

Mitosis Study Guide

1. Complete the chart below comparing haploid and diploid cells.

| | Haploid | Diploid |
|---|---------------------|-----------|
| Number of chromosomes | 23 | 46 |
| Found in each body type of cell division | Sperm and egg cells | Most body |
| Type of cell division needed to produce each type | Mitosis | Mitosis |

- Why is it essential that somatic cells undergo mitosis rather than meiosis?
 - Mitosis maintains chromosome number. The do not want just that cells to have half the number of chromosomes.
- Why is it essential that reproductive cells undergo meiosis rather than mitosis?
 - In reproduction, sperm and egg are joined. Meiosis creates a cell with half the number of chromosomes so that when both are joined they will have the correct number of chromosomes and so more.

2. Complete the following chart.

| | Mitosis | Meiosis |
|-----------------------------------|-----------|---------------|
| 1 cell chromosome in parent cell | 46 | 46 |
| # daughter cells | 2 | 4 |
| Daughter cells haploid or diploid | Haploid | Haploid |
| Genetic similarity to parent cell | Identical | Not identical |