

- anaphase:** 3rd stage of mitosis, sister chromatids are pulled apart and microtubules move the chromosomes to opposite poles of the cell.
- apoptosis:** Programmed cell death.
- cancer:** Uncontrolled growth and division of cells that can be caused by changes in control of the cell cycle and also may be caused by environmental factors.
- carcinogens:** Anything known to cause cancer
- cell cycle:** The process of cellular reproduction, occurring in 3 main stages—interphase (growth), mitosis (nuclear division) & cytokinesis (cytoplasm division).
- centromere:** Cell structure that joins two sister chromatids.
- chromatin:** Relaxed (string) form of DNA in the nucleus of a cell.
- chromosome:** DNA containing structure that carries genetic material from one generation to another.
- crossing over:** Exchange of chromosomal segments between a pair of homologous chromosomes during prophase I of meiosis.
- cyclin & CDK:** Proteins and enzymes that control the cell cycle
- cytokinesis:** 3rd main stage of the cell cycle, during which the cell's cytoplasm divides, creating a new cell.
- diploid:** Cells with 2 copies of each chromosome (2n). (skin cells, muscle cells, body cells, etc)
- fertilization:** Process by which haploid gametes combine, forming a diploid cell with 2n chromosomes, with one set (n) of chromosomes from each parent
- gamete:** A haploid sex cell, formed during meiosis, that can combine with another haploid sex cell and produce a diploid fertilized egg.
- gene:** Functional unit that controls inherited trait expression that is passed on from one generation to another.
- haploid:** Cell with half the number of chromosomes (n) (gametes, egg, sperm, etc)
- homologous chromosome:** One of 2 paired chromosomes (1 from ea. parent) that carries genes for a specific trait at the same location.
- interphase:** 1st stage of the cell cycle, during which a cell grows, matures and replicates its DNA.
- meiosis:** Reduction division process, occurring only in reproductive cells, in which 1 diploid (2n) cell produces 4 haploid (n) cells that are not genetically identical.
- meiosis I:** Pairing up, lining up, and separating of homologous chromosomes in four stages (prophase I, metaphase I, anaphase I, telophase I)
- meiosis II:** Occurs after meiosis I, separating sister chromatids (identical to mitosis) in four stages (prophase II, metaphase II, anaphase II, telophase II)
- metaphase:** 2nd phase of mitosis in which motor proteins pull sister chromatids to the cell's equator.
- mitosis:** 2nd main stage of the cell cycle during which the cell's replicated DNA divides and 2 genetically identical diploid daughter cells are produced.
- prophase:** 1st stage of mitosis, during which the cell's chromatin condenses into chromosomes.
- sister chromatid:** Structure that contains identical DNA copies and is formed during DNA replication.
- spindle apparatus:** Structure made of spindle fibers, centrioles and aster fibers that is involved in moving and organizing chromosomes before the cell divides.
- stem cell:** Unspecialized cell that can develop into a specialized cell under the right conditions
- telophase:** Last stage of mitosis where nucleoli reappear. New nuclear membranes begin to form, but the cell has not yet completely divided.