

Topic Page: [Cell division](#)

Definition: **cell division** from *Philip's Encyclopedia*

Process by which living cells reproduce and enable an organism to grow. In eukaryote cells, a single cell splits in two, first by division of the nucleus (occurring by mitosis or meiosis), then by fission of the cytoplasm. For growth and asexual reproduction, where the daughter cells are required to be genetically identical to their parents, mitosis is used. Meiosis results in daughter cells having half the number of chromosomes (haploid). This type of division results in the production of gametes (sex cells), which allow genetic information from two parents to be combined at fertilization, when the diploid number of chromosomes is restored. See *also* alternation of generations

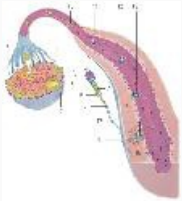


Image from:

[Mammalian fertilization begins with ovulation, in... in Philip's Encyclopedia](#)

Summary Article: **cell division**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Process by which a cell divides. Cells are the basic units of life and they carry out basic functions that are characteristic of living organisms, such as growth and reproduction. Both growth and reproduction usually involve cell division. In plants and animals reproduction can be either sexual reproduction or asexual reproduction. Both involve cell division. In sexual reproduction the cell division that is used is meiosis. In asexual reproduction it is mitosis. In both forms of cell division, the chemical carrying inherited information, DNA, has to be copied before division. Rarely, mistakes occur causing mutations, but it is normally done accurately. Copying the DNA results in the duplication of structures called chromosomes in the nucleus. In cell division, the duplicated chromosomes are separated from each other into daughter cells.

In sexual reproduction male and female gametes combine. Gametes are produced by meiosis cell division. Usually the male and female gametes are produced by two different individuals. If so, sexual reproduction combines inherited information from the two parents. Most animals and plants reproduce sexually, though many plants also reproduce asexually.

The male and female sex organs of a plant are usually found in the flower. Many flowers contain both male and female organs. The male gametes of a plant are inside the pollen grains, and the female gametes are inside the ovules.

In mammals, the male gametes are called sperm and are made in the testes. The female gametes are eggs (see ovum) and are made in the ovaries.

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cell division

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meiosis

mitosis

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cell division. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. Abington, UK: Helicon. Retrieved from https://search.credoreference.com/content/topic/cell_division



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