Name _____

AP Biology
Chapter 13 - Meiosis and the Sexual Life Cycle

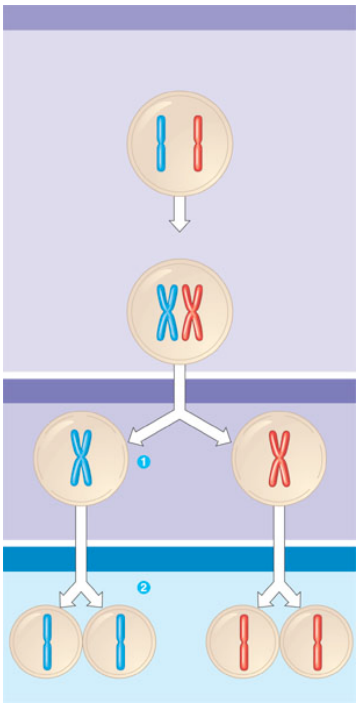
Guided Reading Assignment Campbell's 10th Edition

Essential Knowledge:
3.A.2 In eukaryotes, heritable information is passed to the next generation via processes that include the cell cycle and mitosis, or meiosis plus fertilization
3.C.2 Biological systems have multiple processes that increase genetic variation

LO 3.9 The student is able to construct an explanation, using visual representationsor narratives, as to how DNA in chromosomes is transmitted to the next generation via mitosis, or meiosis followed by fertilization.
LO 3.10 The student is able to represent the connection between meiosis and increased genetic diversity necessary for evolution.
LO 3.11 The student is able to evaluate evidence provided by data sets to support the claim that heritable information is passed from one generation to another generation through mitosis, or meiosis followed by fertilization.
LO 3.28 The student is able to construct an explanation of the multiple processes that increase variation within a population.

1. Compare and contrast asexual and sexual reproduction.

2. Define the following terms:
    a. Life cycle
    b. Somatic cell
    c. Karyotype
    d. Homologous chromosomes
    e. Sex chromosomes
    f. Autosomes
    g. Diploid cell
    h. Haploid cell
    i. Fertilization
    j. Zygote
    k. meiosis



3. How are karyotypes prepared?

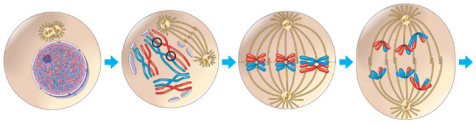
4. Describe the three different types of life cycles.

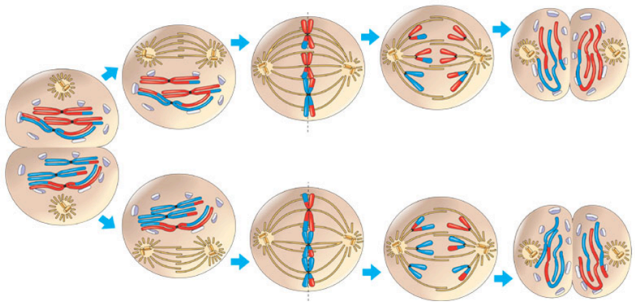
5. How do fertilization and meiosis alternate?

6. Complete the diagram outlining an overview of meiosis.

7. What are the two broad goals of meiosis?

8. Label the following diagrams of meiosis.





9. Summarize the comparison of mitosis and meiosis.

10. Compare the chromosome number of gametes and somatic cells.

11. Explain how gametes maintain chromosome number over many generations of sexual reproduction

12. Describe in detail the **three** sources of genetic variation in meiosis.