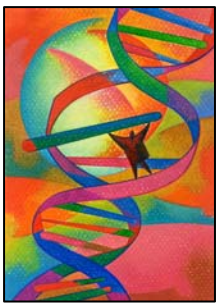
MEIOSIS REVIEW WORKSHEET



Part 1: VOCABULARY: *Answer the following question using the best vocabulary word.*

1) A cell with two of each kind of chromosome is called a(n) _____ cell.
2) A cell with one of each kind of chromosome is a(n) _____ cell.
3) _____ are sperm or egg cells.
4) _____ chromosomes have genes for the same traits in the same order on both chromosomes.
5) Parent cells make gametes in a process called _____.
6) A _____ is the cell created when a sperm enters an egg.
7) When nonsister chromatids exchange genes, it is called _____.
8) All cells, other than sperm or egg cells are called_____.
9) The process of joining a sperm cell with an egg cell is called _____.

Part 2: SHORT ANSWER: *Answer the following questions in a clear and concise manner.*

1) What is the diploid number of chromosomes in humans?_____
2) What is the haploid number of chromosomes in humans?_____
3) Would egg and/or sperm cells be considered haploid or diploid? _____
4) Would somatic cells (skin, hair, muscle cells, etc.) be considered haploid or diploid? _____
5) Is the chromosome number related to the complexity of the organism? Explain.

6) When does the process of crossing over occur?_____
7) How many daughter cells are created at the end of meiosis I?_____
8) How many daughter cells are created at the end of meiosis II?_____Are these cells considered haploid or diploid?_____
9) In humans, how many chromosomes are present in each cell at the end of meiosis I?_____
10) In humans, how many chromosomes are present in each cell at the end of meiosis II?_____
11) What is the important outcome of meiosis I?

12) What is the important outcome of meiosis II?

13) Why is meiosis important? List 2 reasons.

14) In what 2 ways does meiosis provide genetic variation? Explain how each provides genetic variety.

COMPARING MITOSIS & MEIOSIS

Determine whether the following characteristics apply to mitosis, meiosis or both by putting a check in the appropriate column(s).

	MITOSIS	***MEIOSIS***
1. no pairing of homologs occurs		
2. two divisions		
3. four daughter cells produced		
4. associated with growth and asexual reproduction		
5. associated with sexual reproduction		
6. one division		
7. two daughter cells produced		
8. involves duplication of chromosomes		
9. chromosome number is maintained		
10. chromosome number is halved		
11. crossing over between homologous chromosomes may occur		
12. daughter cells are identical to parent cell		
13. daughter cells are not identical to parent cell		
14. produces gametes		
15. a synapsis occurs in prophase		

MEIOSIS Vocabulary

Name:_____Period:_____Date:_____

Review the Key Terms
Use the key terms below and match each term with its definition by writing the letter of the term on the line provided.

A. meiosis I
B. somatic cells
C. male
D. meiosis II
E. female
F. independent assortment

_____ 1. Body cells

_____ 2. XX

_____ 3. XY

_____ 4. Separates homologous pairs of chromosomes

_____ 5. Halves the number of chromosomes per cell

_____ 6. homologous chromosomes separate randomly and independent of one another

Use the key terms in the box below and review the definitions of the terms. Then use the terms to fill in the blanks in the sentences below. **You will not use all the terms.**

diploid	**crossing over**	**gametes**
haploid	**meiosis**	**dominant**
heterozygous	**zygote**	
sexual reproduction	**genetic recombination**	
homologous		

7. A cell with two of each kind of chromosome is called _____.

8. _____ are sperm or egg cells.

9. A cell with one of each kind of chromosome is a(n) _____ cell.

10. _____ chromosomes have genes for the same traits in the same order on both chromosomes.

11. Parent cells make gametes in a process called _____.

12. A(n) _____ is the cell created when a sperm enters an egg.

13. _____ occurs when male and female gametes form to make a new living organism.

14. When nonsister chromatids exchange genes, it is called _____.

15. _____ results in genetic variety.

Meiosis Vocabulary:

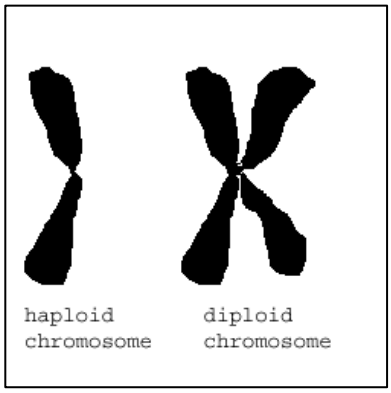
1) **Gamete** = sex cell

2) **Egg** = female gamete

3) **Sperm** = male gamete

4) **Haploid** = a cell with only ONE set of chromosomes

5) **Diploid** = a cell containing TWO sets of chromosomes



6) **Crossing over** = when nonsister chromatids of homologous chromosomes exchange genetic information, results in a new combination of genes

7) **Meiosis** = a two stage type of cell division that results in gametes with half the number of chromosome number as the body cells

8) **Homologous chromosomes** = paired chromosomes that have genes for the same traits arranged in the same order
   - One homologous chromosome is inherited from the organism's father, the other from the mother.

9) **Fertilization** = the process of joining gametes

10) **Zygote** = when sperm (haploid) fertilizes the egg (haploid), the resulting cell is the zygote (diploid)

11) **Somatic cell** = body cell (skin, hair, muscle, etc.)

12) **Sex chromosomes** = determine the sex of an individual; XX = female; XY = male

13) **Meiosis I** = Separates homologous pairs of chromosomes, NOT sister chromatids of individual chromosomes

14) **Meiosis II** = the mechanisms of meiosis II is almost the same as mitosis. However, the chromosomes DO NOT replicate between meiosis I and meiosis II, the final outcome of meiosis is halving the number of chromosomes per cell

15) **Independent assortment** = during meiosis I the homologous chromosomes separate randomly and independent of one another.