

B1 - CELL BIOLOGY

Subcellular features of animal and plant cells	Nucleus - Contains genetic material that controls the activities of the cell. Cytoplasm - Gel-like substance where most of the chemical reactions happen. It contains enzymes that control these reactions. Cell membrane - Holds the cell together and controls what goes in and out. Mitochondria - Where aerobic respiration takes place. Respiration transfers energy that the cells need to work. Ribosomes - These are where proteins are made in the cell. Cell wall - Made of cellulose. It supports the cell and strengthens it. Permanent vacuole - Contains cell sap, a weak solution of sugars and salts. Chloroplasts - Where photosynthesis occurs. Contains chlorophyll which absorbs light for photosynthesis.
Bacterial cells	- Prokaryotes - Single circular strand of DNA. - Plasmids: small rings of DNA. - Cell membrane - Cell wall - Cytoplasm
Light and electron microscopes	<u>Light microscopes:</u> - Inexpensive - Easy to use - Portable - Observe both dead and living cells Electron microscope has higher magnification and a higher resolution.
Magnification equation	Magnification = image size / real size
Preparing a slide	1) Add a drop of water to the middle of a clean slide. 2) Use tweezers to peel off some epidermal tissue of an onion. 3) Place the epidermal tissue into the water on the slide. 4) Add a drop of iodine solution (highlights objects). 5) Place a cover slip on top.
Using a light microscope to look at a slide	1) Clip the slide onto the stage. 2) Select the lowest powered objective lens 3) Use the coarse adjustment knob to move the stage up to just below the objective lens 4) Look down the eyepiece. Use the coarse adjustment knob to move the stage downward until the image is in focus. 5) Adjust the focus with the fine adjustment knob.