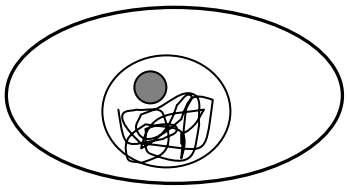
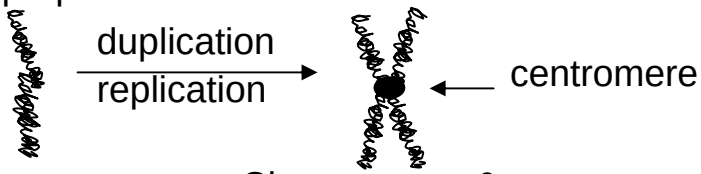
Cell Division occurs in a series of stages, or phases

Modified from T. Trimpe, Havana Junior High, Havana, IL

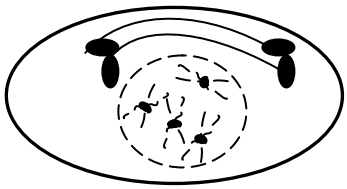
1st: INTERPHASE



- Chromosomes appear as threadlike coils (chromatin)
- At end of phase each chromosome is duplicated and DNA is replicated in preparation for cell division



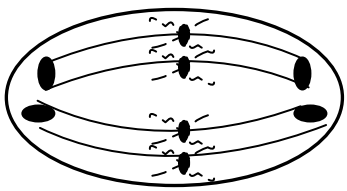
2nd: PROPHASE



MITOSIS BEGINS

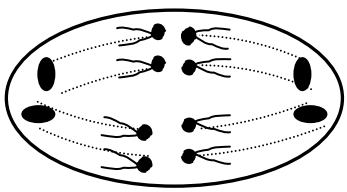
- Nuclear envelope breaks down
- Chromosomes condense
- Centrioles (or poles) appear and begin to move to opposite ends of the cell
- Spindle fibers form between centrioles

3rd: METAPHASE



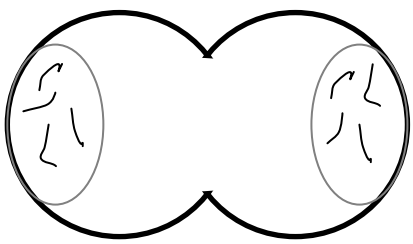
- Chromosomes are captured by spindle fibers at their centromeres
- Chromosomes line up on the metaphase (or equitorial) plate in the center of the cell

4th: ANAPHASE



- Chromosome copies are pulled apart and move toward opposite poles
- Spindle fibers begin to disappear

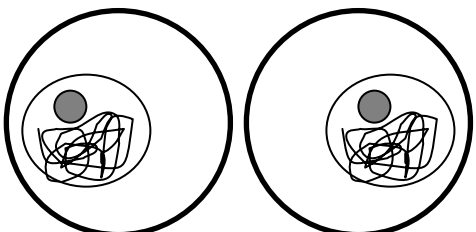
5th: TELOPHASE



- Each set of chromosomes reaches its pole
- New nuclei form
- nuclear envelope re-forms
- chromosomes decondense to threadlike coils

MITOSIS ENDS

6th: CYTOKINESIS



- Process by which the cell pinches apart, forming two individual and **identical** cells, each with one nucleus