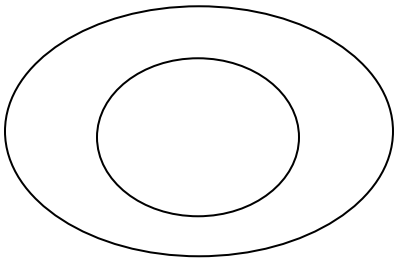
# <u>Mitosis vs Meiosis</u>

Name:_____ Period_____

1. Start with a pair of each color chromosomes.

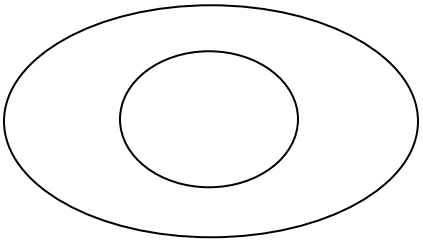
- Draw a picture of the chromosomes in your nucleus. This is your ***<u>parent cell</u>***.



- How many pairs of chromosomes are in your nucleus? _____
- How many chromosomes are in your nucleus? _____

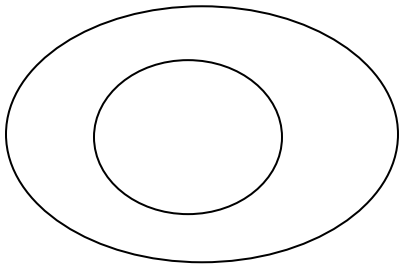
2. Duplicate your chromosomes by adding another pair of chromosomes that is identical to the pair you started with.

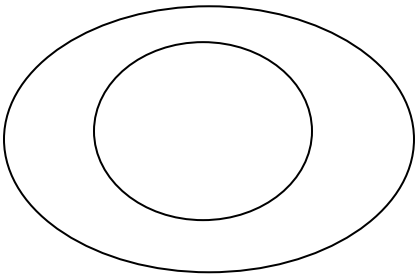
- Draw a picture of the chromosomes in your nucleus.



3. Separate identical pairs of chromosomes to create two new cells. Each new cell should have one pair of each chromosome.

- Draw your two new cells. Show the chromosomes within the nucleus. These are your ***<u>daughter cells</u>***.





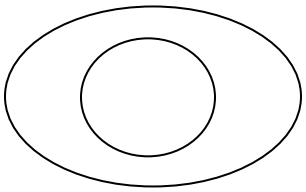
***<u>You have reached the end of mitosis.</u>***

4. How many new cells did you create? _____
5. How many ***pairs*** of chromosomes are in each new cell? _____
6. How many chromosomes are in each new cell? _____
7. How do the number of chromosomes in your new cell compare to the number of chromosomes in your original cell. (Write in a complete sentence)

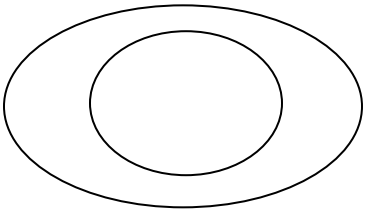
_____

# ***Meiosis***

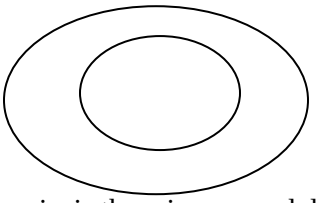
1. Start with a pair of each color chromosomes. This is your ***parent cell***
   - Draw a picture of the chromosomes in your nucleus.

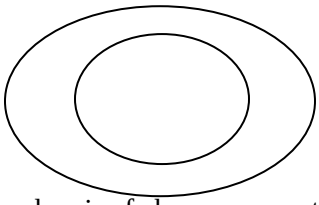


2. Duplicate your chromosomes by adding another pair of chromosomes that is identical to the pair you started with.
   - Draw a picture of the chromosomes in your nucleus.



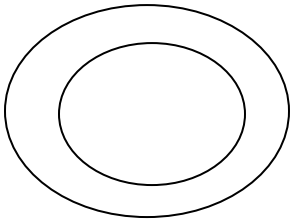
3. Separate identical pairs of chromosomes to create two new cells. Each new cell should have one pair of each chromosome.
   - Draw your two new cells. Show the chromosomes within the nucleus

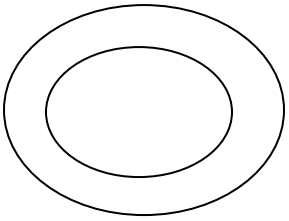


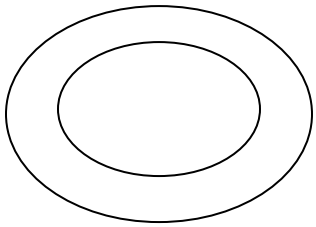


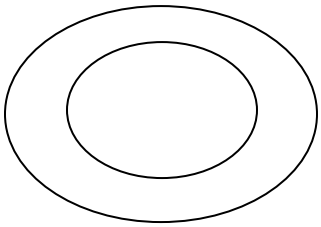
4. In meiosis there is a second division. Separate each pair of chromosomes to create 4 new cells. Each cell should have the same number of chromosomes.

- Draw your 4 new cells (Make sure you include the number of chromosomes). These are your ***daughter cells***.









- You have reached the end of Meiosis!

5. How many new cells did you create? _____
6. How many pairs of chromosomes are in your new cells?_____
7. How many chromosomes are in your new cells? _____
8. How do the number of chromosomes in your new cells compare to the number of chromosomes in your original cell. (Write in a complete sentence)

Conclusion: What are the main differences between mitosis and meiosis? (# of cells produced in the end, # of chromosomes in each cell, reasons we need mitosis/meiosis)