OCR (A) Biology GCSE

B1.1 - Cell level systems

Flashcards

Define magnification

Define magnification

How much larger a displayed image is compared with the original object

Define resolution

Define resolution

The ability to distinguish between two points

Why is staining used?

Why is staining used?

- Some specimens are colourless
- It is useful to highlight different structures
- It increases contrast

What is the formula to calculate magnification from image size and actual size?

What is the formula to calculate magnification from image size and actual size?

(The I AM formula)

Image size = Actual Size x Magnification

How do you calculate total magnification?

How do you calculate total magnification?

Total magnification =

Eyepiece magnification x Objective lens magnification

How is a light microscope set up?

How is a light microscope set up?

Place the specimen on a slide, cover it with a cover slip, illuminate with a lamp and view using the eyepiece

State 5 parts of an animal cell

State 5 parts of an animal cell

Nucleus, cytoplasm, mitochondria, ribosomes and the cell membrane

State 2 functions of the nucleus

State 2 functions of the nucleus

- Controls the cell
- Contains genetic material - found in the form of chromosomes.

State the function of the cytoplasm

State the function of the cytoplasm

It is where most of the cell's chemical reactions take place

State the function of mitochondria

State the function of mitochondria

They are the site of aerobic respiration

State the function of ribosomes

State the function of ribosomes

They are the site of protein synthesis

State 3 organelles only found in plant cells

State 3 organelles only found in plant cells

- Cellulose cell wall
- Permanent vacuole
- Chloroplasts

What is the function of the cell wall and what is it made of?

What is the function of the cell wall and what is it made of?

It provides strength and support. It is made of cellulose

What is the function of the permanent vacuole and what does it contain?

What is the function of the permanent vacuole and what does it contain?

It supports the cell and contains cell sap (a solution of sugars and salts)

What is the function of chloroplasts?

What is the function of chloroplasts?

They are the site of photosynthesis

Give 3 differences between prokaryotic and eukaryotic cells

Give 3 differences between prokaryotic and eukaryotic cells

- Prokaryotic cells have no nucleus
- Prokaryotic cells have plasmid loops of DNA
- Prokaryotic cells have no mitochondria

Describe the image produced by an electron microscope

Describe the image produced by an electron microscope

The image is black and white, it can be 2D or 3D and it has a very high magnification and resolution

Why are electron microscopes better than light microscopes?

Why are electron microscopes better than light microscopes?

They produce images with enough detail to see structures inside cells