Name _____ Class _____ Date _____

Skills Worksheet

Vocabulary and Section Summary B

Meiosis

VOCABULARY

After you finish reading the section, try this puzzle! Use the clues below to unscramble the letters. Then, write the word or phrase in the space provided.

1. a cell that contains two haploid sets of chromosomes: IOPDDLI

_____

2. a process in cell division during which the number of chromosomes decreases to half the original number: OIESMSI

_____

3. male sex cells: PRSEM

_____

4. have the same sequence of genes and the same structure: GOOUSHMLOO MSOOSHCORME

_____

5. a cell, nucleus, or organism that has only one set of unpaired chromosomes: PLADOIH

_____

6. female sex cell: GEG

_____

SECTION SUMMARY

Read the following section summary

- Homologous pairs of chromosomes contain the same genes. The alleles for each gene may be the same or they may be different.
- Diploid cells have homologous pairs of chromosomes. Haploid cells do not.
- The process of meiosis produces haploid sex cells.
- During sexual reproduction, haploid sex cells combine to form a new diploid organism.
- Meiosis explains how organisms inherit one-half of their genetic information from each parent.

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

Section: What Does DNA Look Like? (pp. 208–211)

_____ **1.** Inherited characteristics are determined by
- **a.** genes.
- **b.** traits.
- **c.** molecules.
- **d.** environment.

_____ **2.** Structures made of protein and DNA and found in the nucleus of cells are called
- **a.** inherited characteristics.
- **b.** phosphates.
- **c.** nucleotides.
- **d.** chromosomes.

_____ **3.** What is another way to say deoxyribonucleic acid?
- **a.** DRA
- **b.** DBA
- **c.** DXA
- **d.** DNA

4. What is *DNA*?

_____

_____

_____

_____

THE PIECES OF THE PUZZLE

_____ **5.** The subunits that make up DNA are called
- **a.** genes.
- **b.** nucleotides.
- **c.** chromosomes.
- **d.** cells.

6. What two things must the material that makes up genes be able to do?

_____

_____

_____

Directed Reading B *continued*

7. Why must genes be copied each time a cell divides?

8. What allows the genetic material for genes to give instructions and be copied before a cell divides?

9. What does a nucleotide in a nucleic acid chain consist of?

10. What are the four bases of a nucleotide in DNA?

11. What do the four letters scientists often use to refer to the bases of nucleotides stand for?

Match the correct description with the correct term. Write the letter in the space provided.

_____ **12.** found that adenine is always equal to thymine, and guanine is always equal to cytosine in DNA

_____ **13.** used X rays to make images of the DNA molecule, suggesting that DNA has a spiral shape

_____ **14.** built a model of DNA that helped explain how DNA is copied and functions

a. Rosalind Franklin
b. Watson and Crick
c. Erwin Chargaff

DNA'S DOUBLE STRUCTURE

_____ **15.** The twisted shape of DNA is called a
- **a.** double ladder.
- **b.** double helix.
- **c.** nucleotide.
- **d.** base pair.

_____ **16.** The two sides of the double helix DNA ladder are made of alternating sugar parts and
- **a.** cytosine parts.
- **b.** base parts.
- **c.** thymine parts.
- **d.** phosphate parts.

_____ **17.** The rungs of the double helix DNA ladder are made of a pair of
- **a.** sugars.
- **b.** phosphates.
- **c.** bases.
- **d.** acids.

_____ **18.** When the base on one side of a DNA ladder rung is adenine, the other side of the rung is always
- **a.** thymine.
- **b.** guanine.
- **c.** cytosine.
- **d.** phosphate.

_____ **19.** When the base on one side of a DNA ladder rung is guanine, the other side of the rung is always
- **a.** thymine.
- **b.** guanine.
- **c.** cytosine.
- **d.** phosphate.

20. When Chargaff separated the parts of a sample of DNA, what did he find out about the matching bases?

_____

_____

21. What did Watson and Crick learn about the fit of the correct pairs of bases within the width of the DNA ladder?

_____

_____