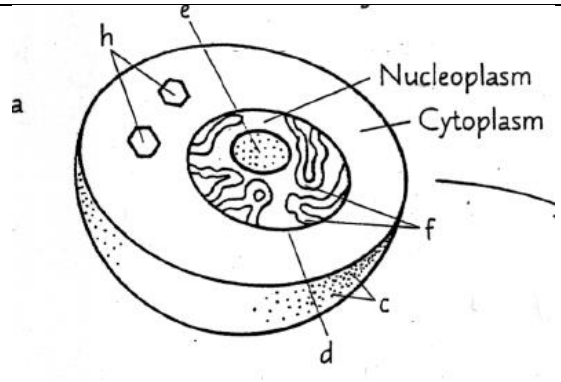
The Cell Cycle and Division Notes Name: _____



Interphase

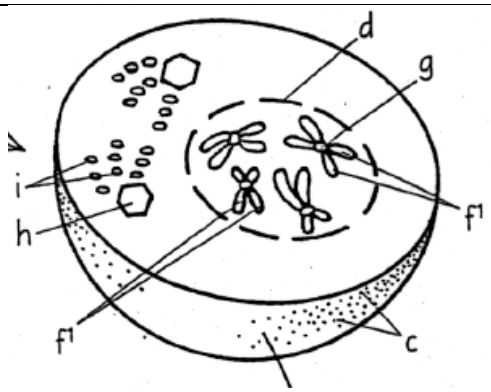
- Not a part of cell division
- The cell spends most of its time here

3 Parts

G1 (Gap 1) = Grows and Carries out Regular Cell Functions

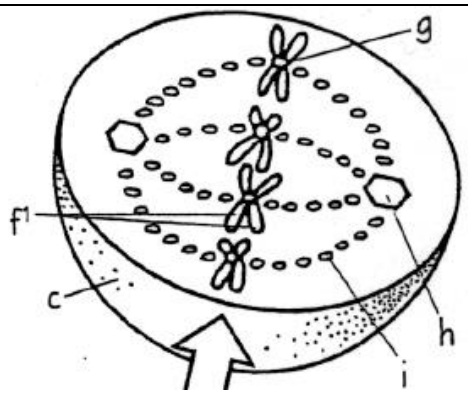
S (Synthesis)= Replication of DNA

G2 (Gap 2) = Continues to Grow and Prepares for Division



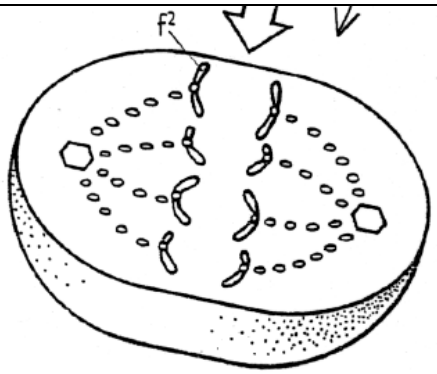
Prophase (STAGE ONE OF MITOSIS)

- Chromosomes (F) Form
- Nuclear Membrane (D) Breaks Down, Nucleolus Disappears
- Centrioles (H) Move to Poles and Spindle Fibers (I) Form



Metaphase (STAGE TWO OF MITOSIS)

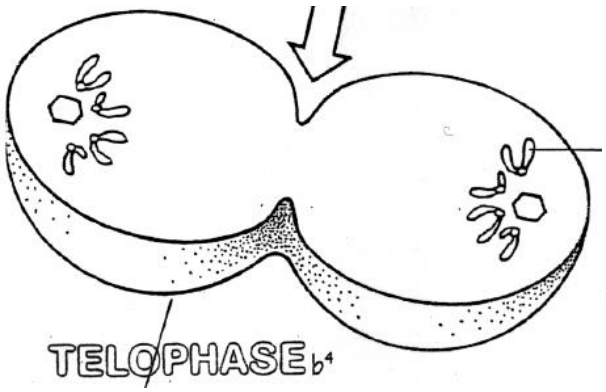
- Chromosomes(F) Meet in the Middle
- Spindle Fibers (I) Attach to the Centromere (G) with Microtubules

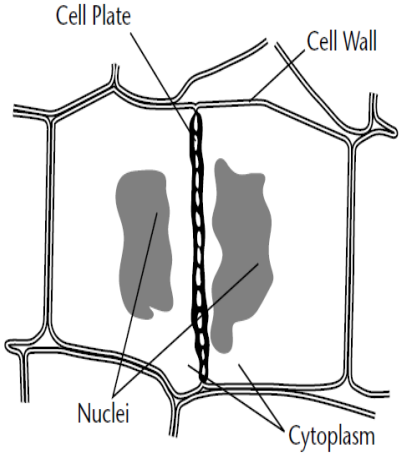


Anaphase (STAGE THREE OF MITOSIS)

- Sister Chromatids (F^2) are pulled apart as spindle fibers shorten
- Sister Chromatids, now called Chromosomes, move towards opposite poles

The Cell Cycle and Division Notes Name: _____





Telophase (STAGE FOUR OF MITOSIS)

- Chromosomes have now collected at the poles and now begin to uncoil and form chromatin.
- Nuclear membrane begins to reform around each set of chromosomes.
- Spindle fibers break apart

Cytokinesis (NOT A PART OF MITOSIS)

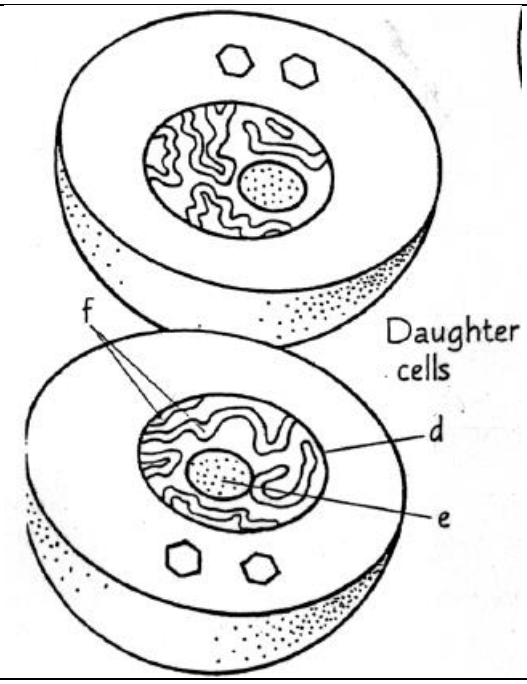
- Division of the Cytoplasm
- Occurs at the same time as Telophase

Animal Cell

Forms a Cleavage Furrow as the membrane pinches together to make two cells.

Plant Cell

Forms a Cell Plate which will eventually fuse together to form a cell wall



Final Products of Mitosis

- 2 Cells
- Genetically Identically to the Parent Cell (Original Cell)
- Somatic Cells (Body Cells)
- Diploid Cells (Has a complete set of chromosomes) = 46 in Humans