

Meiosis Matching Worksheet

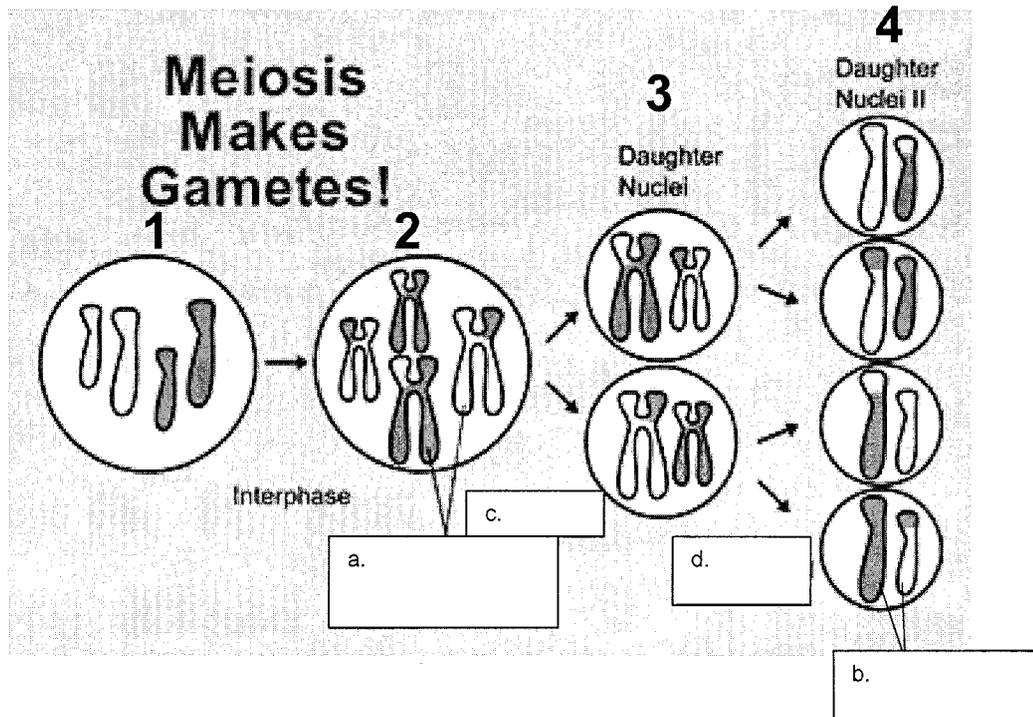
Name _____

Match the following occurrences with their appropriate phase in meiosis. Some lines will have more than one answer, and the stages can be used more than once or not at all.

- | | | |
|----------------------------|-----------------------------|---------------|
| a. prophase I | e. prophase II | i. interphase |
| b. metaphase I | f. metaphase II | |
| c. anaphase I | g. anaphase II | |
| d. telophase I/cytokinesis | h. telophase II/cytokinesis | |

- _____ tetrads line up at the equator
- _____ DNA replication occurs
- _____ daughter cells divide forming 4 haploid cells
- _____ synapsis occurs
- _____ sister chromatids separate
- _____ crossing over occurs
- _____ spindle fibers attach to centromeres of tetrads
- _____ two daughter cells are created
- _____ centrioles move to opposite poles
- _____ homologous pairs separate
- _____ random assortment occurs

Meiosis I and Meiosis II Worksheet



1. Fill in the boxes above with the following words: meiosis I, meiosis II, sister chromatids, homologous chromosomes.

2. Describe what occurs between step 1 and 2.

3. What is the end product of meiosis I?

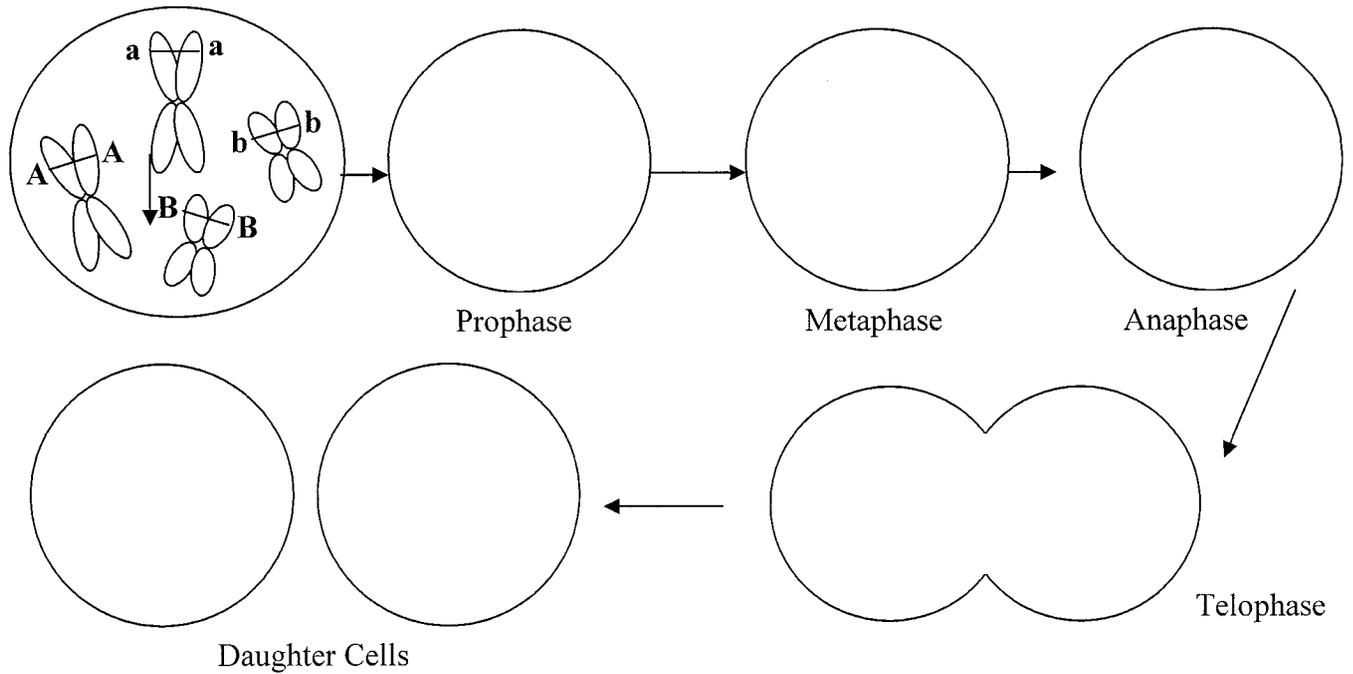
4. What is the end product of meiosis II?

5. Look at the cells in step 4. Are they all the same? Why would nature favor this?

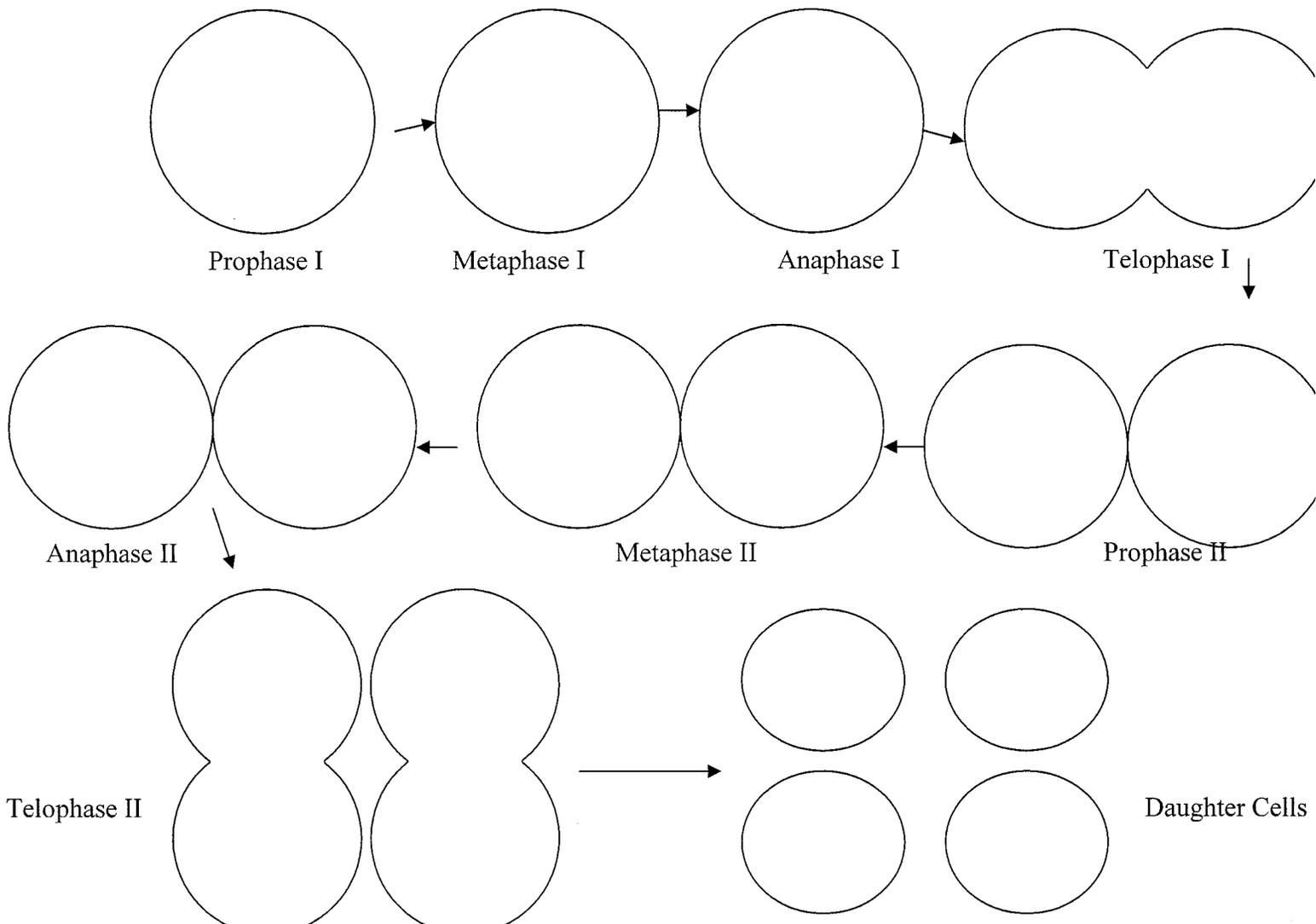
6. What will the cells in step 4 mature to become?

Mitosis and Meiosis Worksheet

I. Draw the chromosomes in the cell as it undergoes **Mitosis**:

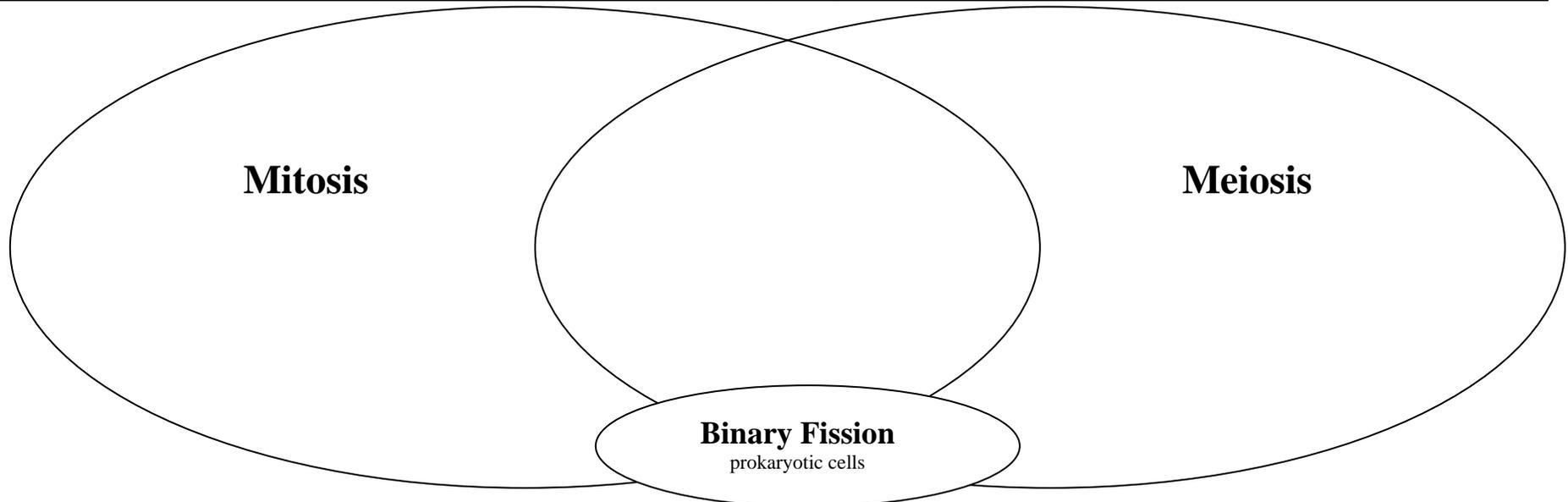


II. Draw the chromosomes in the cell as it undergoes **Meiosis (same parent cell)**:



1. Mitosis vs. Meiosis-Venn Diagram: Place each of the items listed below in the appropriate portion of the diagram. Add 3 items.

increases genetic variation	crossing over occurs	used in tissue repair	required prior to sexual fertilization
1 division	gametes	4 cells produced	asexual reproduction
DNA replication occurs in interphase	2 cells produced	spermatogenesis	
✓ prokaryotic cells	eukaryotic cells	produces genetically identical cells	
somatic cells	2 divisions	tissue growth	



2. Mitosis v. Meiosis-Explaining Differences: Explain what happens in each of the following processes in Meiosis that is **different** from Mitosis and **why** the difference is important.

Prophase I (in Meiosis I):

Metaphase I and Anaphase I (in Meiosis I):

Meiosis II:

3. Mitosis and Meiosis-Drawn Definitions: On the back, a) define each of the words below using only pictures, b) Label each of your drawings with the appropriate vocabulary word, and c) note whether the word relates to Mitosis, Meiosis, or both.

Chromosome, Chromatid, Centromere, Chromatin, DNA, Homologous Chromosome, Interphase, Prophase, Anaphase, Metaphase, Telophase, Diploid, Haploid, Tetrad, 2N, 1N, Crossing Over, Gamete, Somatic Cell