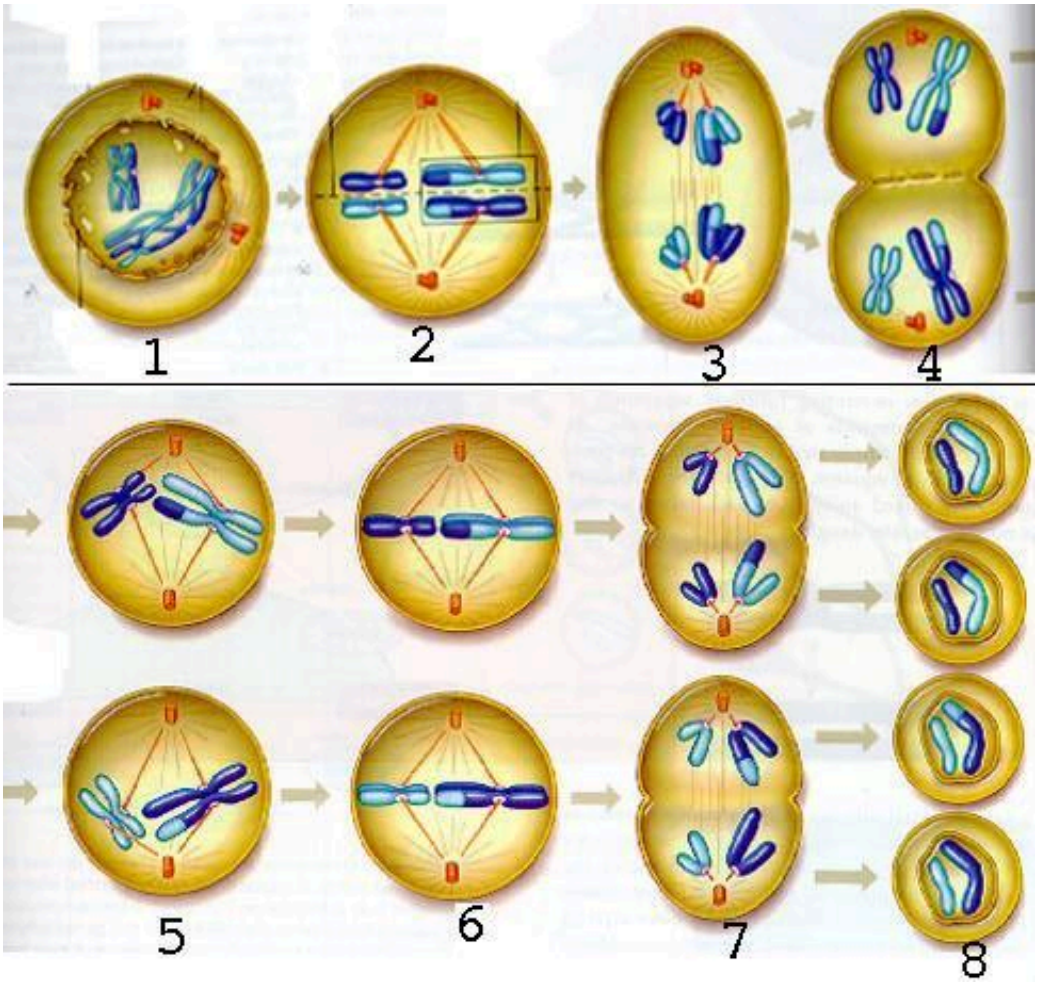
Description

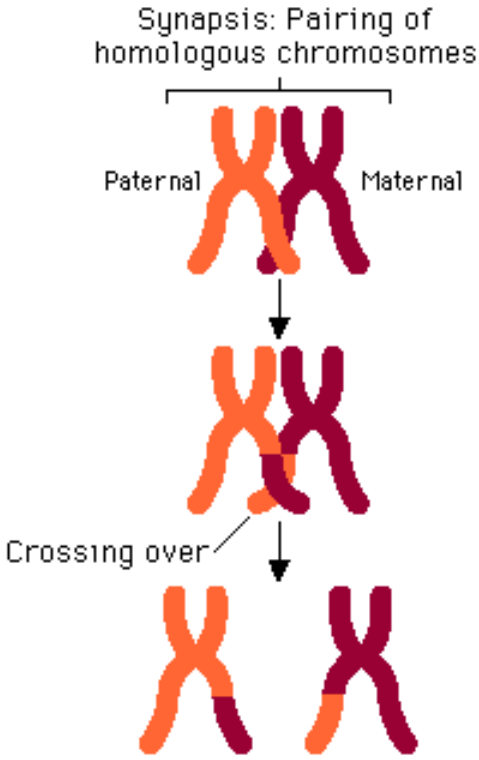


During Interphase the cell prepares for meiosis, by growing, and copying its DNA, and condensing the DNA into Chromosomes

Meiosis 1

- In Prophase 1 the nuclear membrane breaks down, spindles form.(part 1 of image)

- Crossing over happens during Prophase 1 and is when two chromosomes will trade genes. This helps keep variation in the offspring.



- During Metaphase 1 the tetrads (homologous pairs) form and line up in the center of the cell, and spindles attach to each chromosome.(part

2 of image)

- During Anaphase 1 the tetrads are pulled to opposite ends of the cell by thespindles. (part 3 of image)

During Telophase 1/ Cytokinesis 1 the cell finally forms two new cells, with equal amounts of chromosomes and organelles. (part 4 of image)

Meiosis 2

- During Prophase 2 the nuclear membrane breaks down again and the chromosomes reform along with the spindles. (part 5 of image)

- During Metaphase 2 the chromosomes line up again in the center of the cell and attach to spindles. (part 6 of image)

- During Anaphase 2 the chromosomes are split, by the spindles, with the two sides going to opposites ends of the cell. (part 7 of image)

During Telophase 2/ Cytokinesis 2 each cell splits

into two new cells with equal amounts of chromosomes and organelles. (part 8 of image)

Meiosis Questions

- During what phase can crossing over happen?

- After meiosis 1, what types of cells are made? 2 haploid or 2 diploid?

- What is the longest stage of the cell cycle?

- What is the final product of Meiosis?

What happens during metaphase 1?

Activity Instructions

You will act out Meiosis with your classmates by assigning a role for each person. (2 homologous chromosomes, 2 centrioles, and 1 optional narrator).

1. Prophase:

- Homologous chromosomes come together to form a tetrad.
- Both centrioles appear in the cell.
- The two homologous chromosomes cross over genetic material by trading two of their bracelets with each other, leaving each homologous chromosomes with 2 pairs of each

colored bracelet.

2. Metaphase:

- Homologous chromosomes move to the center of the cell while both centrioles give one end of string to each homologous chromosome to hold.
- The centrioles move to opposite ends of the cell at equal distance while holding the other side of the string

3. Anaphase:

- Centrioles separate 2 homologous chromosomes to opposite sides by pulling the string until both centrioles have met a

homologus chromosome.

4. Telophase/ Cytokinesis:

- Homologous chromosomes take off all the paper bracelets and drops them by their feet.
- Centriole and homologous chromosome hold both each other's hands and make a circle to represent the newly formed membrane, leaving the genetic material (bracelets) in the middle.