

Name: _____

Hour: _____

Meiosis Review

1. Complete the table below in regards to **meiosis**.

# of times the DNA doubles	
How many times the cell divides	
How many cells are produced as a result	
Cells produced are:	Diploid (2n) OR Haploid (1n)
Compared to parent cell	Identical OR Not Identical
Used to make:	Body Cells OR Sex Cells

2. What is the purpose of meiosis?

3. What is synapsis? Why is it important?

4. What is the difference between diploid and haploid cells? What is an example of each type in our body?

5. If a cell with a diploid number of $2n=50$ undergoes meiosis, how many chromosomes will the four cells at the end of meiosis have?

6. If an alligator has a diploid number of chromosomes of $2n = 32$,

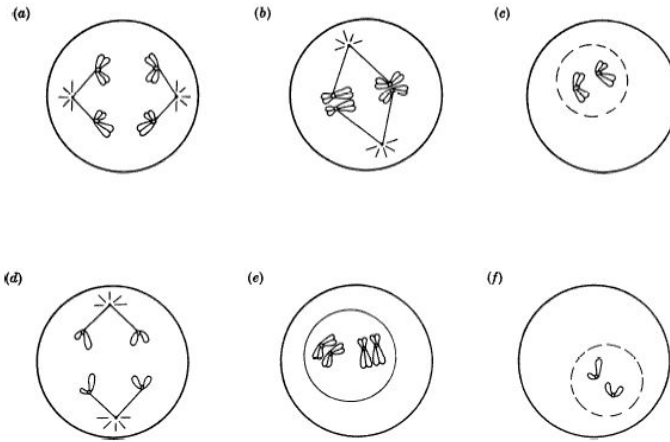
- how many chromosomes will be in its egg cells? _____
- how many chromosomes will be in its skin cells? _____

7. What is a homologous pair? What are they also known as?

8. Fill in the blanks about the steps of meiosis below:

- In Prophase I, the big difference is that _____ occurs in which homologous chromosomes pair up
- During Prophase I, _____ may occur in which homologous chromosomes may swap some of their genetic information
- During Metaphase I and Anaphase I, _____ are lined up along the metaphase plate and then separated.
- Metaphase II the chromosomes line up in _____ and then Anaphase II pulls apart the _____

9. Label the images below with what step in meiosis they are depicting. ALSO, number them in order (yes there are some stages missing, but chronologically put them in order 1 being first).



10. What is a zygote?

11. What sex chromosomes do females have? What about males?

12. Genetic diversity is important for our species to survive, it ensures that individuals are not identical and have a variety of traits. What are the THREE sources of genetic variation in sexually reproducing species?

13. What is spermatogenesis? What is oogenesis?

14. Give 2 ways spermatogenesis differs from oogenesis.

15. What is a karyotype?

16. What kind of information can you learn from a karyotype?

17. Down Syndrome can easily be identified on a karyotype, what would you look for?

18. What is nondisjunction?

19. Explain what happens in the following mutations:

- a. Deletion -
- b. Duplication -
- c. Inversion -
- d. Translocation -