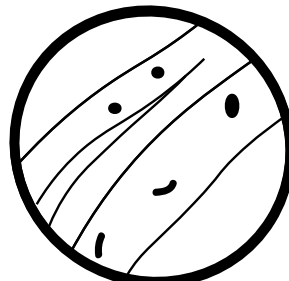
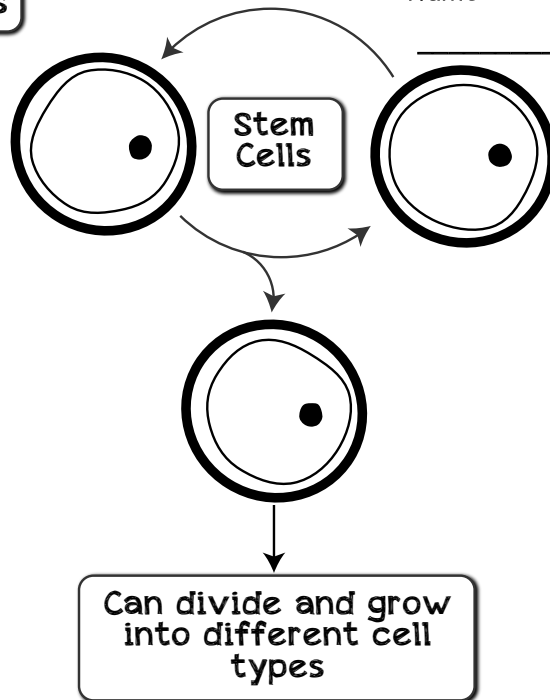


STEM CELLS AND DIFFERENTIATION

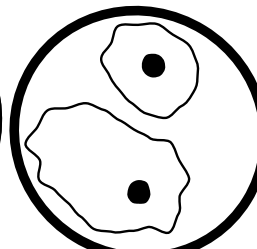
Name: _____

- Stem cells are _____. This means after multiple rounds of _____, a stem cell can become any type of cell.
- _____ stem cells are one type of stem cell. They can truly grow into any type of cell and they are called _____.
- _____ stem cells are undifferentiated cells found with tissues or organs. They can divide to form new adult stem cells or they can divide to form _____ cells for organs or tissues. Some adult stem cells are restricted in what cells they can form.
- Scientists can sometimes genetically reprogram adult cells to become like embryonic stem cells. These are called _____ stem cells.
- Scientists and doctors are studying stem cells as therapy to treat disease, because they could be used to _____ tissues and organs.

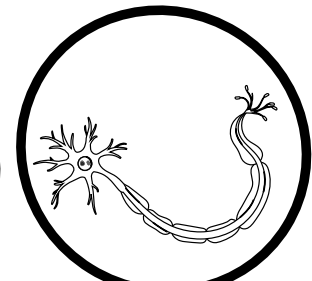
Stem Cells



Muscle Cells



White Blood Cells



Nerve Cells

Differentiation

- When different genes are turned on and off in the cell, different proteins get made and the cell can grow into different shapes and sizes, to allow it to perform its unique functions in the organism. These cells are called _____.
- Heart, lung, muscle, and nerve cells all have the same _____ in their nuclei but they _____ differently because of the proteins that those particular cells are making, because of the _____ or sections of DNA that are "turned on".