

What do I already know?

What do I know now?

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**1. How are living things classified?**

**2. What are the characteristics of a mammal?**

**3. How have certain animals evolved in order to adapt to their environment?**

**What I have learnt before:**

Prior topics that will feed into understanding of this topic:

**Living Things and their Habitats (Plants -Y4)****Key Vocabulary:**

<b>Words</b>	<b>Definitions</b>
Characteristics	Special qualities or appearances that make an individual or group of things different to others.
Classify	To sort things into different groups.
Taxonomist	A scientist who classifies different living things into categories.
Key	A key is a series of questions about the characteristics of living things. A key is used to identify a living thing or decide which group it belongs to by answering 'yes' or 'no' questions.
Species	A group of animals that can reproduce to produce fertile offspring.
Microorganism	An organism that can only be seen using a microscope, e.g. bacteria, mould and yeast.
Inheritance	This is when characteristics are passed on to offspring from their parents.
Adaption	An adaptation is a trait (characteristic) changing to increase a living thing's chances of surviving and reproducing.
Evolution	Adaptations that take place in a species over a long period of time in response to the environment.
adaptive traits	Genetic features that help a living thing survive
Inherited traits	These are traits you get from your parents. Within a family, you will often see similar traits. E.g. curly hair, shape of features.



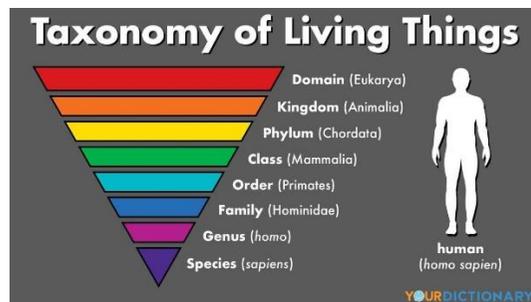
## 1. Living things are classified by...

Scientists classify all living things into groups based on shared characteristics. This helps us understand how different species are related and makes it easier to study them. Living things are grouped into categories that become more specific as we go down the levels.

### Why Classify Living Things?

- It helps scientists identify new species.
- It shows how living things are related to each other.
- It helps us study ecosystems and understand how species interact.

**Carl Linnaeus** (1707–1778) was a Swedish scientist known as the "Father of Taxonomy." He developed a system for naming and classifying living things, which is still used today. His method, called **binomial nomenclature**, gives every species a two-part Latin name (e.g., *Homo sapiens* for humans). Linnaeus's work made it easier for scientists to study and organize the natural world.



## 2. Characteristics of living things...

The **characteristics of living things** help us distinguish between living and non-living things. All living organisms share these key features:

1. **Movement:**  
Living things can move, either on their own (e.g., animals) or parts of them (e.g., plants turning toward light).
2. **Respiration:**  
They release energy from food through a process called respiration, which is essential for their survival.
3. **Sensitivity:**  
Living things can detect and respond to changes in their environment, such as light, temperature, or touch.
4. **Growth:**  
All living organisms grow by increasing in size or the number of cells.
5. **Reproduction:**  
They can produce offspring, either sexually (involving two parents) or asexually (one parent).
6. **Excretion:**  
Living things remove waste products from their bodies, such as carbon dioxide or urine.
7. **Nutrition:**  
They obtain and use food for energy, growth, and repair. Animals consume food, while plants make their own through photosynthesis.

These seven characteristics are often summarized using the acronym **MRS GREN**:  
**M**ovement, **R**espiration, **S**ensitivity, **G**rowth, **R**eproduction, **E**xcretion, **N**utrition.

## 3. Environment adaption...

Animals **adapt** to their environments through changes in their behaviour, physical features, or biology that help them survive and reproduce in specific conditions. These adaptations can be grouped into three main types:

### Structural Adaptations

These are physical features of an animal's body that help it survive in its environment.

Example:



**Camouflage:** The arctic fox has white fur to blend with the snow, making it harder for predators to see.

### Behavioural Adaptations

These are actions or behaviours animals develop to survive.

Example:



**Migration:** Birds, like swallows, migrate to warmer climates during winter to find food and better living conditions.

### Physiological Adaptations

These are internal processes or changes in an animal's body that help it survive.

Example:



**Venom production:** Snakes and spiders produce venom to defend themselves or catch prey.

