**Mitosis and Meiosis Discussion Questions**

1. What are homologues, sister chromatids, and bivalents? When do sister chromatids separate during mitosis? When do sister chromatids separate during meiosis?

2. Describe the arrangement of chromosomes at metaphase of mitosis. How is this different from the arrangement of chromosomes at metaphase I of meiosis I?

3. What are the differences in the cells produced by mitosis and meiosis?

Mitosis vs. Meiosis Defining Features Matrix: Complete the following table with information about the listed feature in mitosis and meiosis.

**Feature Mitosis Meiosis I Meiosis II**

|  |  |  |  |
| --- | --- | --- | --- |
| Preceded by DNA replication? (Yes/No) |  |  |  |
| When is formation of bivalents? |  |  |  |
| Crossing over during prophase? (Yes/No) |  |  |  |
| Describe alignment at metaphase plate |  |  |  |
| Describe separation at anaphase |  |  |  |
| Genetically identical daughter cells produced? (Yes/No) |  |  |  |
| Haploid daughter cells produced? (Yes/No) |  |  |  |