

Name _____ Date _____ Period _____

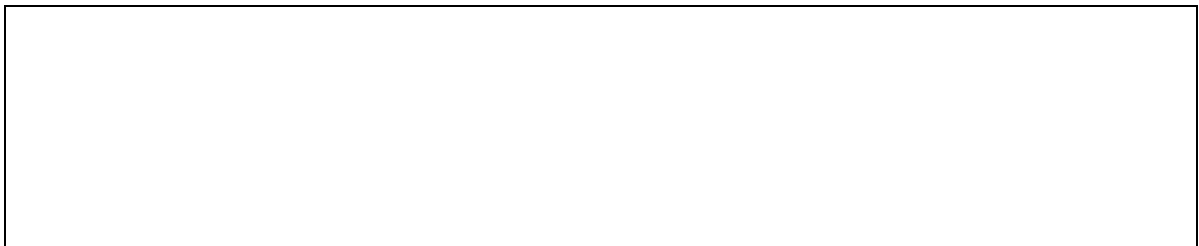
Meiosis Guided Reading Unit 6.3 (Chapter 11.4)

1. _____ are the carriers of genes.
2. Humans have 46 chromosomes. How many chromosomes does a fruit fly have? _____
3. A pair of chromosomes in which one set comes from the male parent and the other corresponding set comes from the female parent is said to be _____.
4. The diploid cells of most adult organisms contain _____

5. _____ cells contain only a single set of chromosomes.
6. _____ means "one set"
_____ means "two sets"
7. Haploid gamete cells can be represented by the symbol "N." How is a diploid cell represented?

8. A human's diploid number can be written as $2N=46$. How can our haploid number be written?
_____ = _____
9. Define meiosis: _____

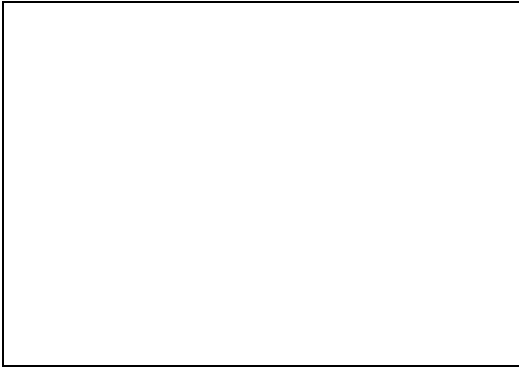
10. What are the two distinct divisions of meiosis called?
_____ & _____
11.
 - a. What process occurs during Prophase I? _____
 - b. What does this event produce? _____
 - c. Why is this important? _____
12. Draw a tetrad undergoing the process of crossing over.



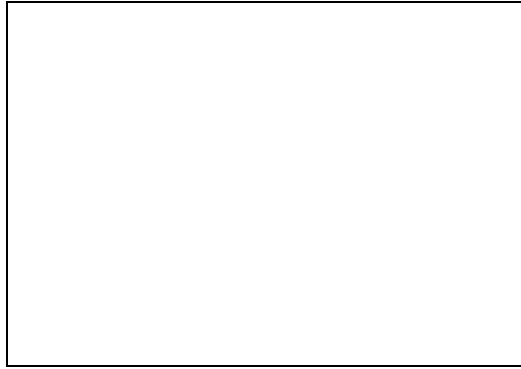
13. What lines up across the center of the cell during metaphase I? _____

14. Draw a cell in the following phases, labeling **homologous chromosomes** and **chromatids**:

Anaphase I



Anaphase II



- 15.
- What is the final product of meiosis II? _____
 - How is this different from the result of meiosis I? _____

16. In your own words, distinguish between a gamete and a zygote: _____

17. Look at Figure 11-17. Describe two differences between mitosis and meiosis.
- _____
 - _____
- Describe two similarities between mitosis and meiosis.
- _____
 - _____
18. Mitosis can be a form of _____ reproduction, whereas meiosis is an early step in _____ reproduction.
19. Meiosis reduces the chromosome number by _____ while mitosis maintains the chromosome number of the original cell.
20. What did Thomas Hunt Morgan determine in 1910 regarding gene linkage? _____

21. It is not individual genes that independently assort, but the _____
22. What does a gene map show?

23. Circle the correct answer: The farther apart two genes are on a chromosome, the **more/less** likely they are to have crossing-over occur.