



Year 6 - Living things

SCIENCE

Key vocabulary	
Classify	arrange (a group of people or things) in classes or categories according to shared qualities or characteristics.
Linnaean	relating to the system of classification of plants and animals using binomial nomenclature
Classification	the action or process of classifying something.
Domain	domain (also superregnum, superkingdom, or empire) is a taxon in the highest rank of organisms, higher than a kingdom.
Kingdom	a taxonomic rank that is composed of smaller groups called phyla (or divisions, in plants).
Phylum	a principal taxonomic category that ranks above class and below kingdom
Order	A taxonomic rank used in classifying organisms, generally below the class, and comprised of families sharing a set of similar nature or character.
Family	A taxonomic rank in the classification of organisms between genus and order.
Genus	biological classification ranking between family and species,
Species	group of closely related organisms that are very similar to each other and are usually capable of interbreeding and producing fertile offspring.
Characteristics	a typical or noticeable quality of someone or something
Vertebrates	an animal of a large group distinguished by the possession of a backbone or spinal column, including mammals, birds, reptiles, amphibians, and fishes.
Invertebrates	an animal lacking a backbone, such as an arthropod, mollusc, annelid, coelenterate,
Microorganisms	a microscopic organism, especially a bacterium, virus, or fungus
Organisms	An individual animal, plant, or single-celled life form.
Virus	A small infectious agent that replicates only inside the living cells of an organism.

Vertebrates (have a backbone)

Mammals



- there are over **5000** different species of mammal
- can adjust **body temperature** to their surroundings (warm-blooded)
- *most* give **birth** to **live young** that look like **small versions** of parents
- all have **hair** or **fur** (sometimes it is *not visible*)
- all **female** mammals feed their **young milk** produced in **mammary glands**
- all **mammals** (even **aquatic** mammals) have **lungs** and **breathe air**

There are **three** main types of mammal...

Placental

babies develop in the **womb** fed from an **organ** called the **placenta**



Marsupial

babies (*joey*s) are born **undeveloped** and **finish** developing in a **pouch**

Monotreme

the *only* mammals that **lay eggs** rather than give birth to live young



Fish

- there are almost **28,000** known species of fish
- can't adjust **body temperature** to their surroundings (cold-blooded)
- *most* fish species **lay eggs** that are then **fertilised externally**
- have **scales**, **fins** and **streamlined bodies**
- have **gills** that **extract oxygen** from the **water** (do not have lungs)
- *most* fish are **bony fish** and have a **skeleton** made of **bone**

Reptiles



- there are over **10,000** known species of reptile
- can't adjust **body temperature** to their surroundings (cold-blooded)
- *most* reptiles **lay eggs** that have been **fertilised internally**
- **young** usually look like **small versions** of the parent(s)
- all have **scales** and **breathe** using **lungs**
- Can be **subdivided** into: **crocodilians**, **snakes**, **lizards** and **turtles**



Birds

- there are thought to be about **18,000** species of birds
- can adjust **body temperature** to their surroundings (warm-blooded)
- *all* bird species **lay eggs** that have been **fertilised internally**
- have **beaks**, **feathers**, **breathe** using **lungs** and *most* can fly

Invertebrates (Do not have a backbone)



Insects

Insects have an **exoskeleton** on the outside of their bodies that protect them. They have **three parts** – the **head**, **thorax** (middle) and **abdomen** (end). Insects have **six legs** and **two antennae**. They hatch from **eggs** and go through a **metamorphosis**. Some, but not all, insects have **wings**

Arachnids All arachnids have an **exoskeleton**. They have **two parts** - the **head** and **abdomen**. Arachnids have **eight legs** and **hatch** from **eggs**. They do **not** go through a **metamorphosis** and their **young** look like **small versions** of the **parent**

This group includes **slugs** and **snails**, but most other **gastropods** live in **water**. They have a **head-foot** on which they **move** and some gastropods have a **shell**. They have **tentacles** on the **head** where the **eyes** are situated

Gastropods

Annelids This group includes **worms** and **leeches**. They have **no legs**, **no skeleton** and their bodies are in **segments** (small rings)

Fungi Not all **fungi** are microscopic – you can see **mushrooms**, **mould** and **mildew**. **Fungi** feed on **all kinds of materials** – **wood**, **leaves**, **food**, **clothes**, **animals**, **plants** and lots more. Like bacteria it can be either **good** or **bad**. *Some* **fungi** (like mould) can make you **sick** and *some* can cause **skin infections** (athlete's foot). However, a **fungus** (*yeast*) is used to make **bread rise**. **Fungi** help to **decompose organic matter** **AND** *some* **fungi** are used to make **medicines** to fight infections (**anti-biotics**)

Amphibians



- there are over **7,000** known species of amphibians
- can't adjust **body temperature** to their surroundings (cold-blooded)
- **lay eggs** in **water** that are then **fertilised externally**
- have **webbed feet** and **moist skin** (no protective scales)
- **start life** in the **water** using **gills** to **breathe**
- *most* **amphibians** go through a **big change** called **metamorphosis**
- they live their **adult life** on **land**, breathing through **lungs** and their **skin**
- Can be **subdivided** into: **frogs & toads**; **salamanders** and **caecilians**

Plants



Some plants release **spores** or **cones** to **reproduce**. These are called **non-flowering plants**

Most plants grow **flowers** that then produce **seeds**. These are called **flowering plants**



Bacteria can be good or bad. *Some* **bacteria** can cause **illnesses** or **food poisoning**. However, *most* are **harmless** and can be very **helpful**. It is used to make **yoghurt** and **cheese**, and **bacteria** in our **bodies** aid the **digestion** of food

Bacteria



Viruses are incredibly **small** and some scientists don't even consider them to be **living**. They can **infect plants** and **animals** and make them **sick**.

We rely on our **immune systems** to fight off **viruses** (anti-biotics won't help)

Viruses



Micro-Organisms

Micro-organisms are so **small** they can only be seen with a **microscope**. They are in the **air**, **water** and **inside** our **bodies**