**Stem Cells**

* List five different types of cells present in the human body.  
  Blood cells, muscle cells, nervous cells, fat cells, bone cells.

Properties of Stem Cells

* Identify where all cells originate from.   
  All cells originate from a zygote, the first cell formed from the fusion of the egg and sperm of two parents.
* Define the term stem cell.  
  Stem cells are cells that can change or differentiate into different types of specialized cells, and are capable of self-renewal.

Totipotent Stem Cells

* Define the term totipotent stem cell  
  Totipotent stem cells have the ability to develop into any type of cell necessary for embryonic development. Identical twins are formed when a small cluster of totipotent cells separates.
* Provide an example of a totipotent stem cell  
  A fertilized egg (zygote) is an example of a totipotent stem cell. A zygote divides to form two identical totipotent cells, which then divide into four and then eight.

Pluripotent Stem Cells

* Define the term pluripotent stem cell.   
  Pluripotent stem cells are the result of totipotent stem cells undergoing specialization.
* Identify when a totipotent stem cell starts differentiating into a pluripotent stem cell.  
  Totipotent stem cells begin differentiation to become pluripotent cells about 5 days after fertilization.
* Define the term blastocyst and explain the role of the inner and outer cells.  
  A blastocyst is formed by the cluster of cells that was once the zygote. The inner mass of the cells develops into the embryo, while the outer mass forms the placenta that nourishes the embryo throughout development.

Multipotent Stem Cells

* Outline the role of multipotent stem cells.
* Give an example of a multipotent stem cell.

Cell Specialisation

* State the percentage of genetic information that all cells within a multicellular organism share.
* Outline the conditions that cause genetic information to be ‘switched on’ or ‘switched off’.

**Stem Cells**

* List five different types of cells present in the human body.

Properties of Stem Cells

* Identify where all cells originate from.
* Define the term stem cell.

Totipotent Stem Cells

* Define the term totipotent stem cell
* Provide an example of a totipotent stem cell

Pluripotent Stem Cells

* Define the term pluripotent stem cell.
* Identify when a totipotent stem cell starts differentiating in to a pluripotent stem cell.
* Define the term blastocyst and explain the role of the inner and outer cells.

Multipotent Stem Cells

* Outline the role of multipotent stem cells.
* Give an example of a multipotent stem cell.

Cell Specialisation

* State the percentage of genetic information that all cells within a multicellular organism share.
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