

Bio

Chromosomes (Ch. 6)

10-16-12

- > Fission, Mitosis, Meiosis
- > Prokaryotic cells - divide by binary fission
 - DNA Loops split/cut themselves in half to form two genetically identical daughter cells
- > Eukaryotic (2 kinds of cell division)
 - Somatic cells \Rightarrow Mitosis
 - Gametes \Rightarrow Meiosis

- > Mitosis: cell duplication (parent \rightarrow daughter cells x2)
 - For growth or replacement
 - cells replaced every day

- > Cell cycle:
 - most of its life - interphase // small time spent = mitosis
 - # 1 must grow to its normal size
 - # 2 reproduces/replicates its DNA
 - # 3 cell division (mitosis)

- > Mitosis (4-step Process) PMAT
 - Replication of Chromosomes (before mitosis)

Step 1

- Prophase

- nuclear membrane breakdown
- chromosomes become visible & compact

Step 2

- Metaphase

- sister chromatids line up in center of cell

Step 3

- Anaphase

- sister chromatids are pulled apart

Step 4

- Telophase

- cells pinch apart
- chromosomes uncoil

> Meiosis (reduction division) reducing chromosomes by $\frac{1}{2}$

- occurs in testicles (men)

- occurs before birth (women); stored in ovaries

- creates great genetic variation

- division = twice

> Outcome of meiosis

- creation of 4 haploid daughter cells (ea. unique)