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- *Draper*
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Most of the time, when a cell in our bodies divides, each new cell carries a complete set of chromosomes. The cells involved with human reproduction, however, carry only half after division occurs. In this step-by-step explanation, learn about mitosis and meiosis, the two types of cell division.

Explore the stages of two types of cell division, mitosis and meiosis, and how these processes compare to one another.

This feature originally appeared on the site for the NOVA program [18 Ways to Make a Baby](#).

Background on Meiosis and Mitosis

As viewed from a human perspective, nature seems to have done ingenious engineering to overcome obstacles. Take the evolution of sex, for instance. To make the move from asexual to sexual reproduction, nature took a system by which parent cells reproduced simply by dividing (asexual reproduction) and altered it to allow two parent cells to combine to create offspring (sexual reproduction).

Asexual reproduction relies on a process called mitosis, in which the nucleus of a cell divides to create two new nuclei, each containing an identical copy of DNA. Mitosis allows the cells in your body to divide and regenerate—your hair to grow, your skin to heal after being wounded. Almost all of the DNA duplication in your body is carried out through mitosis.

Meiosis, on the other hand, is the process by which certain sex cells are created. If you're male, your body uses meiosis to create sperm cells; if you're female, it uses meiosis to create egg cells. While all other cells in your body contain 46 chromosomes (23 from your father and 23 from your mother), your egg (or sperm) cells contain only half that number—a total of 23 chromosomes. When an egg and sperm unite to make a fertilized egg, the chromosomes add up to equal 46.

How exactly does meiosis halve and mix chromosomes? Find out through this feature, which provides a step-by-step, side-by-side comparison of meiosis and mitosis.

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