Coley Primary School – Knowledge Organiser

SUBJECT FOCUS: Biology strand	Science: Living things and their habitat	YEAR 6	TERM 2

WHAT? – Key Knowledge

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- Give reasons for classifying plants and animals based on specific characteristics.
- Know that broad groupings, such as micro-organisms, plants and animals can be subdivided.
- Should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).
- Discuss reasons why living things are placed in one group and not another.
- Find out about significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.
- Use scientific language: say, read and spell scientific vocabulary

Famous Scientist

Carolus Linnaeus



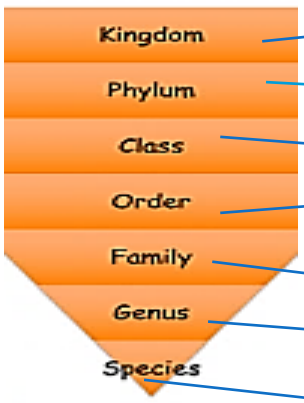
Carolus Linnaeus was a Swedish scientist, who believed it was very important to have a standard system of classification. He is very famous for devising new systems for naming and grouping all living organisms, as well as naming thousands of species. Linnaeus was interested in making scientific knowledge useful for society. Through his work, he identified many new plants and their medical uses.

Grouping Living Things

Animals can be put into one of two groups:
Vertebrates or Invertebrates
The two groups can be split into further, smaller groups.

Vertebrates can be split into:	Mammals	Birds	Fish	Reptiles	Amphibians
	warm blooded, breathe air, give birth to live young and their young feed from their mother's milk	warm blooded, lay eggs, have feathers and wings and usually fly.	gill-bearings, aquatic and mostly cold-blooded.	cold-blooded, lay eggs and have scales or hard parts.	live on land or water, are cold blooded and lay eggs.
Invertebrates can be split into:	insects, arachnids, annelids, molluscs, crustaceans and echinoderms				

The Seven level of Linnaeus's System



Kingdom	The highest classification into which living organisms are grouped.
Phylum	All flowering plants.
Class	All produce 2 seed leaves when they germinate.
Order	All have soft stems and more than 2 stamens in their flower.
Family	The family includes similar flower, such as marigolds.
Genus	All have yellow, cup shaped flower but vary in size and shape.
Species	Approx. 93 species. Many named according to growing habitats or native land.

Top tip:** use the mnemonic for the order:* ***Keeps ponds clean or frogs get sick.

Amazing facts

Microorganisms are very tiny living things. They are so small that they are not visible to the naked eye, so a **microscope** is needed to see them. All **microorganisms** share similarities and differences, and can be classified using the Linnaean taxonomic system.

WHAT? – Key vocabulary

arachnids	Cold blooded animals with 4 pairs of legs and a hard exoskeleton e.g. tarantula.
molluscs	Cold blooded animals with a soft body covered by a hard shell. Move slowly on a flat sole called a foot e.g. snail.
crustaceans	A hard external shell that protects their body. Most have claws e.g. crab
annelids	No limbs and their body is divided into segments e.g. worm.
echinoderms	cold blooded marine creatures with arms or spines. The central body contains their organs and mouth e.g. starfish.
microorganisms	So small that you need a microscope to see them.

Taxonomy, classification, species, genus,

Diagrams and symbols

The **seven life processes** are the seven things that distinguish living things from non- living things.
Top tip: use the acronym Mrs Gren or Mrs Nerg to remember the seven life processes.



I wonder… Can I …

- explain why classification is important?
- readily group animals into reptiles, fish, amphibians, birds and mammals?

Did you know… Living things can be classified into broad groups according to observable characteristics that are similar or different.

Working Scientifically Challenge:

Let's think like scientists…

Can they…

- explain the classification of living things into broad groups based on common observable characteristics? (five kingdoms of all living things, vertebrates, mammals, marsupials)
  sub divide their original groupings and explain their divisions?
- group animals into vertebrates and invertebrates?

Possible experiences: *Curious minds…*

Zoo trip – Discuss the characteristics of animals and plants. How are they classified?