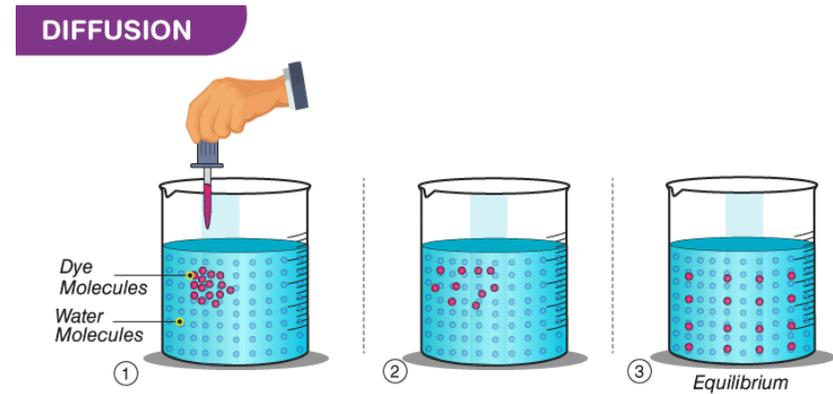
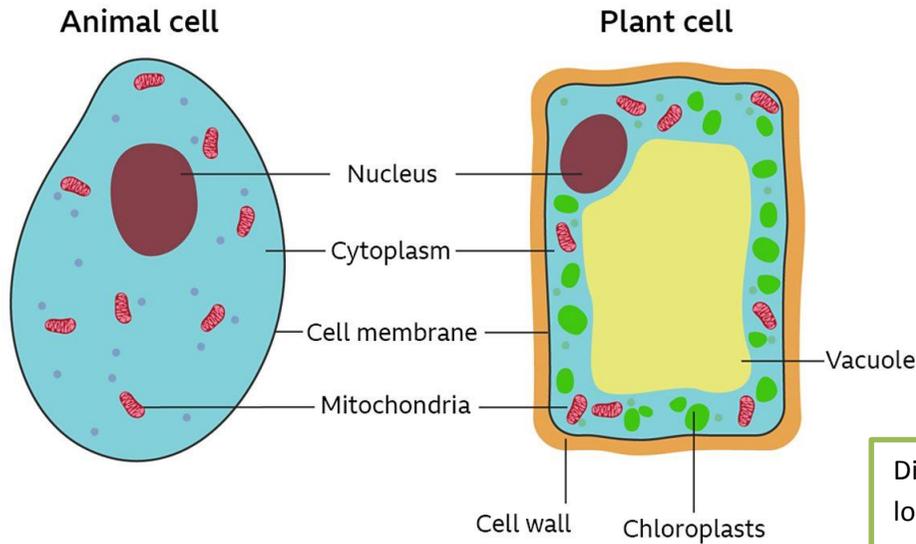


Year 7 Cells

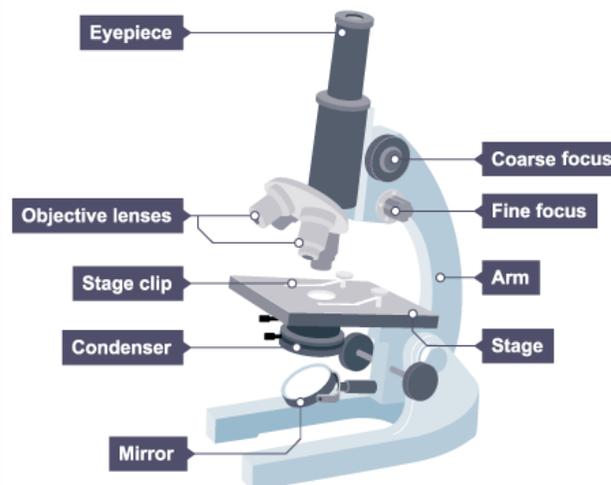
Know the facts		Key words	
1	Multicellular organisms are composed of cells which work together to form a tissues and these group together to make organs.	1	Diffusion: movement of particles from a place where they are high in concentration to a place where they are in a lower concentration.
2.	Microscopes are used to observe and draw cells.	2	Cytoplasm: Jelly like substance where most chemical processes happen.
3	Both plant and animal cells have a cell membrane, nucleus, cytoplasm and mitochondria.	3	Chloroplast: Absorbs light energy so the plant can make food (photosynthesis).
4.	Plant Cells also have a cell wall, chloroplasts and usually a permanent vacuole.	4	Cell membrane: Surrounds the cell and controls movement of substances in and out.
5.	Uni-cellular organisms are adapted to carry out functions that in multi-cellular organisms are done by different types of cells.	5	Nucleus: Contains genetic material (DNA) which controls the cell's activities.
6.	Medical treatments can work at an individual cell, tissue, organ or organ system level.	6	Vacuole: Area in a cell that contains liquid and can be used by plants to keep the cell rigid and store substances.
7	Photosynthesis occurs inside chloroplasts.	7	Mitochondria: Part of the cell where energy is released from food molecules.
8	Cells are the building blocks of life – they are the smallest units in an organism.	8	Cell Wall: Strengthens the cell. In plant cells it is made from cellulose.
9	Specialised cell: Has a particular shape and structure to carry out a specific job	9	Circulatory System: Transports substances around the body.
10	Sperm cell- A cell containing male genetic material.	10	Respiratory System: Removes Carbon Dioxide from the blood and allows Oxygen to be absorbed and transported.
11	Nerve cell- An animal cell that transmits electrical impulses around the body.	11	Muscular- Skeletal Systems: Muscles and bones working together to cause movement and support the body
12	Red blood cell- An animal cell that transports oxygen around the body	12	Digestive System: Breaks down and then absorbs smaller food molecules.
13	Euglena is a single celled plant.	13	Cell: The unit of a living organism. Contains parts to carry out life processes.
14	Flagellum-A tail-like structure that allows euglena to move.	14	Uni-cellular: Living things made up of one cell
15	Leaf cell -The plant cells that contain chloroplasts, where photosynthesis takes place.	15	Multi -cellular: Living things made up of many types of cells.



Diffusion is the movement of a substance from an area of high concentration to an area of low concentration. Diffusion happens in liquids and gases because their particles move randomly from place to place. Diffusion is an important process for living things; it is how substances move in and out of cells.

How to use a microscope

1. Move the stage (the flat ledge the slide sits on) down to its lowest position.
2. Place the glass slide onto the stage. Be careful pushing it under the clips that the cover slide doesn't move or crack.
3. Select the lowest power objective lens.
4. Turn the coarse focus knob slowly until you are able to see the cells.
5. Turn the fine focus knob slowly until the cells are in focus and you can see them clearly.
6. Repeat steps 1-5 using the higher power magnification to see the cells in more detail.



Calculating magnification

To see an object, the eye piece lens and the objective lens magnification are multiplied together to give the total magnification.

Total magnification = eye piece lens magnification × objective lens magnification

For example: $10 \times 20 = 200$

Magnification = 200