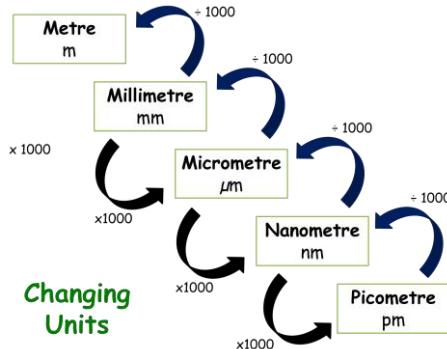




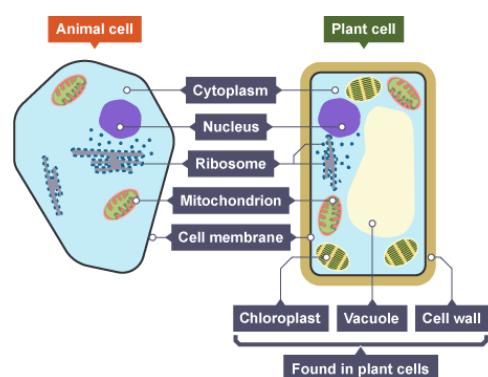
## B1a: Biology key concepts

### 1. Microscopes

<b>Magnification</b>	The number of times bigger something appears under a microscope.
<b>Eyepiece lens</b>	The lens on a microscope that you look through.
<b>Objective lens</b>	The lens at the bottom of a microscope. There are normally three you can choose from.
<b>Resolution</b>	The smallest distance between two points so that they can still be seen as two separate points.
<b>Stains</b>	Dyes added to microscope slides to show the details more clearly.



2. Plant and animal cells	
<b>Cell</b>	The basic structural unit of all living things (the building blocks of life).
<b>Cell membrane</b>	Controls what enters and leaves the cell.
<b>Cytoplasm</b>	A jelly-like substance where chemical reactions take place.
<b>Nucleus</b>	Contains DNA and controls the cell.
<b>Ribosome</b>	Produces proteins.
<b>Mitochondria</b>	Releases energy by aerobic respiration.
<b>Cell wall</b>	Protects and supports the cell, made of cellulose.
<b>Vacuole</b>	Stores sap and helps to support the cell.
<b>Chloroplast</b>	Where photosynthesis happens, contains chlorophyll.



3. Measuring cells	
<b>Light microscope</b>	A microscope that uses light, can magnify up to 1500 times.
<b>Electron microscope</b>	A microscope that uses electrons to produce an image, can magnify up to 1,000,000 times.

<b>Ciliated epithelial cell</b>	<b>Job:</b> To clear mucus out of your lungs (and other internal surfaces). <b>Adaptations:</b> Small hairs on the surface – called cilia – which wave to sweep mucus along.
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4. Specialised cells	
<b>Sperm cell</b>	<b>Job:</b> Fertilise an egg and deliver male DNA. <b>Adaptations:</b> A tail to swim, mitochondria to give energy for swimming, an acrosome to break through the egg's jelly coat, haploid nucleus with only half the total DNA.
<b>Egg cell</b>	<b>Job:</b> To be fertilised by a sperm and then develop into an embryo. <b>Adaptations:</b> Jelly coat to protect the cell, many mitochondria and nutrients to provide energy for growth, haploid nucleus with only half the total DNA.

5. Bacterial cells	
<b>Chromosomal DNA</b>	Large piece of DNA containing most genes.
<b>Plasmid DNA</b>	Small loops of DNA containing a few genes.
<b>Flagellum</b>	A tail used for movement.
<b>Eukaryotic cells</b>	Cells with a nucleus.
<b>Prokaryotic cells</b>	Cells without a nucleus.

