Mitosis Notes

* Mitosis is when body cells divide to make new body cells
* Body cells are also called somatic cells
* Mitosis is also called asexual reproduction

**Vocabulary**

Chromosomes: structures in the nucleus that are made of DNA (this is when DNA is super-coiled or wound up tightly)

Nuclear membrane: membrane around the nucleus that controls what can enter and leave the nucleus

Centrioles: structures in the cell that act as anchors for the spindle fibers

Spindle fibers: act like ropes to pull pairs of chromosomes apart

Centromere: the place where pairs of chromosomes are held together

Cytokinesis: the splitting of the cell into two new cells that occurs after mitosis

**Phases of Mitosis**

Interphase

* Cells spend most the most time in this phase
* Cell grows and gets ready to divide
* DNA is in its relaxed form called chromatin
* At the end of interphase the chromosomes are copied

Prophase

* Chromosomes become visible
* Nuclear membrane disappears
* Centrioles move toward opposite ends of the cell
* Spindle fibers form between the centrioles



Metaphase

* Chromosomes line up in middle of the cell
* Spindle fibers attach to the centromeres

Anaphase

* Chromosomes are pulled apart from their copy at the centromere
* Separate strands of DNA move away from each other to opposite ends of the cell

Telophase

* Centrioles and spindle fibers disappear
* Chromosomes stretch out and become harder to see
* Nuclear membrane forms around each group of chromosomes to form two new nuclei
* After mitosis has ended, the cell goes through cytokinesis and forms two new, genetically identical cells