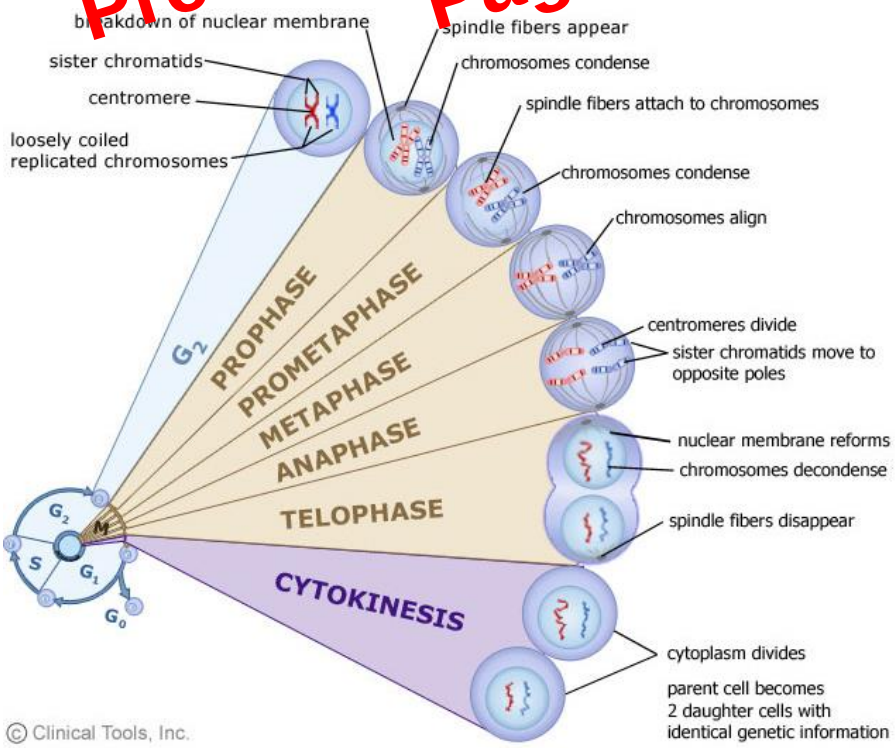
- **Meiosis:** a modified type of cell division in sexually reproducing organisms consisting of two rounds of cell division but only one round of DNA replication. It results in cells with half the number of chromosome sets

9.2 The mitotic phase alternates with interphase in the cell cycle

Phases of the Cell Cycle

1. **Interphase:**
    1) **G_1 phase (Gap 1):** cell grows and cytoplasmic organelles are replicated
    2) **S phase (Synthesis):** DNA is replicated
    3) **G_2 phase (Gap 2):** Cells checks itself to make to nothing is wrong (like mis-replicated or lack of organelles) – 2 centrosomes have formed
2. **Mitosis:** PPMAT (Preparing to Painting My Ass Turquoise)
    1) **Prophase:** Chromatin condenses into chromosomes - nucleolus disappears – mitotic spindles being to form – the centrosomes move away from each other to opposite sides of the cell
    2) **Pro-metaphase:** Nuclear membrane breaks down – Kinetochore microtubules invade nuclear space and attach to kinetochores – Polar microtubule push against each other moving centrosomes apart – nuclear envelope fragments
    3) **Metaphase:** centrosomes are now at opposite ends of the cell - chromosomes line up along the metaphase plate (imaginary plate) – cleavage furrows
    4) **Anaphase:** Chromosomes break at centromeres - sister chromatids move to opposite ends of the cell – the cell elongates as the non-kinetochore microtubules lengthen
    5) **Telophase:** Mitotic spindles disappear/ depolymerized – 2 daughter nuclei form in the cell - cell divides into two - Cell membrane reforms – Myosin II and actin filament ring contract to cell into two. –



- **Cytokinesis:** the cytoplasmic division of cell at the end of mitosis. – cytoplasm divides -
- **Myosin:** a fibrous protein that forms the contractile filaments of muscle cells and is also involved in motion in other types of cells