

Unit: Reproduction

Mission C: Mitosis & Meiosis

Mini Lesson #1: Cell Division

- A cell goes through a series of _____ and forms over a period of time until it _____ itself.
- There are 2 types of cells:
 1. _____ cells (skin, organ, muscle)
 - Reproduce by _____
 - _____ cells contain the _____ number of _____
 2. _____ cells (sex cells)
 - Reproduce by _____
 - Daughter cells contain _____ the number of _____

Mini Lesson #2: Mitosis

- Mitosis is a process where a _____ cell _____ resulting in two _____ cells, each containing the _____ number of _____ and _____ content as the _____ cell.
- A cell goes through _____ major periods during its _____:
 1. _____
 2. _____
- Interphase is the phase that the _____ spends _____ of its time.
- During this time the cell:
 - _____
 - Replicates its _____
 - _____ for the first phase of _____
- Interphase is _____ a phase of _____ as the cell is not _____, just _____ to.
- During _____ the cell _____ and goes through a number of _____ . * See your mitosis flipbook for these phases!*
- In the end after _____ the _____ cell will have given rise to two _____ cells that have the exact same _____ information.

Mini Lesson #3: Meiosis

- **Meiosis** is a form of cell _____ that happens in _____ reproducing organisms where _____ divisions occur leading to the production of four _____ cells.
- A _____ cell (2n) contains the _____ number of _____.

- A _____ cell (n) occurs when a cell's _____ number is _____.
- Example: a human _____ cell contains _____ chromosomes, once it undergoes _____ there will be four _____ cells with _____ chromosomes each.

Meiosis Phases

Meiosis I

Prophase I:

- The nuclear membrane dissolves, spindle fibres start to grow.
- Chromosomes pair up with their homologous pair.

Metaphase I:

- Spindle fibers attach to the pairs of chromosomes and these pairs line up.

Anaphase I:

- The spindle fibers pull the homologous pairs of chromosomes apart and pull chromosomes to separate ends of the cell.

Telophase I:

- The nuclear membrane forms around each group of chromosomes and the cytoplasm splits in half to form two new cells.

Meiosis II

Prophase II

- The nuclear membrane dissolves and spindle fibers start to grow.

Metaphase II

- The spindle fibers attach to the chromosomes and pull them in a straight line across the cell

Anaphase II

- The spindle fibers pull the chromosomes and they break into chromatids. The sets of chromatids move to opposite ends of the cell.

Telophase II

- A nuclear membrane forms around each set of chromatids (in humans there are 23 chromatids in each set) and the cytoplasm divides.

- By this stage there are 4 new haploid cells made that have 23 strands of chromatin in each cell.
- Each of the cells created will move into interphase before it goes through meiosis

Diagram of Meiosis Cell Division:

