**Meiosis** (p. 120 – 121; 144 – 149)

**I. Formation Of Haploid Cells**

**1. Define the term meiosis.**

Meiosis –

**2. What does it mean when two sets of chromosomes are homologous?** (p. 120)

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**3. Circle the letter of each way to describe a diploid cell.** (p. 121)

a. 2N

b. Contains two sets of homologous chromosomes.

c. Contains a single set of homologous chromosomes.

d. A gamete.

**4. What are the two distinct divisions of meiosis?**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. Before meiosis begins, what happens to DNA?**

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**6. Match each stage of meiosis with the correct occurrences.**

1. \_\_\_\_\_\_\_\_ Prophase I A. Chromosomes gather at poles, Cytoplasm divides

2. \_\_\_\_\_\_\_\_ Metaphase I B. Nuclear envelope forms, Cytoplasm divides

3. \_\_\_\_\_\_\_\_ Anaphase I C. Homologous chromosome pairs (tetrads) move to equator

4. \_\_\_\_\_\_\_\_ Telophase I D. New spindles form around chromosomes

5. \_\_\_\_\_\_\_\_ Prophase II E. Chromatids move to opposite poles of the cell

6. \_\_\_\_\_\_\_\_ Metaphase II F. Nuclear envelope breaks down, Crossing-over occurs

7. \_\_\_\_\_\_\_\_ Anaphase II G. Homologous chromosomes move to opposite poles

8. \_\_\_\_\_\_\_\_ Telophase II H. Chromosomes line up at equator

**II. Meiosis & Genetic Variation**

**1. Define the term independent assortment.**

Independent Assortment –

**2. How many gene combinations can be made from a cell containing 23 chromosome pairs?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Circle the number of chromatids in a tetrad.** (Not in the book.)

a. 8 b. 6 c. 4 d. 2

**4. Crossing over between tetrads produces an unlimited number of genetic possibilities.**

Circle One : True False

**5. Meiosis reduces the rate at which evolution of populations occur.**

Circle One : True False

**III. Meiosis & Gamete Formation**

**1. Match the following terms with the correct definitions.**

1. \_\_\_\_\_\_\_\_ Gametogenesis A. Gamete production in female animals

2. \_\_\_\_\_\_\_\_ Spermatogenesis B. Formation of gametes

3. \_\_\_\_\_\_\_\_ Oogenesis C. Gamete production in male animals

**2. Define the following terms.**

Sperm –

Ovum –

**3. The diploid cell that enters meiosis becomes 4 haploid cells at the end of meiosis.**

Circle One : True False

**4. What are polar bodies?**

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