

Biology
Mitosis / Meiosis
2012 - 2013
#4

- I. Meiosis = cell division that results in 4 haploid cells
 - meiosis begins with the process of interphase
 - DNA is replicated in the “S” period of interphase (same as mitosis)
 - A. Prophase 1
 - 1. nucleus (and nucleolus) disappear
 - 2. spindle fibers appear and stretch across the cell
 - 3. DNA condenses into chromosomes
 - 4. Homologous pairs of chromosomes (one from mom, one from dad) match up
 - homologous pairs form a tetrad
 - 5. process of crossing over occurs as the homologous pairs are matched up
 - creates genetic diversity as every sperm or egg is unique
 - B. Metaphase 1
 - 1. tetrads line up in the middle of the cell
 - C. Anaphase 1
 - 1. homologous pairs separate and travel to opposite ends of the cell
 - D. Telophase 1
 - 1. nuclei reform around the chromosomes
 - 2. cell splits (cytokinesis) into 2 haploid cells

E. Prophase II

1. nuclei disappear
2. spindle fibers appear

F. Metaphase II

1. chromosomes line up in the middle of the cell

G. Anaphase II

1. chromatids separate and travel to opposite ends of the cell

H. Telophase II

1. nuclei reform around chromosomes
2. cell splits (cytokinesis) to form 4, unique haploid cells