

**Heredity**  
**Unit 2 Test Review**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_ Test #: \_\_\_\_\_

1. Define each of the following words:

- a. Chromatids: \_\_\_\_\_  
\_\_\_\_\_
- b. Centromere: \_\_\_\_\_  
\_\_\_\_\_
- c. Spindle Fiber: \_\_\_\_\_  
\_\_\_\_\_
- d. Mitosis: \_\_\_\_\_
- e. Synapsis: \_\_\_\_\_  
\_\_\_\_\_
- f. Tetrad: \_\_\_\_\_
- g. Spermatogenesis: \_\_\_\_\_
- h. Oogenesis: \_\_\_\_\_
- i. Zygote: \_\_\_\_\_
- j. Crossing Over: \_\_\_\_\_
- k. Meiosis: \_\_\_\_\_  
\_\_\_\_\_
- l. Polar fibers: \_\_\_\_\_  
\_\_\_\_\_
- m. Kinetochore fibers: \_\_\_\_\_  
\_\_\_\_\_
- n. Chromatin: \_\_\_\_\_  
\_\_\_\_\_
- o. Oogenesis: \_\_\_\_\_  
\_\_\_\_\_
- p. Sexual Reproduction: \_\_\_\_\_  
\_\_\_\_\_
- q. Polar Bodies: \_\_\_\_\_  
\_\_\_\_\_
- r. Homologous Chromosome: \_\_\_\_\_  
\_\_\_\_\_

2. What are the steps of DNA condensing from chromatin to chromosomes? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Human Chromosome Numbers?

- a. Diploid Number: \_\_\_\_\_
- b. Haploid Number: \_\_\_\_\_
- c. Somatic cell number: \_\_\_\_\_
- d. How many sex chromosomes? \_\_\_\_\_
- e. How many non-sex (autosomes) chromosomes? \_\_\_\_\_

4. What is the main purpose of mitosis? \_\_\_\_\_  
\_\_\_\_\_
5. What is diploid? What symbol is used to represent it? Which cells in an organism are diploid?  
\_\_\_\_\_  
\_\_\_\_\_
6. What is haploid? What symbol is used to represent it? Which cells in an organism are haploid?  
\_\_\_\_\_  
\_\_\_\_\_
7. What are the four steps of mitosis? And what happens in each? List them in the correct order. Draw a picture of each stage below your description. You will have to recognize pictures of each phase on your test.
- a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- b. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- c. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Write out the correct order of events in the cell cycle. Briefly summarize  $G_1$ , S, and  $G_2$
- a. \_\_\_\_\_  
    i. \_\_\_\_\_  
    ii. \_\_\_\_\_  
    iii. \_\_\_\_\_
- b. \_\_\_\_\_  
    i. \_\_\_\_\_  
    ii. \_\_\_\_\_  
    iii. \_\_\_\_\_  
    iv. \_\_\_\_\_

- c. \_\_\_\_\_
9. Which stage of the cell cycle does the cell spend most of its life in? \_\_\_\_\_
10. What is the difference between animal and plant cells in mitosis/cytokinesis? \_\_\_\_\_
- \_\_\_\_\_
11. What are the steps of Meiosis I? Briefly explain main events that happen within each phase. You will have to recognize pictures of each phase on your test. (Study pictures from “Meiosis Worksheet”)
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
12. What are the steps of Meiosis II? Briefly explain main events that happen within each phase. You will have to recognize pictures of each phase on your test. (Study pictures from “Meiosis Worksheet”)
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
13. How do Meiosis I and Meiosis II differ? \_\_\_\_\_
- \_\_\_\_\_
14. How many cell divisions are in mitosis? Meiosis? \_\_\_\_\_
15. Fill in the charts below.

	<b>Meiosis</b>	<b>Mitosis</b>
Type of Reproduction (Sexual or Asexual)		
Does crossing over occur?		
Pairing of Homologous Chromosomes		
# of Divisions		
# of Daughter Cells		
Are daughter cells genetically identical or different?		

	Meiosis I	Meiosis II
Prophase		
Metaphase		
Anaphase		
Telophase		