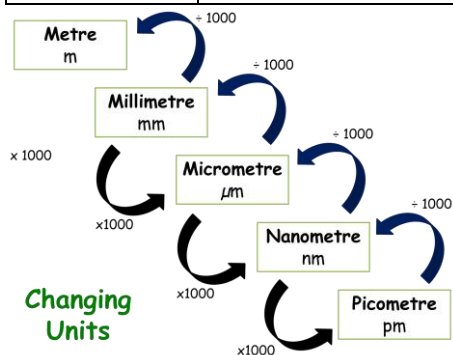




B1a: Biology key concepts

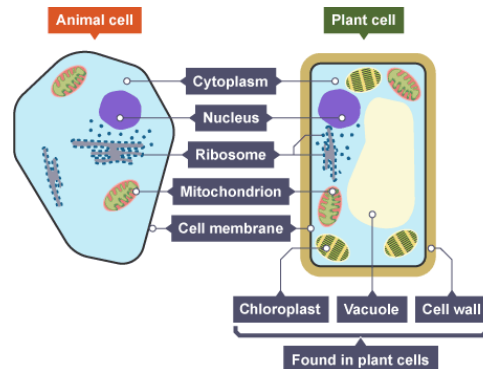
1. Microscopes

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



2. Plant and animal cells

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



3. Measuring cells

Light microscope	A microscope that uses light, can magnify up to 1500 times.
Electron microscope	A microscope that uses electrons to produce an image, can magnify up to 1,000,000 times.

4. Specialised cells

Sperm cell	Job: Fertilise an egg and deliver male DNA. Adaptations: 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.
Egg cell	Job: To be fertilised by a sperm and then develop into an embryo. Adaptations: Jelly coat to protect the cell, many mitochondria and nutrients to provide energy for growth, haploid nucleus with only half the total DNA.

Ciliated epithelial cell	Job: To clear mucus out of your lungs (and other internal surfaces). Adaptations: Small hairs on the surface – called cilia – which wave to sweep mucus along.
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5. Bacterial cells

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

