

## B1—Cell Structure & Transport

### Knowledge Organiser

Early light microscopes—Use light & lenses. Have magnifications of x100 to x2000.

Electron microscopes—Modern. Use a beam of electrons. Magnifications up to x2000000.

Magnification—how much bigger an image appears than the real object.

Magnification = size of image / size of object

Resolving Power—smallest size microscope can show.

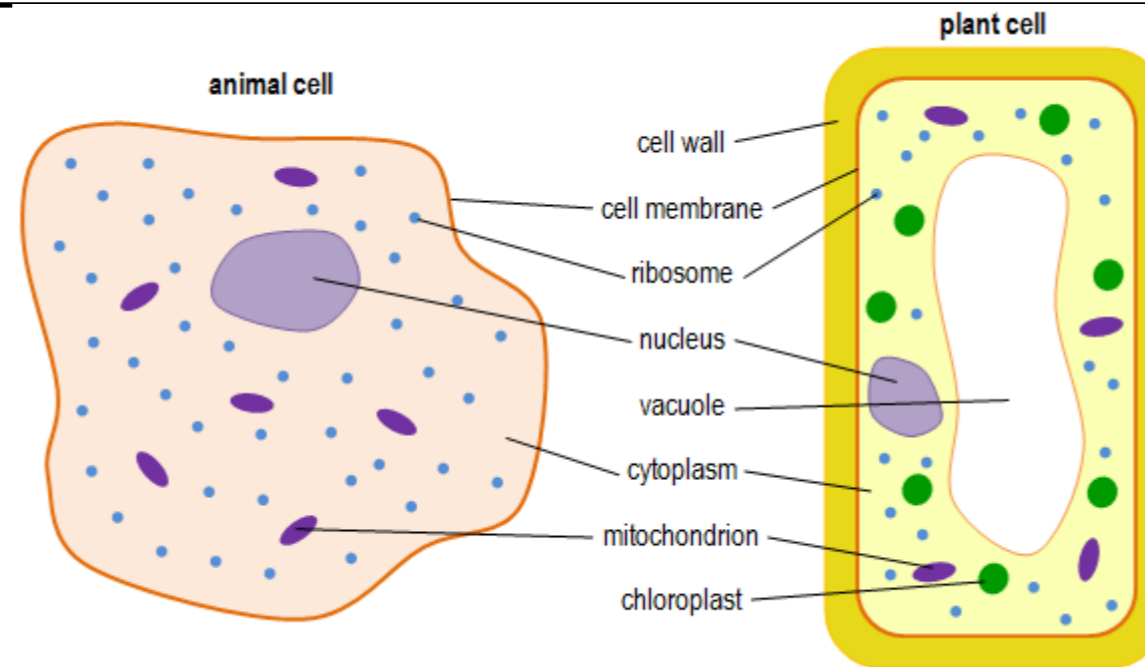
Photosynthesis—Reaction plants use to make glucose from light, water and carbon dioxide.

Specialised Animal Cells:

1. Sperm—tail to swim
2. Nerve—carry electrical impulses
3. Muscle—contract & relax

Specialised Plant Cells:

1. Root hair—absorb water and ions
2. Xylem— carry water and minerals
3. Phloem—carry glucose to cells.



Diffusion—Particles spreading out in a gas/liquid. Move from high to low concentration..

Factors Affecting Diffusion—concentration gradient, temperature, surface area.

Osmosis—Diffusion of water through a partially permeable membrane. Moves from a dilute solution to a more concentrated solution.

Active Transport—Moves substances from low to high concentration. Needs energy.

Eukaryotic Cell—have genetic material in a nucleus.

Prokaryotic cell—no nucleus.

Cell wall—Made of cellulose. Supports cell.

Cell Membrane—Controls movement in/out of the cell.

Ribosome—Makes protein by protein synthesis.

Nucleus—Controls activities of the cell. Contains genes.

Vacuole—Sack filled with sap. Keeps cell rigid.

Cytoplasm—Liquid where most reactions happen.

Mitochondria—Perform respiration to release energy.

Chloroplast—Green & full of chlorophyll.

Chlorophyll—Absorbs light for photosynthesis.