WJEC (Eduqas) Biology A-level

Core Concept 2 - Cell Structure and Organisation

Definitions and Concepts

Centrioles - Structures found in the cytoplasm made of microtubules that produce the spindle fibres during mitosis.

Chloroplasts - Organelles found in plants and algae that are the site of photosynthesis.

Chromatin - A DNA-protein complex found in eukaryotic cells.

Eukaryotic cell - A type of cell that contains a true nucleus along with membrane bound organelles.

Eyepiece graticule - A scale bar inside the eyepiece of a light microscope which can be calibrated against a stage micrometer to measure structures.

Flagella - A whip-like structure found on bacterial cells that is used for cell movement.

Golgi body - An organelle found in eukaryotic cells that is involved in the modification and packaging of proteins.

Light microscope - A type of microscope that uses a series of lenses to magnify the visible light reflecting off a specimen.

Lysosomes - Membrane-bound vesicles found in the cytoplasm that contain a hydrolytic enzyme called lysozyme.

Magnification - How many times bigger an image appears compared to the original object calculated using the following formula:

$$Image\ size = Actual\ size \times Magnification$$

Mitochondrion - An organelle found in eukaryotic cells that is the site of aerobic respiration.

Nuclear envelope - A double membrane that surrounds the nucleus.

Nucleolus - A structure found inside the nucleus that contains proteins and RNA and is involved in synthesizing new ribosomes.

Nucleus - An organelle found in eukaryotic cells that stores the genetic information of the cell as chromatin and is surrounded by a membrane called the nuclear envelope.

Organ - A group of specialised tissues working together to carry out a specific function.

Organ system - A group of specialised organs working together to carry out a specific function.

Pili - Small hair-like projections on the surface of prokaryotic cells used to adhere to other cells.

Plasmid - Loops of DNA found in the cytoplasm of prokaryotic cells.

Plasmodesmata - Microscopic channels between plant cell walls that facilitate symplastic transport.

Prokaryotic cell - A type of cell that does not contain any membrane bound organelles or a true nucleus.

Resolution - The ability to distinguish two different points in a specimen.

Ribosomes - Organelles found either free in the cytoplasm or membrane bound that are involved in the synthesis of proteins.

Rough endoplasmic reticulum (RER) - A membrane-bound organelle that is involved in the synthesis and packaging of proteins.

Smooth endoplasmic reticulum (SER) - A membrane-bound organelle involved in lipid synthesis.

Stage micrometer - A scale that may be mounted to the stage of a light microscope and can be used to calibrate an eyepiece graticule.

Tissue - A group of specialised cells working together to carry out a specific function.

Vacuole - A membrane bound structure found in plant cells that contains cell sap.

Virus - A non-living microorganism that consists of genetic material surrounded by a protein husk.