

REPRODUCTIVE SYSTEM

In this lesson, you will learn about the structures and processes involved in the male and female reproductive systems. Many of the systems you have studied so far are essential for the survival of a human body. The reproductive system is not necessary for a body to continue living, but the male and female reproductive systems are important for producing the next generation of human beings.

People sometimes use slang terms to describe parts of the reproductive system, but we will be using the correct anatomy and physiology terms. It is important to only use the appropriate scientific terms introduced in this lesson when working in this course.



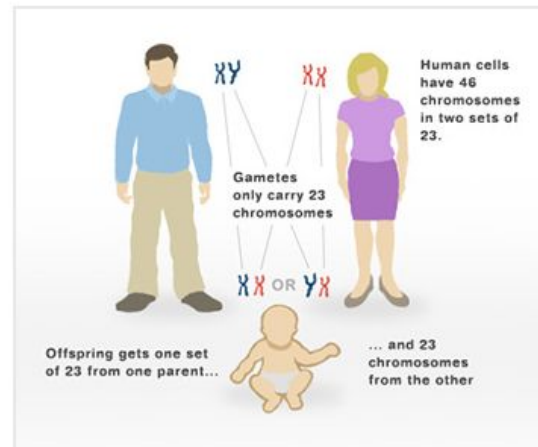
REPRODUCTIVE SYSTEM

FOCUS QUESTION:

What are the structures and functions of the male and female reproductive systems?

The reproductive system deals with the production, nourishment, and transport of **gametes** ❶. Gametes are haploid cells produced during meiosis. Males produce sperm cells, also called spermatozoa, and females produce egg cells, also called oocytes. Each gamete cell contains a single set of 23 chromosomes. This is important so when they fuse together during fertilization, the resulting **zygote** ❷ will have the standard number of chromosomes (46 chromosomes for human body cells).

Open this Reproductive System Worksheet and fill it in as you review the structure and functions of the reproductive system.



[> Select this to view the Reproductive System Worksheet](#)

REPRODUCTIVE SYSTEM WORKSHEET

Word Bank: cervix, eggs, epididymis, fallopian tube, female, fertilization (used twice), fetus, follicles, gametes, genetic, haploid, ovaries, ovary, ovulation, progesterone, scrotum, semen, seminiferous tubules, sperm (used twice), testes, testosterone, urethra, uterus, vas deferens, zygote (used twice), 200,000, 500

HUMAN GAMETES

1. Female reproductive systems are responsible for the production of _____.
2. Fertilization and development take place in the _____ reproductive system.
3. The production of _____ takes place in the male reproductive system.

MALE REPRODUCTIVE SYSTEM

4. Sperm are male _____, or sex cells. They are _____, meaning they carry half the genetic content necessary to form a zygote.
5. The other half of the _____ content comes from the female egg.
6. _____ is the process of male and female gametes joining together to form a _____.
7. Sperm are produced in the _____. They are contained in a saclike structure called the _____.
8. An important male hormone, _____, is also produced in the scrotum.
9. Each testis consists of small, coiled tubes called _____. There are between 300 and 600 tubules in each testis.
10. Sperm cells are produced in the seminiferous tubules, but then move to the _____ where they mature and are stored.
11. Mature sperm exit through the _____. The two vas deferens empty through the _____, the same structure through which urine empties.
12. The seminal vesicles, Cowper's glands, and prostate gland secrete fluids into the urethra that nourish and protect the _____. That fluid mixture is called _____, which leaves the body through the penis.

FEMALE REPRODUCTIVE SYSTEM

13. A female's egg can potentially be fertilized by a male's sperm to form a _____.

14. Eggs are created in the woman's _____ , which also produce the female hormones estrogen and _____ .
15. The female reproductive system contains two ovaries, each of which contains about small egg sacs called _____ .
16. While women are born with thousands of egg sacs, only about _____ ever mature during the woman's life.
17. When the egg sac matures, its follicle moves to the surface of the _____ , breaks open, and releases the egg. This process is referred to as _____ .
18. The egg then travels through the oviduct, also called the _____ . If _____ occurs, it happens here in the fallopian tubes.
19. Then the egg travels to the thick-walled, muscular _____ . This is where a _____ develops from the fertilized egg.
20. At the bottom of the uterus is the _____ . That's the opening to the vagina, which leads to the outside of the body.

THE MALE REPRODUCTIVE SYSTEM

Males and females have reproductive systems with different structures and functions.

You decide! What sex is responsible for the production of eggs?

Females are responsible for the production of eggs.

Fertilization and development also take place in the female reproductive system. The production of sperm occurs in the male reproductive system. Sperm are male gametes or sex cells. Sperm cells are haploid, meaning they carry half the genetic content necessary to form a zygote. The other half of the genetic content comes from the woman's egg.

Fertilization is the process of male and female gametes joining together to form a zygote. Sperm are produced in the testes. They're contained in the sac-like scrotum. An important male hormone called testosterone is also generated in the testes.

During puberty, as the male body goes through hormonal and physical changes, the testes begin to produce increased amounts of testosterone initiating sperm production and promoting the development of secondary sex characteristics—like the growth of body hair, and the deepening of the voice.

Each testis consists of small, coiled tubes called seminiferous tubules. There are between 300 and 600 tubules in each testis. Sperm cells are produced in the seminiferous tubules but then move to the epididymis where they mature and are stored. Mature sperm exit the epididymis through a tube called the vas deferens. The two vas deferens empty to the urethra, the same structure through which urine empties. As sperm enter the urethra, the seminal vesicles, Cowper's glands, and the prostate gland secrete fluids into the urethra—that nourishes and protects sperm. That fluid mixture is called semen. Once semen exits the penis, it is capable of fertilizing a woman's egg.

THE FEMALE REPRODUCTIVE SYSTEM

As we mentioned earlier, the female reproductive system produces eggs that potentially can be fertilized by male sperm to form a zygote.

Eggs are created in a woman's ovaries. Ovaries also produce the female hormones estrogen and progesterone. You Observe! How many ovaries do you see? The female reproductive system includes two ovaries. They are only about four centimeters long and two centimeters wide. However, each ovary amazingly contains about 200,000 small egg sacs called follicles. Each follicle contains an immature egg. While women are born with thousands of egg sacs, only about 500 ever mature during the woman's life.

When the egg sac matures, its follicle moves to the surface of the ovary, breaks open and releases the egg. It's a process referred to as ovulation. The egg then travels through the oviduct, also called the fallopian tube. If fertilization occurs, it happens here. Then the egg travels to the thick-walled muscular uterus.

It is in the uterus that the fetus develops. At the bottom of the uterus is the cervix. That's the opening into the vagina, which leads to the outside of the body. Now let's take a look at the female reproductive cycle.