Reasons for Cell Division

To make copies of cells for growth

To make copies of cells to repair

To carry on the species/reproduce

Repair refers to both the wearing out of cells and the injury to cells

Mitosis Phases

1. Interphase
2. Prophase
3. Prometaphase
4. Anaphase
5. Telophase
6. Cytokinesis

Meiosis I

Interphase (before meiosis starts)/ Cell duplicates the 46 chromosomes, leading to 46 chromosomes but 92 chromatids

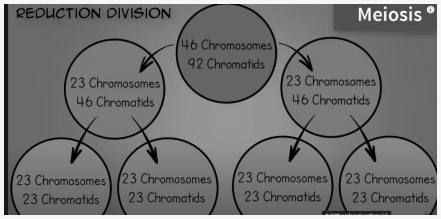
Prophase I Chromosomes condense / synapsis occurs, creates tetrad / crossing-over occurs

Metaphase I Homologous pairs chromosomes line up in centre of cell (metaphase plate)

Anaphase I Homologous pairs are pulled apart to opposite sides of the cell but sister chromatids stay together

Telophase I Chromosomes arrive at opposite ends of the poles / spindle fibres break down, nuclear membrane forms (in some cells), chromosomes uncoil, and nucleoli reforms

d



Comparison of Mitosis and Meiosis

Mitosis	Meiosis
One division	Two divisions
Chromo-somes don't get together in pairs	Homologous chromo-somes must synapse to complete the process (occurs in prophase I)
Homologous chromo-somes don't cross over	Crossing over is an important part of meiosis and leads to genetic variation
Sister chromatids separate in anaphase	Sister chromatids separate in anaphase II
Daughter cells are diploid	Daughter cells are haploid
Daughter cells carry identical genetic information	Daughter cells are genetically different to parents
Function is to grow, repair, and reproduce	Function is to produce gametes/sex cells

Sponsored by **ApolloPad.com**
Everyone has a novel in them. Finish Yours!
https://apollopad.com