Year 3 Science Knowledge Organiser: (Animals Including Humans)

Subject Specific Skills

- I can identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Prior Learning

- I can notice that animals, including humans, have offspring which grow into adults
- I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Key Knowledge:

Living things are defined by seven shared characteristics:

They are able to move. Some organisms, such as mammals, birds and insects, are locomotive, which means they are able to move from place to place. Other organisms, such as plants and fungi, are sessile, which means they are fixed to the ground and only have a narrow range of movement.

They release energy from food through a process called respiration.

They are responsive to stimuli. A stimulus is any change in the internal or external environment, such as light, pressure, sound or temperature. Stimuli are detected using sensory receptors.

They use energy for growth.

They reproduce to create offspring.

They get rid of waste products through excretion. If an organism did not excrete waste products, they would build up in the body and damage its health.

They must consume or produce food for nutrition. Plants make their own food through photosynthesis, and animals eat plants or other animals.

Key Vocabulary

Nutrition: The process of taking in and digesting food for nourishment.

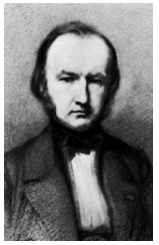
Growth: The increase in size of a living organism.

Sense: Any of the ways by which a living thing detects stimuli.

Reproduction: The process by which a species produces a new organism (offspring).

Respiration: The chemical reaction that takes place in all living cells to release energy from glucose.

Key Individual: Claude Bernard



Key Knowledge:

At a lower primary level it is best to focus on the five main vertebrate groups:

Mammals have hair or fur and are warm-blooded. Mammals give birth to live young that initially feed on milk from the mother. Humans, cats, elephants, whales and seals are all types of mammal.

Birds have feathers and lay eggs. They are warm-blooded and have two wings and two legs. Eagles, ostriches, sparrows, pigeons, penguins and puffins are all types of bird.

Fish live in water, breathe through gills, and have fins. Most fish are cold-blooded and reproduce by laying eggs. Salmon, trout, goldfish and sharks are all types of fish.

Reptiles are cold-blooded and reproduce by laying leathery eggs. They have four limbs and dry scaly skin. Lizards, crocodiles, snakes and turtles are all types of reptile.

Amphibians are cold-blooded and reproduce by laying jelly-like eggs in or close to water. They start life as tadpoles, before changing into air-breathing adults with slimy skin and four limbs. Frogs, toads, newts and salamanders are all types of amphibian.

- Children should be able to name the obvious external features of the human body. They should also be introduced to the some of the major internal organs, such as the brain, heart, lungs and stomach.
- The brain is like a central computer that controls almost everything the body does. When our sense organs detect stimuli, they send messages to the brain via nerves in the spinal cord. The brain doesn't actually control every single thing you do; some things can happen without the brain getting involved. Reflexes, such as the sudden movement when you touch something hot, bypass the brain completely to allow the body to act incredibly quickly.