Sexual Reproduction

How do organisms reproduce sexually?

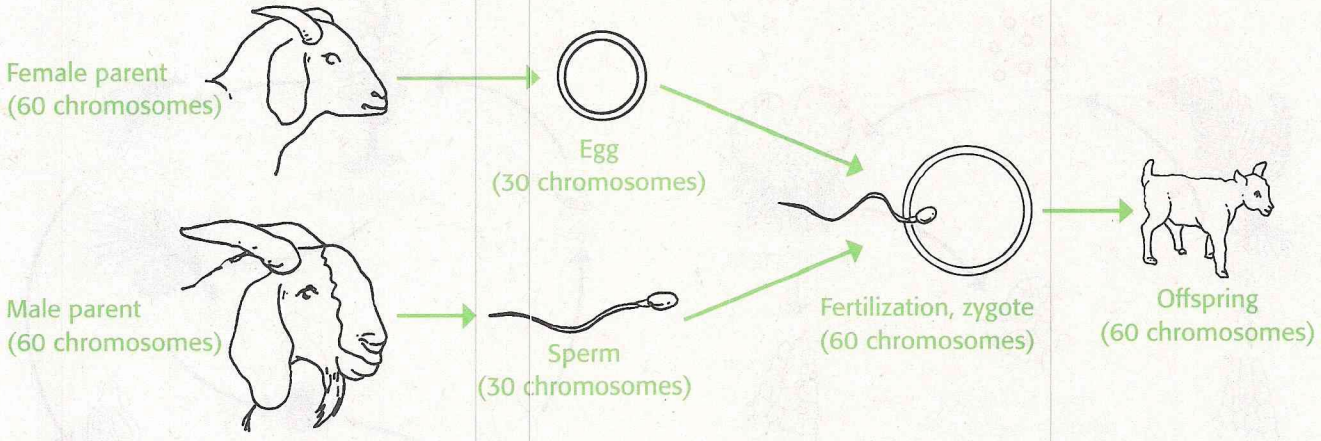
In **sexual reproduction**, offspring inherit half of their genetic material from each parent. As a result, offspring are not identical to either parent.

Sexual reproduction requires the production of sex cells, one from each parent. The male sex cell is a **sperm**. The female sex cell is an **egg**. Sex cells are produced by a type of cell division called **meiosis**.

Sex cells contain only half the number of chromosomes found in body cells. Human body cells have 23 pairs of chromosomes, for a total of 46 chromosomes. Human sex cells contain only one chromosome from each pair, for a total of 23.

During sexual reproduction, one egg and one sperm join to form a **zygote**, a cell with the complete number of chromosomes. The joining of sperm and egg is called **fertilization**.

Offspring that result from sexual reproduction are genetically different from each other and from their parents. This genetic diversity introduces new traits into a population that may help an organism survive. For example, a mouse might inherit a combination of genes that result in a new fur color. If the new fur color blends into the environment better than other fur colors, the mouse is harder for a predator to see and is likely to survive longer.



During fertilization, two sex cells join to form a zygote. The zygote eventually develops into the new offspring.

Show What You Know

Draw and label a diagram showing how fertilization occurs in humans. Your diagram should look like the one above.