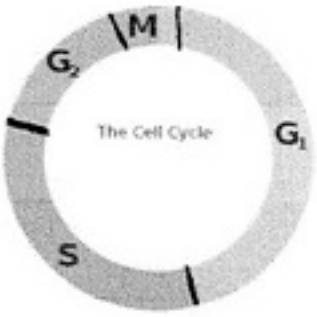
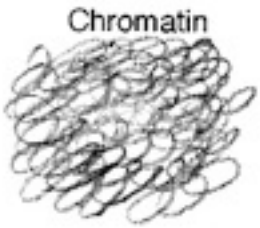
The Cell Cycle



- Cells go through a regular rhythm of living and dividing to make more cells
- Scientists call this process the 'Cell Cycle'
- The cell cycle has 2 main stages called Interphase and Mitosis
  - Both Interphase and Mitosis are broken into smaller phases
- **Interphase**-the 'normal' living state for the cell
  - **G1-Phase**-the cell takes in nutrients and builds all of the proteins it needs to do its job
  - **S-Phase-**the cell makes a copy of its DNA
    - When DNA is being used by the cell or copied, it is called Chromatin
  - **G2-Phase-**the cell makes more organelles and increases in size
- **Mitosis-**the process of cell division
  - **Prophase-**the Chromatin is compacted and packaged into Chromosomes and the nucleus dissolves
    - A Chromosome is a long, single piece of DNA
    - Because of 'S-Phase' the cell has 2 copies of each of its chromosomes
      - Each pair of chromosomes are called 'Sister Chromatids'
  - **Metaphase-**the Sister Chromatids line up in the middle of the cell
  - **Anaphase-**the Sister Chromatids split apart and each chromosome moves to different ends of the cell
  - **Telophase-**the chromosomes begin to unpack and become chromatin and 2 new nuclei reform around the chromatin
  - **Cytokinesis-**the cell splits into 2 daughter cells



Prophase

Metaphase

Anaphase

Telophase & Cytokinesis