Notes: Mitosis

The incredible cell

* The main features of cell division take place in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **\_\_\_\_\_\_\_\_\_\_\_\_**is the center of nucleus
* **\_\_\_\_\_\_\_\_\_\_\_\_**is a mass of genetic material within the nucleus composed of DNA (genetic material)

Chromosomes

* *Chromo-colored* and *-Somes-bodies*
* Threadlike \_\_\_\_\_\_\_\_\_\_\_\_ within the nucleus containing genetic information (DNA)
* Passed from one generation of cells to the next

DNA:

* DNA is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that \_\_\_\_\_\_\_\_\_\_information.
* Is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(instructions) for the body of an organism.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_acid

Diploid vs. haploid Cells

Diploid cells:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ most cells other than sex cells
* Produced through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* (2n)= \_\_\_\_\_\_\_\_\_\_\_ chromosomes
* \_\_\_\_\_\_\_\_\_\_\_ from male and \_\_\_\_\_\_\_\_\_\_\_ from female

Haploid Cells

* (n)= total of 23
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ cell
* produced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Structure of a chromosome:

* Chromosomes have a specific structure to be able to make exact copies of its DNA (genetic material)
* Each chromosome has two identical arms called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* When the cell divides:
  + The “sister\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ separate and \_\_\_\_\_\_\_\_\_\_\_\_goes to each of the two new cells

Cell Cycle

* Series of events that cells go through as they \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* During the cell cycle:

1. A cell grows
2. Prepares for division
3. Divides to form two daughter cells
4. Cycle begins again

Steps of the cell cycle

Interphase

* Interphase has three steps
  + \_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_
* G1 phase- Growth phase
  + Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, carries out normal functions and duplicates cellular organelles
* S phase
  + Definition: Synthesis phase where DNA \_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* G2 Phase
  + Definition: Cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for mitosis

Mitosis

* Mitosis has 4 steps
  + Prophase
  + Metaphase
  + Anaphase
  + Telophase
* Cytokinesis- Considered its own step

1) Prophase

* DNA in the nucleus of a cell \_\_\_\_\_\_\_\_\_\_\_\_\_and becomes \_\_\_\_\_\_\_\_\_\_\_\_under the microscope
  + Chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_surrounding the nucleus \_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) Metaphase

* Chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_of the cell

3)Anaphase

* Chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_apart
* Creates two separate \_\_\_\_\_\_\_\_\_\_\_\_\_\_chromosomes
* Chromosomes are \_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_sides of the cell

4) Telophase

* A new \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_forms around each group of chromosomes

5)Cytokinesis

* Cytokinesis is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_step in the cell cycle
  + The cytoplasm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to create two identical daughter cells
  + Daughter cells then begin interphase

Uncontrolled cell growth

* When a cell divides excessively and invades other organs it is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Cancer cells do not \_\_\_\_\_\_\_\_\_\_\_\_normally to the bodies control mechanism to \_\_\_\_\_\_\_\_\_\_cell growth.