Forest Academy. Upper Key Stage Two.
Science Knowledge Organiser: Living Things and their Habitats

I am learning to:

- 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.

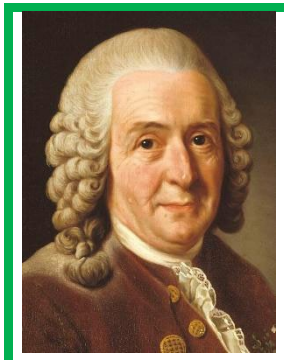
Key Vocabulary:

Word	Definition:
Vertebrates	Vertebrate is an animal with a backbone**.** Fish, amphibians, reptiles, birds, and mammals, including humans, are all vertebrates.
Fish	Fish belong to a class of creatures called aquatic vertebrates. Their combination of gills, fins and the fact that they live only in the water make fish different from all other animals.
Amphibians	Amphibians are a diverse class of vertebrates that are typically four-limbed and cold-blooded. They consist of three main groups: frogs and toads, salamanders and newts, and caecilians.
Reptiles	An air-breathing, cold-blooded, soft-shelled egg-laying vertebrate with an outer covering of scales or plates and a bony skeleton, for example the crocodile, tortoise, snake, or lizard.
Birds	Birds are warm-blooded vertebrates that evolved from dinosaurs. They're identifiable by feathers, toothless beaked jaws and laying of hard-shelled eggs
Mammals	A warm-blooded animal with a backbone that feeds its young with milk produced by the mother and has skin usually more or less covered with hair.
Invertebrates	Invertebrates are animals that don't have a backbone. Some have soft bodies and others, have an exoskeleton.
Insects	Insects are creatures that have bodies with three segments that are protected by a hard shell. They have three pairs of legs and a pair of antennae. Most insects have two pairs of wings, too.
Spiders	Spiders are arthropods that have eight legs. They have more legs and different body parts than insects.
Snails	A small invertebrate with a soft body and a spiral shell.
Worms	An invertebrate with a long, thin, round or flat body. Worms have no legs and move by creeping or crawling.
Flowering	Flowering plants are a type of vascular plant that produces flowers in order to reproduce. Flowering plants produce seeds within a fruit.
Non-flowering	Include conifers, ferns and mosses. Conifers reproduce with seeds in cones. Ferns and mosses reproduce with spores.

Classification:

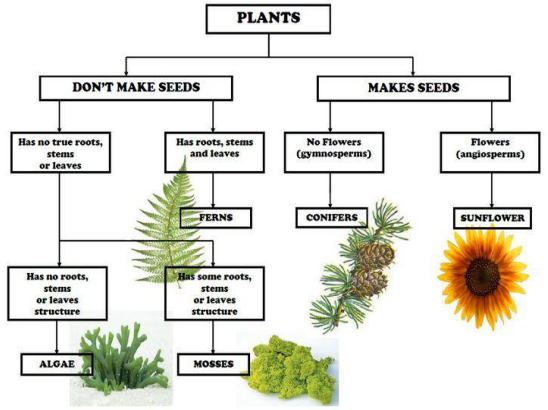
Classification means to group similar species together. There are millions of different species living on our planet – different types of plants, animals, fungi and bacteria. In order to learn more about them, it is necessary for scientists to sort them into groups.

Key Scientist: Carl Linnaeus



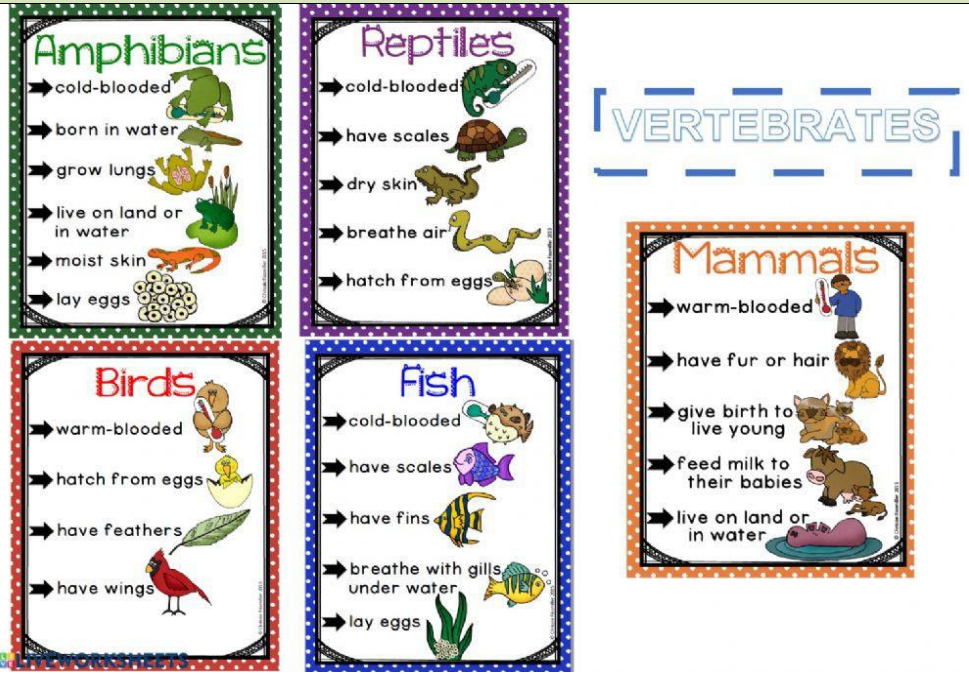
In 1735, Swedish Scientist Carl Linnaeus first published a system for classifying all living things. An adapted version of this system is still used today: The Linnaeus System. Living things can be classified by these eight levels. Each group allows scientists to observe and understand the characteristics of living things more clearly.

Diagram: Dichotomous Key



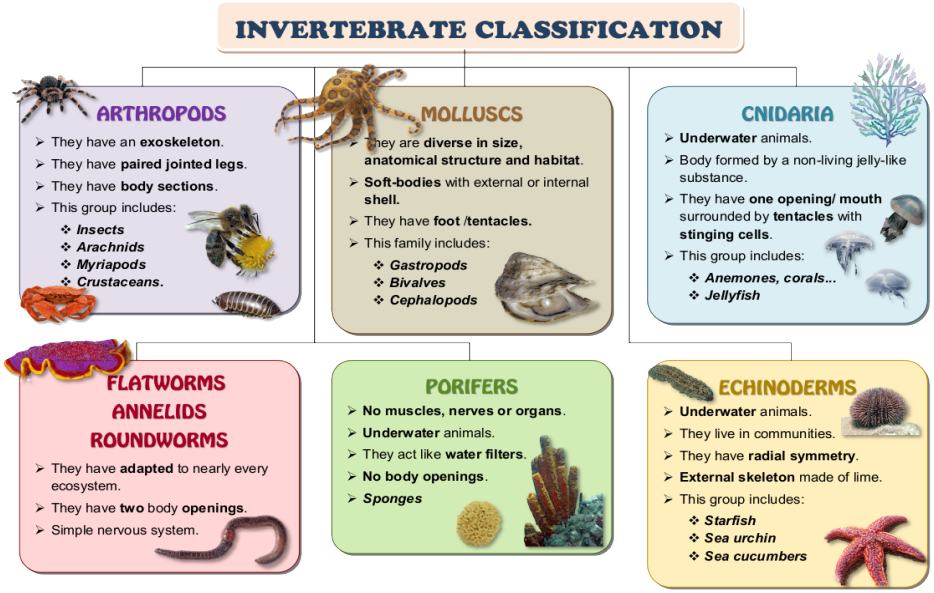
The Dichotomous Key is a tool that scientists use to determine the classification of living things in the natural world - from trees to animals to fungus. It's usually presented in the form of a flowchart, giving you two options on each branch to help make the identification process easier. In fact, the word "Dichotomous" means "divided into two parts.

Vertebrate Groups



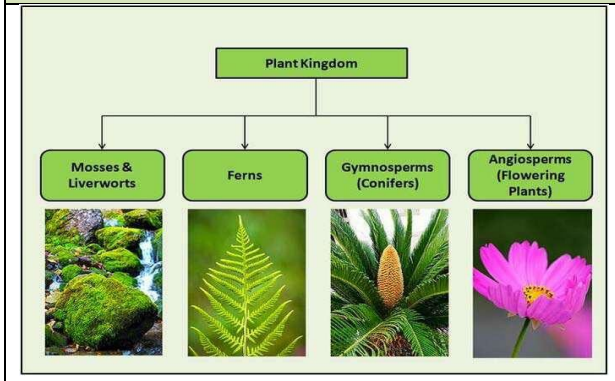
Vertebrates are animals with internal backbones and internal skeleton known as an endoskeletons. They are further classified into five animal groups each with their own features and characteristics.

Invertebrate Groups



Invertebrates are animals that don't have a backbone. Some have soft bodies, like worms, slugs and jellyfish. Other invertebrates, like insects, spiders and crustaceans, have a hard outer casing called an exoskeleton. This protects their body a bit like a suit of armour.

Plant Groups



Plants fall into four categories: With seeds or without seeds; **flowering plants, conifers, ferns and mosses**. Trees are flowering plants too. They make fruit in the same way that smaller flowers do.