Cell Division can either take place by Mitosis or Meiosis:

Mitosis: produces two daughter cells that have the same number of chromosomes as the parent cell and each other.

Cell division in Prokaryotic cells:

Binary Fission = the circular DNA molecule replicates and both copies attach to the cell membrane / the plasmids also replicate /

as the parent. In humans, such cells have two copies of 23 chromosomes and are called diploid.



The importance of Mitosis:

Growth: if a new organism is to resemble its parents, all the cells that grow from this original cell must be genetically identical.

Repair: if cells are damaged, new cells that are produced need to have an identical structure and function.

Reproduction: single-celled organisms divide by mitosis to give two new organisms.



Mitosis