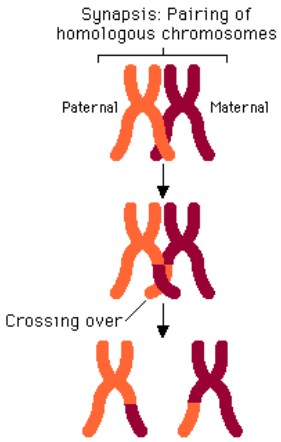
Name: _____ Hour: _____

Meiosis Webquest

Step 1
Go to http://www.lpscience.fatcow.com/jwanamaker/animations/meiosis.html

1. How many chromosomes does the cell in this animation start with? **6**
2. Each chromosome finds its **pair.**
3. Draw "crossing over" - using your pencil to shade in the areas that exchange parts.



4. How many chromosomes are at each pole of the cell? **3**
5. After 2 cells are formed, another phase occurs. When this begins chromosomes line up again along the cell's **equator**.
6. Only **1** copy of each chromosome moves toward the poles. Which means only **3** chromosomes of the original six.
7. New membranes form around each **nucleus.**
8. Each cell divides, forming a total of **4** cells.

Step 2
Go to http://www.sumanasinc.com/webcontent/animations/biology.html and click on "Meiosis"

Read the introduction. Explain the difference between sexual and asexual reproduction.

Meiosis- sexual reproduction, production of 4 cells with half of the genetic material

Mitosis- asexual reproduction, production of 2 identical daughter cells

Click "Step Through"

1. DNA replication takes place in which phase? **prophase**
2. Meiosis consists of two cell divisions: **meiosis I** & **meiosis II**
3. Centrosomes (aka centrioles) migrate to **to the poles.**
4. The pairing of homologous chromosomes is called: **synapsis**
5. Crossing over points are called **chiasmata**
6. Briefly describe what happens in metaphase I

   Homologous chromosomes line up at the equator in pairs, one chromosome on either side.
7. Briefly describe what happens during anaphase I

   Chromosomes from each pair move toward opposite poles.
8. In metaphase II, chromosomes line up in [**single** double] file.
9. What happens during telophase II?

   Chromosomes decondense, cytokinesis begins, nucleus forms around DNA.
10. Each of the four daughter cells produced by meiosis is: (Circle one) Identical **Unique**

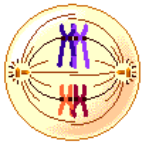
In the bottom right had corner, click on the "Q" icon for the quiz.

1. With respect to meiosis, when does DNA replication occur? **Before meiosis I only**
2. When does crossing over occur? **Prophase I**
3. During which phase do chromosomes line up along the equator? **Metaphase II**
4. During which phase does the nuclear membrane form around the chromosomes? **Telophase**

Step 3
Go to http://www.cellsalive.com and click on "Meiosis" on the left under "Interactice"

Click on the step-by-step button to go through the animation of Meiosis. Draw *only* Metaphase I and Metaphase II of meiosis side by side. Be sure to draw & color the chromosomes so you can tell the difference between the two. Explain the major differences in the chromosomes in each stage?

Metaphase I



Metaphase II