Living things and their habitats Knowledge Planner: Why do we classify?

What should I already know?

- What makes something "alive" (MRS GREN)
- Living things live in different habitats, which are suited to their needs
- Living things can be grouped in different ways
- How to use classification keys to identify living things
- The life cycles of a mammal, an amphibian, an insect and a bird
- The process of reproduction in some animals and plants

Being a Scientist

To work scientifically, we must ensure we carry out fair tests.
We will:

- Identify variables
- Know which variables to control to create a fair test
- Make decisions about what and how to observe, and how to record observations

To work scientifically, we must recognise which sources are reliable for research.
We will:

- Choose sources carefully and separate opinion from facts
- Recognise which secondary sources are most useful to our research and ideas.

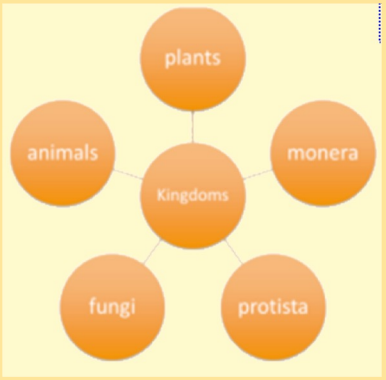
What will I investigate?

- How have living things been classified?
- Why have living things been classified as they have?
- What is the difference between vertebrates and invertebrates?
- What impacts how microorganisms grow?

Key Vocabulary

Amphibians	Any organism that is able to live both on land and in water
Birds	Any of a class of warm-blooded egg-laying vertebrates with the body covered with feathers and the forelimbs modified as wings.
Classify	To arrange or assign to classes
Characteristics	A special quality or appearance that makes an individual or group different from others.
Distinguish	To recognise one thing from others by some mark or quality
Fish	A cold-blooded vertebrate animal with a typically long scaly body, limbs developed as fins, and a vertical tail fin that lives and breathes in water
Flowering and nonflowering	To produce flowers/ to not produce flowers
Habitat	The place or type of place where a plant or animal naturally lives or grows
Insects	Any of a class of arthropods (butterflies, ant) with the body clearly divided into a head, thorax, and abdomen, with three pairs of jointed legs
Invertebrates	Lacking a backbone
Mammals	Any class of warm-blooded vertebrates that include human beings and all other animals that nourish their young with milk produced by mammary glands and have the skin usually more or less covered in hair.
Microorganisms	An organism (as a bacterium) or microscopic or less than microscopic size
Reptiles	Any of a group of cold-blooded air-breathing vertebrates (as snakes, alligators) that usually lay eggs and have skin covered with scales or bing plates.
Snails	Any of numerous small mollusks that usually have a spiral shell
Species	A class of things of the same kind and with the same name
Spiders	Arachnids that have two or more pairs of abdominal organs for spinning threads of silk used in making cocoons for this eggs, nests for themselves , or webs for catching prey.
Taxonomy	The study of scientific classification
Vertebrates	Animals typically having a bony or cartilaginous backbone which replaces the spinal cord and an internal usually bony skeleton
Worms	Long creeping animals that unusually have soft bodies.

The Five Kingdoms



All living things can be **classified** into five kingdoms. The Monera, Protista and Fungi KIngdoms are all made of **microorganisms**.

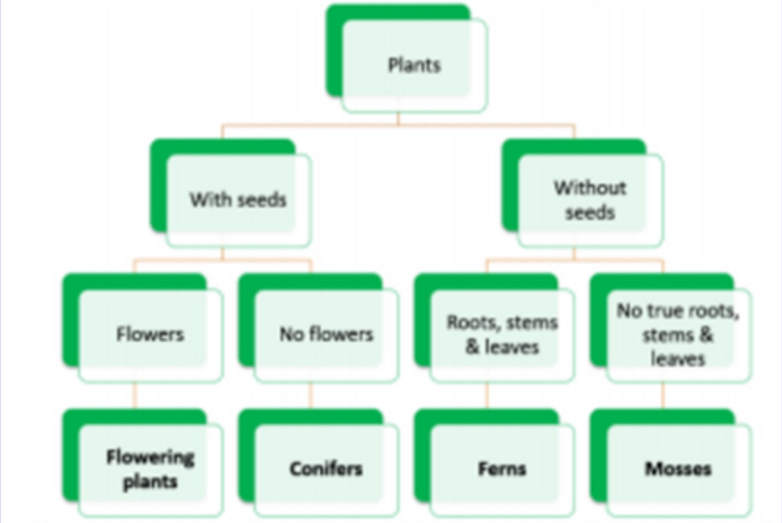
Vertebrates	
Vertebrates	Are animals with a backbone
There are 5 ways Vertebrates can be grouped	• Fish • Amphibians • Reptiles • Birds • Mammals
Invertebrates	
Invertebrates	Invertebrates are animals with no backbones.
There are 3 ways Invertebrates can be grouped	• Insects • Arachnids • Molluscs
How to spot an Insect	• 3 body sections/6 legs
How to spot an Arachnid	• 2 body sections/8 legs
How to spot a Mollusc	• Slimy foot/Often have a shell

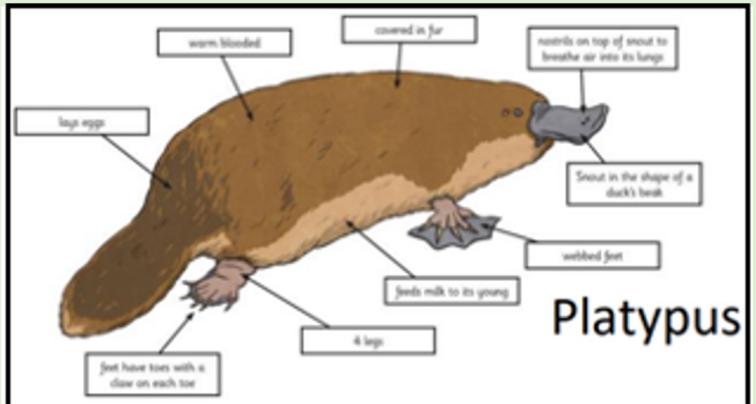
Carl Linnaeus

Linnaeus was a Swedish scientist who designed a system for **classifying** living things, which is still used all over the world today. He first published his system in 1735.

Classifying Plants

There are around 400,000 species of green plants. Every member of the plant kingdom contains the chemical <u>chlorophyll</u> which they use to make their own food and which makes them green.





When a new **species** of animal is discovered, **taxonomists** observe its **characteristics** to decide how to classify it. However, some animals are so unusual that taxonomists struggle to **classify** them.

The platypus was discovered in 1797, and scientists around the world tried to **classify** this unusual animal. It seemed to have the **characteristics** of several different types of animals!