Name _____ Date _____ Class _____

Key Concept Builder **LESSON 1**

Sexual Reproduction and Meiosis

Key Concept What is sexual reproduction, and why is it beneficial?

Directions: *Work with a partner to answer each question or respond to each statement on the lines provided.*

1. **Name** the type of reproduction that occurs when the genetic materials from two different cells combine to produce an offspring.

2. What are egg cells?

3. What are sperm cells?

4. **Explain** the relationship between fertilization and a zygote.

5. What happens to a zygote?

6. **Compare** the DNA of an offspring to the DNA of its parents.

7. Why do offspring from the same parents usually have a different set of traits?

Name _____ Date _____ Class _____

Key Concept Builder

LESSON 1

Sexual Reproduction and Meiosis

Key Concept What is the order of the phases of meiosis, and what happens in each phase?

Directions: *On each line, write the term from the word bank that correctly completes each sentence. Some terms may be used more than once or not at all.*

diploid	**haploid**	**homologous chromosomes**
meiosis	**mitosis**	**sister chromatids**

1. In meiosis, one _____ cell divides to make four _____ cells.

2. A _____ cell has half the chromosomes of a _____ cell.

3. A _____ cell has pairs of chromosomes.

4. Pairs of chromosomes that are not identical but have genes for the same trait arranged in the same order are _____.

5. Each pair of _____ has one chromosome from the mother and one chromosome from the father.

6. In _____, the two chromosomes are always identical.

7. During _____, two divisions of the nucleus and the cytoplasm occur.

8. When a cell duplicates one chromosome, two _____ are formed.

9. During interphase of mitosis and meiosis, two _____ are formed for each chromosome.

10. A reproductive cell goes through interphase before beginning _____ I, but not before _____ II.

11. Prophase I and Prophase II are stages in _____.

Name _____ Date _____ Class _____

Key Concept Builder

LESSON 1

Sexual Reproduction and Meiosis

Key Concept What is the order of the phases of meiosis, and what happens in each phase?

Directions: *Work with a partner. On each line, write the term or phrase that correctly completes each sentence.*

Meiosis I	
Phase	**Description**
Prophase I	**1.** Chromosomes that are duplicated during _____ remain sister chromatids. **2.** _____ join and form pairs. **3.** The membrane surrounding the nucleus _____ apart.
Metaphase I	**4.** Homologous chromosome pairs align along the _____ of the cell. **5.** _____ fibers attach to each pair.
Anaphase I	**6.** Pairs of duplicated _____ chromosomes separate and are pulled toward opposite ends of the cell. **7.** _____ stay together.
Telophase I	**8.** A nuclear membrane forms around each group of chromosomes. The cytoplasm divides forming _____ daughter cells. **9.** _____ remain together.

Meiosis II	
Phase	**Description**
Prophase II	**10.** _____ do not duplicate. _____ breaks apart.
Metaphase II	**11.** Sister chromatids _____ along the middle of the cell.
Anaphase II	**12.** Sister chromatids of each duplicated chromosome are _____ and move to _____.
Telophase II	**13.** A nuclear membrane forms around each set of chromatids, which are again called _____. **14.** The cytoplasm divides, and _____ cells form. **15.** Each cell has _____ the number of chromosomes as the original cell.

Name _____ Date _____ Class _____

Key Concept Builder **LESSON 1**

Sexual Reproduction and Meiosis

Key Concept Why is meiosis important?

Directions: *Answer each question on the lines provided.*

1. If a male organism has 40 chromosomes in each body cell, how many chromosomes does a female of the same species have in each body cell? _____

2. How many homologous pairs of chromosomes does the male have? _____

3. How many chromosomes would be in a sperm cell and in an egg cell? _____

4. How many chromosomes would be in an offspring? _____

5. How many pairs of homologous chromosomes would be in an offspring? _____

6. What is the difference between a diploid cell and a haploid cell?

_____

_____

_____

_____

7. How does meiosis help maintain diploid cells in offspring? Use the terms *chromosomes*, *diploid, haploid*, *fertilized egg*, and *sex cells* in your answer.

_____

_____

_____

_____

_____

_____