**Meiosis Guided Notes**

**What is Meiosis?**

-A form of nuclear ell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that creates 4 haploid cells from one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell. This process occurs in the gametes (\_\_\_\_\_\_\_\_ cells). It involves 2 rounds of cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-meiosis I and meiosis II.

**Homologous Chromosomes vs. Sister Chromatids**

-Homologous chromosomes are two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ chromosomes-1 from mom and 1 from dad. They are similar but not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Sister chromatids are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ chromosomes that remain attached.

**Meiosis I**

-Prophase I-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ membrane breaks down and homologous chromosomes \_\_\_\_\_\_\_\_\_ up. Crossing over occurs by chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DNA (part of mom’s chromosome breaks off and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ onto dad’s chromosome and vice versa.

-Metaphase I-homologous chromosomes pair up and are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lined up along the middle of the cell-this creates genetic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-Anaphase I-paired homologous chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from each other and move toward the opposite ends of the \_\_\_\_\_\_\_.

-Telophase I-the cell has chromosomes at each \_\_\_\_\_\_\_\_\_\_\_\_, and then the cell undergoes cytokinesis-splits into \_\_\_\_\_\_\_\_ cells. This result is 2 cells that have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ combination of duplicated chromosomes from both \_\_\_\_\_\_\_\_\_\_\_\_\_.

**Meiosis II**

-Prophase II-nuclear membrane breaks down, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ move to opposite ends of the cell.

-Metaphase II-the chromosomes are aligned at the cell’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Each chromosome still has two sister \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-Anaphase II-sister chromatids are pulled \_\_\_\_\_\_\_\_\_\_\_\_\_ and move to opposite ends of the cell.

-Telophase II-nuclear membrane forms around each set of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the cell undergoes cytokinesis. The end result is \_\_\_\_\_\_\_ haploid cells with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of chromosomes from both mom and dad.