

# Home Learning: Science knowledge Organiser

Take some time at home to read these key facts that you will be exploring in our next science topic. What other facts can you find out?

Y6

## KEY PEOPLE



Aristotle (384BC – 322BC) was the first scientist to try and classify living things into groups. He devised the 'Ladder of Life'. This included human beings, animals, plants and non-living things.

## KEY IDEAS



Human beings are animals. Aristotle had only identified two categories of living things: animals and plants. These categories are called KINGDOMS. Today we divide all living things into 5 kingdoms: animals, plants, fungi, monera and protocista.



The last three kingdoms are microorganisms and therefore, Aristotle (not being able to look through a microscope – they hadn't been invented back then) was not aware of their existence.



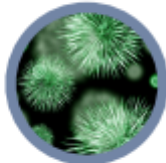
Kingdoms of living things are further subdivided to allow more specific classification and identification. Linnaeus' greatest legacy was his creation of a scientific system for naming and classifying plants and animals that is universally used today.



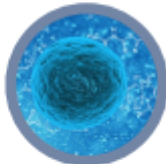
The Binomial Naming System (two part) in which each living thing is given a name consisting of two Latin words (the genus and the species name) and which enables living things to be more easily identified.



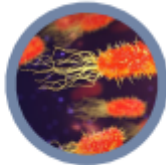
Invertebrates can be further divided based on their observable features. These are: arthropods (which include insects, arachnids, myriapods and crustaceans), worms, molluscs, cnidarians and sponges.



Microbes (microorganisms) are living organisms. They are so small we need a microscope to see them. There are more microbes on your hands than there are people in the world! In order to grow successfully, microorganisms must have a supply of water as well as other elements (food, acidity, time, temperature, oxygen and moisture).



Microbes are found everywhere! Some microbes are useful or even good for us. Some microbes can make us ill. There are 3 main types of microbes: bacteria, viruses and fungi. They come in 3 different types of shapes: Spiral (bacteria), Rods (cilli) and Balls (cocci).



Bacteria are so small that 1000s of bacteria could fit on the full stop at the end of this sentence. Some bacteria are helpful in cooking, for example, making yogurt and cheese. Some bacteria are harmful and cause infection. Bacteria multiply very fast.



Viruses are even smaller than bacteria and can sometimes live inside bacteria! Most viruses make us sick. Diseases like chickenpox and the flu are caused by viruses. Viruses are easily spread from one person to another.



Fungi are the largest of all microbes (they are not just mushrooms!). Fungi can be found in the air, on plants and in water. Mould, which grows on bread, is a type of fungi. Some antibiotics are made by fungi!

## KEY VOCABULARY

Plant	More than one cell and can produce own food through the process of photosynthesis.
Animal	Multicellular organisms which can move, respire (breathe), sense surroundings, grow, reproduce, excrete waste products and need nutrition. (MRS GREN).
Protist	Single cell with more complex parts (a nucleus).
Monera	Single cell bacteria, they divide to reproduce.
Genus	A group of organisms that have certain characteristics in common but can be divided further into other groups (i.e. into species).
Species	A group of organisms which can interbreed to produce fertile offspring.
Arthropods	Exoskeletons, segmented bodies and jointed limbs.
Insects	3 parts to their bodies, 2 eyes, 2 antennae, 6 jointed legs at some point in their lives and often have wings.
Arachnid	Two parts to their body, 8 legs, 2 pincers and no antennae.
Myriapod	Most have many pairs of legs, 2 body sections (head and trunk) and one pair of antennae on head.
Crustaceans	A hard outer shell or case, 10-14 legs and 2 pairs of antennae.
Worms	No true limbs, body shapes vary but the two sides of their bodies are always symmetrical. Some live inside other animals, others in water or on land.
Molluscs	One main part to their body, soft body (many have a shell), a muscly foot or tentacles to help them move around and most are slimy to help them move along the ground.
Cnidarians	Found in oceans and freshwater. Most have a ring of tentacles around mouth-stinging cells which they use to catch prey.
Sponges	Usually fix themselves to rocks on sea bed. May look like seaweed or other plants, but are definitely animals as they do not make their own food.