

Name \_\_\_\_\_

## The Cell Cycle – Meiosis

Similar to mitosis, **meiosis** also involves the cell cycle but serves a different purpose. Meiosis is the process by which reproductive cells (sperm and egg cells) are produced, ensuring genetic diversity in offspring.

Meiosis occurs in two stages: **meiosis I and meiosis II**. In meiosis I, homologous chromosomes are separated, reducing the chromosome number from diploid to haploid. In meiosis II, sister chromatids are separated, resulting in four haploid daughter cells, each with a unique combination of genetic material.

This reduction in chromosome number is crucial for sexual reproduction.

### Questions

1. How does meiosis differ from mitosis in terms of its purpose?
2. Describe the two stages of meiosis and their specific functions.
3. Why is it essential for meiosis to reduce the chromosome number in reproductive cells?
4. What is the significance of genetic diversity in offspring?
5. True or False: Meiosis I reduces the chromosome number from haploid to diploid.