**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> |