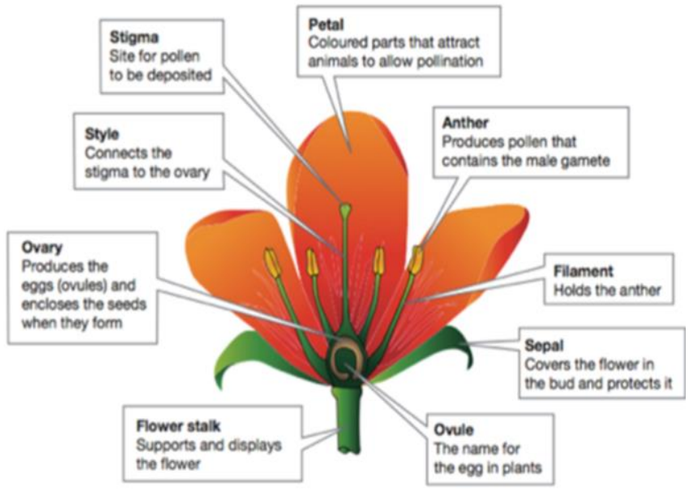
-Plants can also be categorised in many different ways, e.g. flowering and non-flowering plants.

-Animals are often adapted to the habitats they live in. Both natural and man-made events can change habitats over time, placing animals in danger.

Key vocabulary

embryo	mammals	asexual reproduction
gestation	amphibians	sexual reproduction
germination	insects	fertilisation
pollination	dispersal	ovary

The role of flowers



-Flowers play an important role in the reproduction of plants.
-The male part of a flower is called a stamen – it consists of a filament and an anther. The anther contains pollen.
-The female part of a flower is called a carpel. It is made of a stigma, a style and an ovary.
-When the male pollen lands on the female stigma pollination occurs.
-This process means that a seed is produced.
-Insects are drawn to flowers by bright petals. When they feed on the flower's nectar they are dusted with pollen. They then spread this to other places when they leave.

Animal life cycles

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

Mammals	Amphibians	Insects	Birds
-Mammals have a 3-stage life cycle: -Stage 1: The gestation period - the embryo grows inside the mother & is dependent on her. -Stage 2: The young mammal grows and develops independence. -Stage 3: Adult mates in order to reproduce 	-Many amphibians have a 5-stage life cycle: -Stage 1: Female lays eggs, fertilized by the male. -Stage 2:Tadpole breathes in water through gills. -Stage 3: Grows fins and develops lungs. -Stage 4: Tadpole grows front legs. Jumps from water onto land. -Stage 5: Starts to eat insects/plants. Takes 2-4 years to become adult.	-Most insects undergo metamorphosis and have a life cycle of 4 stages: -Stage 1: Eggs laid by female insect. -Stage 2: Eggs hatch into larva, e.g. caterpillars, maggots, grubs. -Stage 4: The pupa (hard coating) is formed. Inside this, the larva transforms. -Stage 5: The adult breaks out of the pupa and matures.	-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:

1.Germination -The plant begins to grow from a seed. Roots form under the soil and a stem, leaves and flower shoots above the surface.

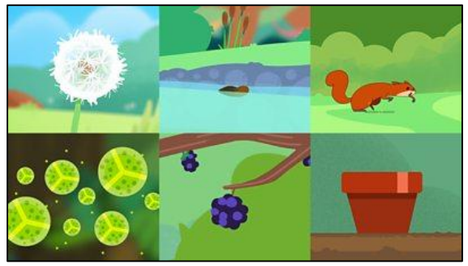
2.Pollination – Pollen produced by the flower is carried by insects or blown by the wind to another flower.

3.Fertilisation – The pollen reaches another flower and makes its way to the ovary, where it is fertilised.

4.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.



Human life cycle

Embryo → Baby → Childhood → Adulthood – can reproduce → Embryo