Harting C of E Primary School – Science

Topic: LIVING THINGS AND THEIR HABITATS | **Year 5** | **Autumn 1**

Important Information

LIFE PROCESSES

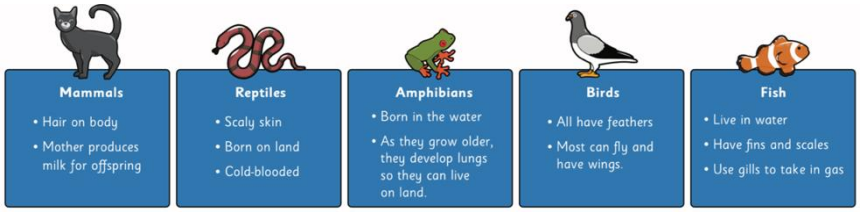
There are **7** things that **ALL** living things do. We call these **LIFE PROCESSES**.

We can remember them with the help of **MRS GREN**!

Movement	All living things move.
Respiration	All living things take in gas and release gas.
Sensitivity	Being able to hear, see, smell, feel and taste.
Growth	To get larger or taller.
Reproduction	Having offspring.
Excretion	Getting rid of waste products.
Nutrition	Consuming food for energy.

THE 5 ANIMAL GROUPS

We can group animals into 5 different categories based on their characteristics.



REPRODUCTION IN ANIMALS

Reproduction is the process in which living things create offspring (babies). Offspring will have DNA from their parents and have similar characteristics.

MAMMALS

When mammals have offspring, they grow inside the mother's womb. The mother provides nutrients and oxygen to the foetus (unborn baby). When a mammal carries a foetus they are pregnant.

In order to create a baby, two mammal parents (a male and a female) are needed. A male sex cell called a sperm, fertilises the female sex cell, called an egg.

BIRDS and REPTILES

Birds and reptiles lay eggs. The shell protects the baby and when they are ready they will break out of the shell.

Baby birds will be looked after by their mothers, whereas adult reptiles do not look after their babies.

AMPHIBIANS and FISH

Fish and most amphibians lay eggs in water.

Eggs laid by amphibians are called spawn. Fish lay hundreds of eggs and when they hatch, they look after themselves.

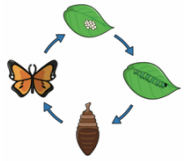
LIFE CYCLES

All plants and animals have a life cycle but they are different depending on the type of animal or plant. Here are some examples:

Dandelion Life Cycle

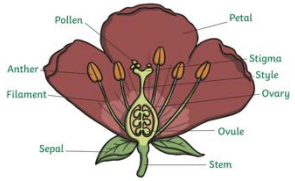
Frog Life Cycle

Butterfly Life Cycle



THE FLOWER

The flower's main job is to create new seeds to grow new plants. There are lots of different parts of the flower.



POLLINATION and SEED DISPERSAL

Pollination is when pollen from the batter is transferred to the stigma. This can happen by wind or by a pollinator such as a bee or a butterfly. Once the pollen is transferred to the stigma, it travels down the style to the ovary where the seed grows.Seeds are then dispersed and will grow in different places. Seeds can be dispersed by exploding plants, wind, water or animals.

TOP TAKEAWAYS

After studying this topic, you should be able to:

*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.

KEY VOCABULARY	
anther	The part of a stamen that produces and releases the pollen.
asexual reproduction	One parent is needed to create an offspring, which is an exact copy of the parent.
bulb	A root shaped like an onion that grows into a flower or plant.
cell	The smallest part of an animal or plant that us able to function independently.
dispersed	Scattered, separated or spread through a large area.
dissect	To carefully cut something up in order to examine it scientifically.
embryo	An unborn animal or human being in the very early stages of development.
fertilisation	The male and female gametes meet to form an embryo or seed.
flower	The part of a plant which is often brightly coloured and grows at the end of a stem.
flowering	Trees or plants which produce flowers.
function	A useful thing that something does.
gamete	The name for the two types of male and female cell that join together to make a new creature.
germination	If a seed germinates or if it is germinated, it starts to grow.
gestation	The length of a pregnancy.
life cycle	The journey of changes that take place throughout the life of a living thing including birth, growing up and reproduction.
mature	When something natures, it is fully developed.
metamorphosis	An abrupt and obvious change in the structure of an animal's body and their behaviour.
ovary	A female organ which produces eggs.
ovule	A small egg.
petal	Thin coloured or white parts which form part of the flower.
plant	A living thing that grows in the earth and has a stem, leaves and roots.
pollen	A fine powder produced by flowers. It fertilises other flowers of the same species so that they produce seeds.
pollination	To pollinate a plant or tree means to fertilise it with pollen. This is often done by insects.
reproduction	The process of new living things being made.
seed	The small, hard part from which a new plant grows.
sexual reproduction	Two parents are needed to make offspring which are similar but not identical to either parent.
stigma	The top of the Centre part of a flower which takes in pollen.
structure	The way in which something is built or made.

Year 5

Progression of skills in Science

Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

Use test results to make predictions to set up further comparative and fair tests.

Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

Identify scientific evidence that has been used to support or refute ideas or arguments.

KEY VOCABULARY	
anther	The part of a stamen that produces and releases the pollen.
asexual reproduction	One parent is needed to create an offspring, which is an exact copy of the parent.
bulb	A root shaped like an onion that grows into a flower or plant.
cell	The smallest part of an animal or plant that us able to function independently.
dispersed	Scattered, separated or spread through a large area.
dissect	To carefully cut something up in order to examine it scientifically.
embryo	An unborn animal or human being in the very early stages of development.
fertilisation	The male and female gametes meet to form an embryo or seed.
flower	The part of a plant which is often brightly coloured and grows at the end of a stem.
flowering	Trees or plants which produce flowers.
function	A useful thing that something does.
gamete	The name for the two types of male and female cell that join together to make a new creature.
germination	If a seed germinates or if it is germinated, it starts to grow.
gestation	The length of a pregnancy.
life cycle	The journey of changes that take place throughout the life of a living thing including birth, growing up and reproduction.
mature	When something natures, it is fully developed.
metamorphosis	An abrupt and obvious change in the structure of an animal's body and their behaviour.
ovary	A female organ which produces eggs.
ovule	A small egg.
petal	Thin coloured or white parts which form part of the flower.
plant	A living thing that grows in the earth and has a stem, leaves and roots.
pollen	A fine powder produced by flowers. It fertilises other flowers of the same species so that they produce seeds.
pollination	To pollinate a plant or tree means to fertilise it with pollen. This is often done by insects.
reproduction	The process of new living things being made.
seed	The small, hard part from which a new plant grows.
sexual reproduction	Two parents are needed to make offspring which are similar but not identical to either parent.
stigma	The top of the Centre part of a flower which takes in pollen.
structure	The way in which something is built or made.

KEY VOCABULARY	
amphibian	An animal that is born in the water but develops lungs and lives on land later in its life.
bird	A type of animal that has wings and is born from a hard-shelled egg.
carnivore	A living thing that just eats meat.
characteristic	A feature or quality.
classification	To categorise or group something.
excretion	To dispose of waste.
environment	All the physical surroundings on earth including everything living and non-living.
fish	A type of animal that lives in water and has scales, bill and fins.
group	Sorting things based on their similarities.
growth	To get bigger.
herbivore	A living thing that just eats plants.
invertebrate	An animal that does not have a backbone.
mammal	A type of warm-blooded animal that has a backbone, fur on its body and usually drinks milk from its mother as a baby.
movement	To change position.
nutrition	The process of taking food into the body and absorbing nutrients.
omnivore	A living thing that eats **both** plants and meat.
reproduce	To create more of the same species.
reptile	A type of animal that is cold-blooded and has scaly skin.
respiration	Taking in gas and breathing out another (breathing in humans).
sensitivity	Using your senses (see, smell, hear, touch and taste).
vertebrate	An animal with a backbone.