

Honors Biology

Unit 2 – Cellular Reproduction

Unit Objectives

I Can Statements:

- I can describe different reasons for cell reproduction
- I can describe the differences between sexual and asexual reproduction
- I can differentiate between the steps of the cell cycle, including mitosis.
- I can differentiate between sex cells, gametes, and somatic cells
- I can analyze how changes in the cell cycle can lead to cancer
- I can contrast characteristics of cancer cells with those of healthy cells
- I can describe treatments for cancer
- I can synthesize knowledge about cells & DNA in order to understand how genetic mutations can lead to cancer
- I can identify what stem cells are, where they come from, & benefits they can have in medicine
- I can differentiate between embryonic stem cells, somatic stem cells, and iPSCs

Textbook Sections: 10.1-10.4

Vocabulary:

Reproduction	Binary Fission	Fertilization	Asexual Reproduction
Zygote	Somatic Cell	Body Cell	Sexual Reproduction
Germ Cell	Gamete	Egg	Sister Chromatids
Chromatin	Histones	Chromosome	Karyotype
Centromere	Sperm	Autosomes	Sex Chromosomes
Cell Cycle	Interphase	M Phase	Mitosis
G ₀ Phase	G ₁ Phase	G ₂ Phase	S Phase
Synthesis	Prophase	Metaphase	Spindle Fibers
Equator	Anaphase	Telophase	Metaphase plate
Cytokinesis	Cell Plate	Cancer	Cleavage Furrow
Apoptosis	Carcinogen	Contact Inhibition	Protein Checkpoints
Tumor	Go/No-go Switches	Benign Tumor	Metastasis
Surgery	Malignant Tumor	Radiation	Chemotherapy
Stem Cell	iPSCs	Pluripotent	Somatic Stem Cells
Multipotent	Totipotent	Adult Stem Cells	Embryonic Stem Cells

****Study Tip: Draw diagrams of processes & write explanations of what the diagram is showing.**

