

OCR (A) Biology GCSE

B2.1 - Supplying the cell

Flashcards



Define diffusion



Define diffusion

The net movement of molecules from an area of high concentration to an area of low concentration down their concentration gradient



How does temperature affect diffusion?



How does temperature affect diffusion?

As the temperature increases, the rate of diffusion increases as the particles have more kinetic energy and move faster



How does the concentration gradient affect diffusion?



How does the concentration gradient affect diffusion?

The greater the concentration gradient (the difference between the two areas), the faster the rate of diffusion



How does the surface area of the membrane affect diffusion?



How does the surface area of the membrane affect diffusion?

If the surface area increases so does the rate of diffusion as there is more space for the particles to move through



Define osmosis



Define osmosis

The net movement of water molecules from a high water potential to a low water potential down their concentration gradient across a partially permeable membrane



Define active transport



Define active transport

The movement of molecules from a low concentration to a high concentration against their concentration gradient using energy



Describe mitosis (including the cell cycle)



Describe mitosis (including the cell cycle)

- 1) The chromosomes are replicated
- 2) The chromosomes line up in the middle
- 3) The chromosomes are pulled apart
- 4) Membranes form around the chromosomes and the cytoplasm divides
- 5) The two cells then continue growing



Define cell differentiation



Define cell differentiation

Differentiation is where cells become specialised for a particular function



How are sperm cells specialised to their function?



How are sperm cells specialised to their function?

- Large tail for movement
- Acrosome (containing enzymes) to digest the egg membrane
- Lots of mitochondria for energy
- Haploid nucleus



How are nerve cells specialised to carry impulses?



How are nerve cells specialised to carry impulses?

- They have a long axon to transport the impulse long distances
- Contain extensions to connect to other nerve cells and contain neurotransmitters to transmit the impulse



How are root hair cells specialised to take up water and minerals?



How are root hair cells specialised to take up water and minerals?

- They have lots of mitochondria to generate energy
- They have a large surface area for faster diffusion



What are stem cells?



What are stem cells?

Stem cells are undifferentiated cells and can develop into lots of different types of cells



Where are animal stem cells found?



Where are animal stem cells found?

Animal stem cells are found in embryos
and in the bone marrow



What is the difference between adult and embryonic stem cells?



What is the difference between adult and embryonic stem cells?

Embryonic stem cells can differentiate into any type of cell whereas adult stem cells can only differentiate into cell types from the tissue the stem cells are in



Where are plant stem cells found?



Where are plant stem cells found?

Plant stem cells are found in
meristematic tissue



What are stem cells used for?



What are stem cells used for?

Stem cells are naturally used for growth and repair. They can also be used in treatments for Parkinson's disease and burns.

