Meiosis/Sexual Reproduction Notes (**HONORS**)

Meiosis Fundamentals

1. A process of producing sex cells (gametes)

2.

3. Each sex cell is genetically unique

Importance to Sexual Reproduction

1.

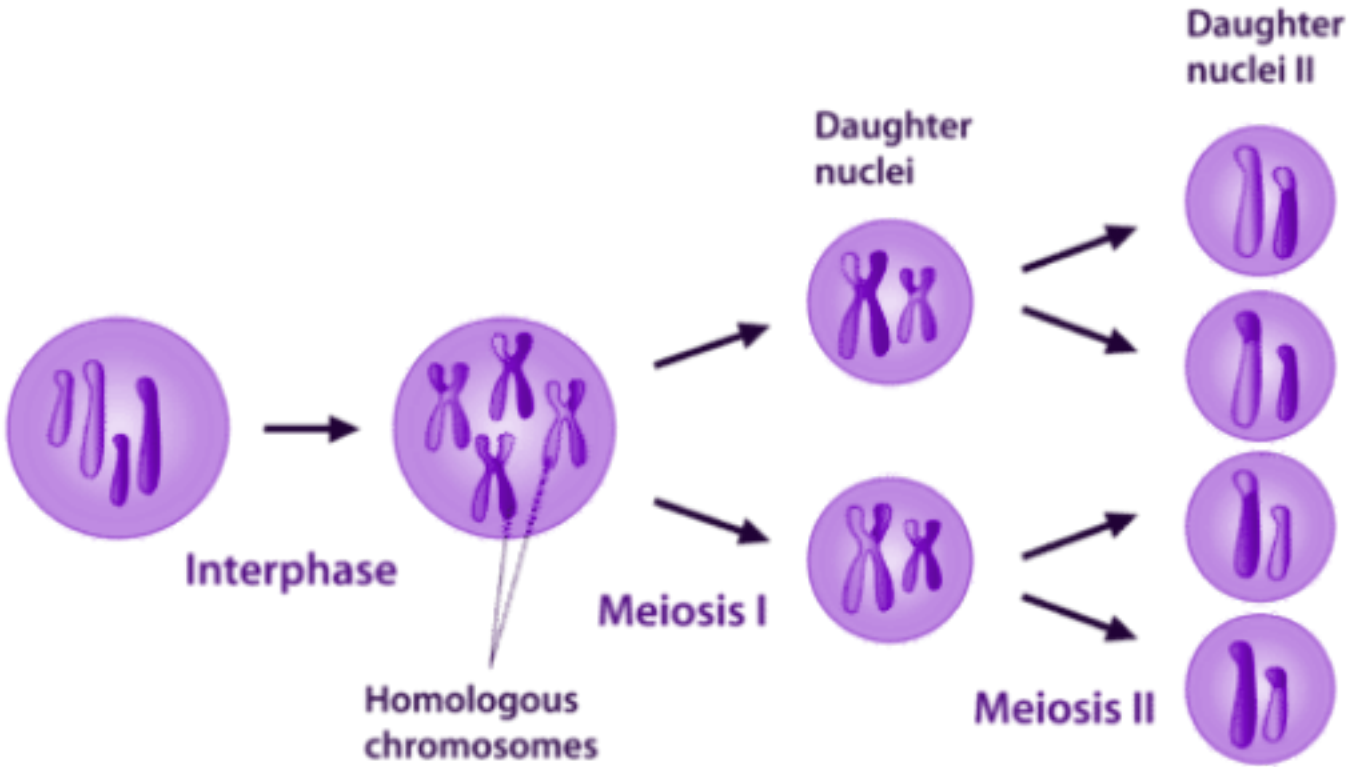
2. Each cell is genetically unique so no two people are exactly alike

Gametes

1. Reproductive cells produced from meiosis.

2. Contains _____of the organism

3. Males: Eggs (formed at birth)
   Females: Sperm (produced daily)
   Male + Female = Zygote



Meiosis Introduction

1. Meiosis I

    a. Produces

2. Meiosis II
    a. Produces

Meiosis I

1. Prophase I
    a. DNA condenses into _____

    b. Crossing over occurs
        i. Genetic material is _____between

        _____ chromosomes

2. Metaphase I
    a. Homologous _____ at the middle of the cell

3. Anaphase I
   Homologous chromosomes (_____)
   move away

4. Telophase I & Cytokinesis
    a. Cell membrane forms around _____cells
    b. Cells split
    c. Two cells:
        i. Genetically _____

        ii. Contain _____ not chromatids

Meiosis II

1. Similar to Mitosis EXCEPT:
    a. _____ cells are created

    b. All cells _____ different

    c. _____cells called _____

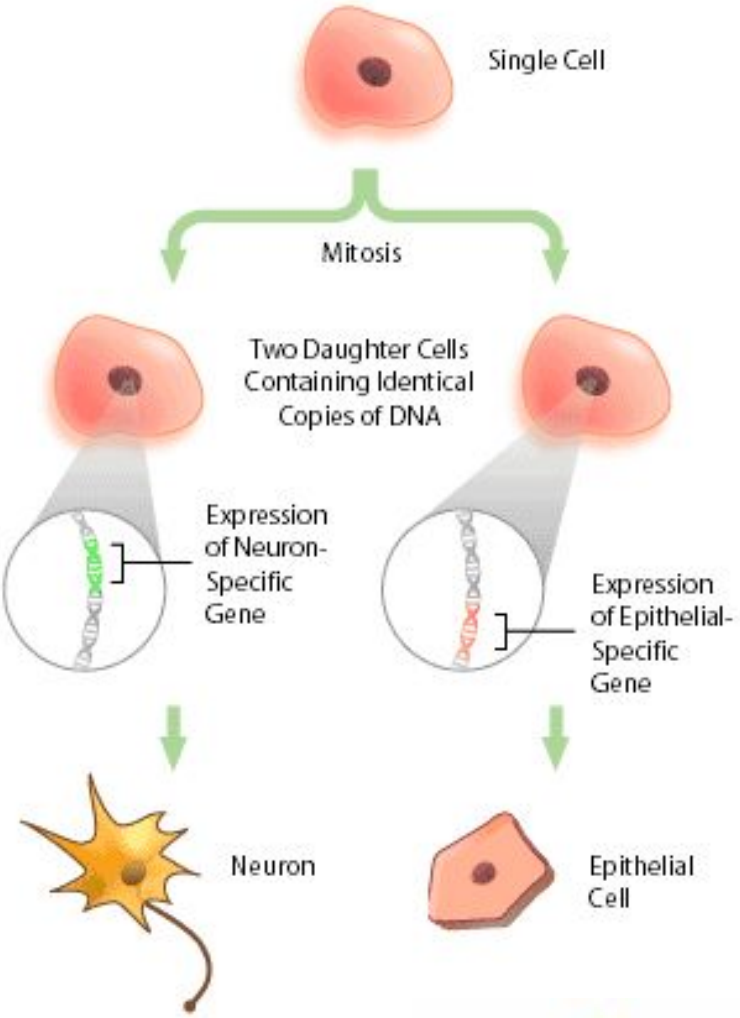
2. Independent Assortment:
    a. The_____ order of which chromatids are selected for each _____ cell
    b. This allows for _____ of individuals
3. Errors
    a. Nondisjunction:

       When chromosomes _____ leading to _____ chromosomes in a cell
    b. Application to real-life: Down Syndrome

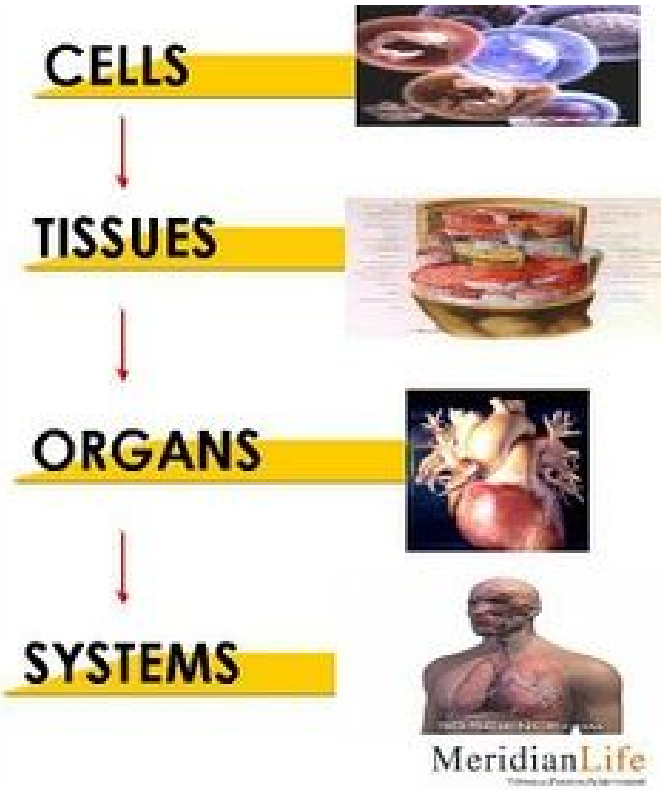
<u>Cell Differentiation</u>

1. Stem Cells (Body Cells as an Embryo)
    a. Each has the same DNA
    b. Specialized cells:

       _____due to _____ genes are activated.
2. Specialized cells vary:


Single Cell
Mitosis
Two Daughter Cells Containing Identical Copies of DNA
Expression of Neuron-Specific Gene
Expression of Epithelial-Specific Gene
Neuron
Epithelial Cell


Human Body


CELLS
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