4 Phases of Mitosis	Prophase Metaphase Anaphase Telophase
asexual reproduction	A type of reproduction involving only one parent that produces genetically identical offspring by budding or by the division of a single cell or the entire organism into two or more parts.
Benefits of smaller cell size	Larger cells place greater demands on their DNA and have a difficult time getting materials in or out of the cell (nutrients and waste)
Cell Cycle	An ordered sequence of events in the life of a cell
Cell Division	Division of a parent cell into two identical daughter cells.
Centriole	A structure present in the cytoplasm of animal cells that functions as a microtubule-organizing center and is important during cell division. A centrosome has two centrioles.
Centromere	region where the sister chromatids attach to each other
Chromatin	Thin, tangled strands of DNA present during interphase, uncoiled DNA
Chromosomes	A cellular structure carrying genetic material, found in the nucleus of eukaryotic cells. The DNA is coiled up chromatin to make an X shaped molecule.
Cytokinesis	The division of the cytoplasm to form two separate daughter cells.

G1 Phase	The first gap, or growth phase, of the cell cycle, consisting of the portion of interphase before DNA synthesis begins.
G2 Phase	The second gap, or growth phase, of the cell cycle, consisting of the portion of interphase after DNA synthesis occurs.
In telophase of mitosis, the spindle fibers breaks down and the chromatin uncoils. This is essentially the opposite of what happens in ___.	Prophase
interphase	The period in the cell cycle when the cell is not dividing. Interphase often accounts for about 90% of the cell cycle.
Mitosis	When a cell is duplicated to create two new cells. Division of the nucleus of a cell.
Number of Chromatids in 1 Chromosome	2
Reasons for a cell to divide	to grow and develop, to reduce cell size, to repair sick cells, to replace old cells
sexual reproduction	A type of reproduction in which two parents give rise to offspring that have unique combinations of genes inherited from the gametes of the two parents.
Sister Chromatids	homologous (identical) chromosomes
S Phase	The synthesis phase of the cell cycle; the portion of interphase during which DNA is replicated.

spindle fibers	Microtubules involved in the movement of chromosomes during mitosis.
What happens during anaphase?	1.The sister chromatids are now separated and move towards opposite poles of the cell. 2. The sister chromatids are now called chromosomes.
What happens during metaphase?	1. The spindle fibers attach to the chromosomes which have met in the middle of the cell.
What happens during prophase?	1. The nucleolus disappears 2. Chromatin coil into chromosomes 3. Centrioles move towards opposite poles, spindle fibers appear
What happens during Telophase?	1. Nuclear envelopes reforms around the identical sets of chromosomes at the two poles of the cell. 2. The chromosomes uncoil 3. Nuclear membrane reforms