

CHAPTER 13 MEIOSIS AND SEXUAL LIFE CYCLES

The Basis of Heredity

1. Distinguish between asexual and sexual reproduction.

The Role of Meiosis in Sexual Life Cycles

2. Distinguish between the following pairs of terms:
 - a. somatic cell and gamete
 - b. autosome and sex chromosome
 - c. haploid and diploid
3. Describe a karyotype and the types of information one can gain from them.
4. Give examples of polyploidy in humans.
5. Explain how haploid and diploid cells differ from each other. State which cells in the human body are diploid and which are haploid.
6. Explain why fertilization and meiosis must alternate in all sexual life cycles.
7. List the phases of meiosis I and meiosis II and describe the events characteristic of each phase.
8. Recognize the phases of meiosis from diagrams or micrographs. Be able to draw them.
9. Describe the process of synapsis during prophase I and explain how genetic recombination occurs.
10. Describe three events that occur during Meiosis I but not during Mitosis.
11. Know the similarities between mitosis and meiosis.
12. Understand when, where and why mitosis and meiosis occur during the lifecycle of humans.

Origins of Genetic Variation

13. Explain how independent assortment, crossing over, and random fertilization contribute to genetic variation in sexually reproducing organisms.