

## Biology I

### Activity: Simulating Meiosis

| <i>Stages in Meiosis</i> | <i>Teacher Approval</i> | <i>Stages in Meiosis</i> | <i>Teacher Approval</i> |
|--------------------------|-------------------------|--------------------------|-------------------------|
| <i>Interphase</i>        |                         | <i>Interkinesis</i>      |                         |
| <i>Prophase I</i>        |                         | <i>Prophase II</i>       |                         |
| <i>Metaphase I</i>       |                         | <i>Metaphase II</i>      |                         |
| <i>Anaphase I</i>        |                         | <i>Anaphase II</i>       |                         |
| <i>Telophase I</i>       |                         | <i>Telophase II</i>      |                         |

#### *Analysis*

1. What is the difference between Meiosis I and Meiosis II?
2. List and explain one similarity and difference between meiosis and mitosis. Be sure to explain in detail.
3. A cell has 16 chromosomes before it undergoes meiosis. Fill in the chart with the number of chromosomes and chromatids that are present in one cell during each of the phases listed.

| <i>Phase</i> | <i># of chromosomes</i> | <i># of chromatids</i> | <i>Phase</i> | <i># of chromosomes</i> | <i># of chromatids</i> |
|--------------|-------------------------|------------------------|--------------|-------------------------|------------------------|
| Prophase I   |                         |                        | Metaphase II |                         |                        |
| Telophase II |                         |                        | Anaphase I   |                         |                        |
| Interkinesis |                         |                        | Gametes      |                         |                        |

4. To summarize this activity, draw three pairs of homologous chromosomes in the first circle below. Label the homologous pairs A, B, and C. Fill in the following circles with the appropriate number of chromosomes. Label each circle as being

haploid or diploid in addition to the chromosome count.

