**Unit 8: Cellular Reproduction**

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| **A.** Demonstrates an understanding of the events which take place during the life cycle of a cell and mitosis  ***“ I CAN… “*** | **Mastery Quiz Results** | **Mastery Reflection: What do I still need to master before the exam?** | **Resources for Mastery** |
| ***Students who demonstrate understanding can. . .***   * Contrast the role of each of the following in the normal life of a cell:   -Interphase (Specifically the G1, S, and G2 phases)  -Mitosis/Cytokinesis   * Describe a check point - Specify when in the cell cycle they occur, and what they check for * Predict what may happen to a normal cell if it fails   one of its checkpoints   * State the overall goal of Mitosis * Contrast the following: DNA, chromatin, Chromosome,   sister chromatids, homologous pair of chromosomes   * Describe how DNA is packaged into chromosomes * Contrast the purposes of prophase, metaphase,   Anaphase, and telophase.   * Be able to recognize a cell in each of the stages: * interphase, prophase, metaphase, anaphase,   Telophase, and cytokinesis.   * How do changes in the cell cycle/mitosis lead to cancer |  |  | ***Textbook Sections:***   * Sect. 6.1-6.7   ***Video Lessons:*** <http://www.bozemanscience.com/biology-main-page/>  1 Good video to watch  1)Mitosis  ***Website:*** *(PPTs, Links, Labs, Wrkshts)* |

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| **B. Meiosis Leads to Genetic Variation** | **Mastery Quiz Results** | **Mastery Reflection: What do I still need to master before the exam?** | **Resources for Mastery** |
| ***Students who demonstrate understanding can. . .***  1A Compare and contrast the roles of **somatic cells** and **germ cells**   * Explain the significance of & difference between **diploid (2N)** and **haploid (1N)** cells   2A Describe the following chromosomal entities:   * **chromosome, sister chromatids, homologous chromosomes, centromere, tetrad**   3A Describe the major events that occur in each phase of **meiosis**   * Compare events and products of **meiosis I** with **meiosis II** * Identify when the cells change from **diploid** to **haploid**   4A Explain how each of the following processes contribute to increased **genetic variation**   * **independent assortment of chromosomes** * **crossing over** * **random fertilization**   5A Describe the process and purpose of **gametogenesis**   * Compare and contrast **oogenesis** with **spermatogenesis** * Construct an argument for why there is a difference between the two processes   6A Create and analyze **karyotype** to investigate chromosomal pairing   * Provide proper **karyotype notation** for an individual   Explain the effects of **nondisjunction** in gamete production (**trisomy & monosomy**) |  |  | **See website & text for:**   * Sect. 6.9 – 6.13 * Sect 7.10   \* Essential Study Partner:   * Unit: Genetics   Topic: Cell Division🡪   * Meiosis * Review of Cell Div. * Evolution of sex * Unit: Genetics   Topic: Chromosomes🡪   * Sex Chomosomes * Abnormal Chrom.   ***Videos:***  <http://www.bozemanscience.com/meiosis>  <http://www.bozemanscience.com/diploid-vs-haploid> |