Internet Assignment: Meiosis & Sexual Life Cycles

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

<http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter28/animation__how_meiosis_works.html>

1. What type of cell undergoes meiosis
2. Are these cells haploid or diploid?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What types of cells does meiosis produce, are they diploid or haploid
4. What process makes these cells diploid?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. At the end of interphase, how many chromosomes will be present in a human cell?\_\_\_\_\_\_\_\_\_
6. After which division is the number of chromosome considered to be haploid?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. List and describe 2 events that occur only in meiosis. Be sure to indicate when they happen
8. During what stage does independent assortment happen?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. When are homologous chromosomes separated? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. When are sister chromatids separated?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Which stage more closely resembles mitosis, meiosis 1 or meiosis 2?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Random Orientation of Chromosomes During Mitosis

<http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter28/animation__random_orientation_of_chromosomes_during_meiosis.html>

1. What does it mean that during metaphase 1 orientation of homologous pairs at the metaphase plate is random?
2. What math equation do you use to determine the number of possible chromosomes orientations?
3. How many orientations would exist if you had 8 chromosome pairs?
4. How many orientations exist for humans

# Stages of Meiosis

<http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter28/animation__stages_of_meiosis.html>

1. What is synapsis and when does it occur
2. In metaphase 1, spindle fibers attach to how many sides of each centromere?\_\_\_\_\_\_\_\_\_\_\_\_
3. Where do homologs line up for metaphase 1?

# Unique Features of Meiosis

<http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter28/animation__unique_features_of_meiosis.html>

1. List and describe the 3 unique features of Meiosis.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Meiosis

<http://www.sumanasinc.com/webcontent/animations/content/meiosis.html>

1. When DNA replicates, are chromosomes visible?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many cell divisions are in meiosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How many centrosomes does a cell have in meiosis?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. In this animation, what colors are used for maternal and paternal chromosomes
   1. Maternal = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Paternal= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What are crossing over points called?
6. What’s the difference between the equatorial plate and the metaphase plate?
7. Do maternal chromosomes have to align on the same side of the metaphase plate?\_\_\_\_\_\_\_\_\_
8. How many times is DNA replicated during meiosis?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. If this was your germ cell, who did you get your red chromosome from?
10. Who did that person get their blue chromosome from? ***Take the quiz***

# Comparing Mitosis & meiosis

<http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter2/animation__comparison_of_meiosis_and_mitosis__quiz_1_.html>

1. What two events are unique to meiotic prophase 1
2. How many divisions are in
3. How many cells are formed at the end of meiosis & mitosis, and how do they compare in terms of their genomes to their parent cells?
   1. Mitosis =
   2. Meiosis =