Mitosis and Meiosis Compared

It's really important that you don't get **meiosis** and **mitosis** confused! Take some time to look at the table below and make sure you understand all the differences between the two types of cell division.

	Mitosis	**Meiosis**
Purpose	To make daughter cells identical to the parent cells – for growth, repair, and maintenance of cells; to increase the population of certain organisms	To produce sex cells (**gametes**) – sperm and egg
Takes place ..	In all cells except for sex cells	In the reproductive organs or **gonads** (ovaries and testes)
Produces how many cells?	Two daughter cells that are each 2n (diploid)	Four gametes that are n (monoploid)
What happens to number of chromosomes?	Same number as in parent cell	Half as many as in parent cell (The original number of chromosomes is restored when two gametes fuse to form a **zygote**.)
How do parent and daughter cells/gametes compare genetically?	Exactly the same – identical number and size of chromosomes	Contain ½ mix of chromosomes from the original sex cell, so gametes are not identical to the parent cell
Variations between daughter/gamete cells?	No - they are clones of each other	Yes - they are genetically different from each other because chromosomes get shuffled up during meiotic division