WJEC England Biology GCSE

1.2 - Growth and development of cells

Flashcards

State 3 uses of mitosis in the body

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- Growth
- Replacing worn out cells
- Repairing tissues

Why is cell differentiation important?

Why is cell differentiation important?

It allows specialised cells to be produced so that labour can be divided between different groups of cells for greater efficiency

What is cancer?

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Cancer is a disease where cells in the body begin to divide uncontrollably

What are stem cells?

What are stem cells?

Cells that do not lose the ability to differentiate and so can differentiate into many different types of cells

Give 2 benefits of the use of stem cells in medicine

Give 2 benefits of the use of stem cells in medicine

- Used to test new drugs
- Used to grow new organs with no concern about rejection

Give 2 risks associated with the use of stem cells in medicine

Give 2 risks associated with the use of stem cells in medicine

- There are ethical issues with using embryonic stem cells
- There is no guarantee how well stem cell therapies work

Where are animal stem cells found?

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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.

What is the difference between diploid and haploid cells?

What is the difference between diploid and haploid cells?

- Haploid cells have half the amount of genetic information as diploid cells
- Haploid cells are germ cells
- Diploid cells are body cells

What type of cell does meiosis produce?

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4 genetically different haploid germ cells (sperm or egg cells)

Why are the cells produced in meiosis genetically different?

Why are the cells produced in meiosis genetically different?

During the process of meiosis, chromosomes are reshuffled and separated in different ways