

Genetics

Name: _____

Chromosomes

Period: _____

Use Chapter 6, Section 3 of your textbook to answer the questions below. The word banks can be used to fill out the sentences below them.

alleles asexual chromosomes DNA eggs fertilization genes sex cells
sexual sperm

Section 3: Meiosis (p.188)

1. What is genetic information made of? _____
2. Genetic information comes from one parent in _____ reproduction.
3. Genetic information comes from two parents in _____ reproduction.
- _____ 4. In sexual reproduction, how much genetic information do offspring get from each parent?
 - a. all the genetic information
 - b. twice the genetic information
 - c. half of the genetic information
 - d. none of the genetic information
5. Genetic information is located on structures called _____.

Chromosome Numbers

6. There are usually _____ chromosomes in human body cells.
7. Organisms that reproduce sexually have _____ kinds of cells.
- _____ 8. What pairs of chromosomes in body cells carry the same sets of genes?
 - a. homologous genes
 - b. homozygous genes
 - c. homozygous chromosomes
 - d. homologous chromosomes
9. Homologous chromosomes have the same _____, but the _____ for the genes may be different.
10. Look at the homologous chromosomes in Figure 2. In this example, each chromosome carries the same 8 genes. However, three of the genes have alleles (versions) that are different. List the letters of the genes that have nonmatching alleles below.



pair #1—

pair #2—

pair #3—

Chromosomes in Reproduction

11. Before an organism can reproduce sexually, it must make _____.
12. Sex cells have _____ copy of each chromosome. This means that they have _____ copy of each gene.
13. Female sex cells are called _____, and male sex cells are called _____.
14. When an egg cell and a sperm cell combine, _____ has happened.
15. Look at Figure 3. How many chromosomes does a human egg cell have? _____
16. Look at Figure 3. How many chromosomes does a human sperm cell have? _____
17. Look at Figure 3. How many chromosomes will the body cells of the human baby have? _____