

PURPOSE

- To teach the anatomy of the female reproductive system in detail.
- To introduce the anatomy of the male reproductive system.

LEARNING OBJECTIVES

- By the end of the lesson students will be able to:
1. Identify the anatomical parts of the female reproductive system.
 2. Identify the anatomical parts of the male reproductive system.
 3. Understand how all of the parts of the reproductive system work together.
 4. Recall that hormones are important to a healthy functioning body.

MATERIALS & RESOURCES

- **Lesson 2 teenFEMM** powerpoint
- **Activity: “Entry Ticket”**
- **Worksheet: Female Anatomy Quiz + Answer Key**
- **Worksheet: Male Anatomy Quiz + Answer Key**

VOCABULARY

- **Human Reproduction:** When a woman and a man together produce a new human life. This requires a cell from both a man (sperm) and a woman (egg or ovum).
- **Reproductive System:** The group of organs in the lower abdomen/pelvis that work together, with different results in men and women: in men, the reproductive system works to produce sperm (male cell of reproduction); in women, the reproductive system works to mature an egg (female cell of reproduction) and support the growth and development of a baby.

Female Anatomy Vocabulary:

- **Ovary:** Two small organs on either side of the uterus that contain a woman’s eggs. The ovary is responsible for developing and releasing an egg approximately once every month.
- **Ovulation:** The release of an egg from the ovary.

- **Fallopian Tube:** Two tubes, connected to either side of the uterus, where the egg travels after ovulation.
- **Uterus:** The uterus (also called the ‘womb’), is where all of us begin to grow. It’s a hollow organ that expands during pregnancy as a baby grows.
- **Cervix:** A narrow canal at the base of the uterus that opens into the vagina.
- **Vagina:** The canal that connects the uterus to the outside of the body. It’s the entrance to the reproductive organs and exit in the case of delivering a baby.
- **Urethra:** The tube that carries urine from the bladder to the outside of the body.
- **Anus:** The opening for waste matter from the digestive system to exit the body.
- **Endometrium:** The mucus membrane lining of the uterus which thickens in preparation to provide support and nutrition for a developing baby.

Male Anatomy Vocabulary

- **Testicles (or testes):** Two small organs, located in the scrotum that produce **sperm**, the male cell of reproduction. The testes also produce testosterone.
- **Epididymis:** the duct/tube at the back of the testes which serves as the passageway of the sperm from the testes to the vas deferens. It has a significant function since it stores and matures sperm.
- **Vas deferens:** A tube that transports sperm from the testicles to the urethra. There are two vas deferens, one for each testicle.
- **Scrotum:** A protective sac of skin, located outside the body, containing the testicles and part of the vas deferens.
- **Urethra:** A tube that transports sperm out of the body through the penis. It also carries urine out of the body.
- **Penis:** The organ used for sexual intercourse. It allows for the passage of urine out of the body through the urethra. It also transports semen out of the body.
- **Anus:** The opening for waste matter from the digestive system to exit the body.

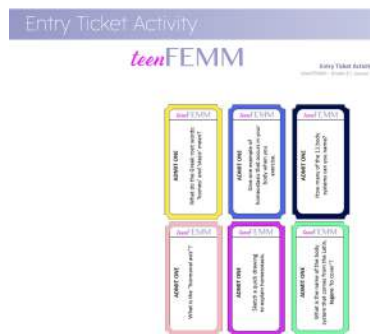
PREPARATION

- ☐ Print the **Entry Ticket Activity** and cut out a ticket for each student.
- ☐ Print the **Female Anatomy Quiz Worksheet** for each student.
- ☐ Print the **Male Anatomy Quiz Worksheet** for each student.

PROCEDURE

Step 1 (5 minutes): “Entry Ticket” Activity

Give each student an “Entry Ticket”.



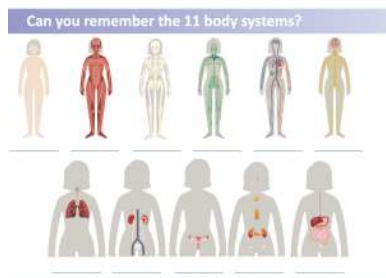
Have students write their answers down on the back of the ticket and review questions and answers as a class:

- What do the Greek words ‘homeo’ and ‘stasis’ mean?
(Homeo means ‘same’, stasis means ‘stable’.)
- Give one example of homeostasis that occurs in your body when you do sports?
(E.g., You get hot and your body starts to sweat to cool off. You get thirsty from sweating, you want to drink water to replace the lost water from sweating.)
- Sketch a quick illustration of homeostasis. (E.g., Can be an image of a scale, of an activity, etc.)
- How many of the 11 body systems can you name?
(Muscular, Skeletal, Nervous, Respiratory, Cardiovascular, Digestive, Urinary, Endocrine, Reproductive, Lymphatic, Integumentary)
- What is the hormonal axis?
(The hormonal axis is the system of communication between the brain and the reproductive organs.)

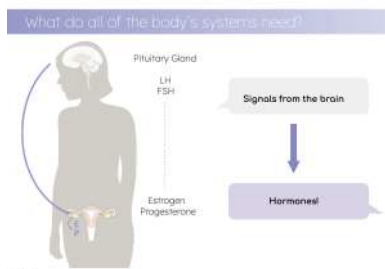
- What is the name of the body system that comes from the latin *tagere* ‘to cover’.
(The integumentary system - as the skin is like a covering over the body.)

Step 2 (5 minutes): Review body systems, hormones, and puberty

In the last lesson, the class learned about the 11 body systems. Can you name the 11 body systems? *See if students can name all 11 body systems and then review the answers on the next slide.*



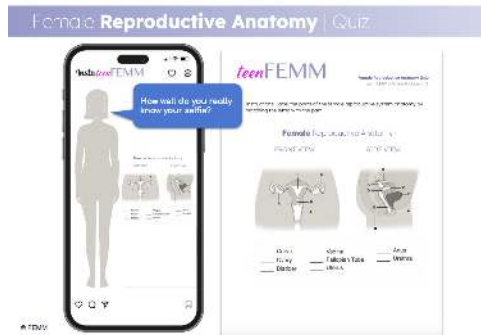
Signals from the brain or “text messages” are sent throughout your body to direct all of the growth and change that you are going through now, in puberty. What are these signals or “text messages” called? *Hormones!*



In this lesson we are going to learn more about the male and female reproductive systems and how hormones impact health.

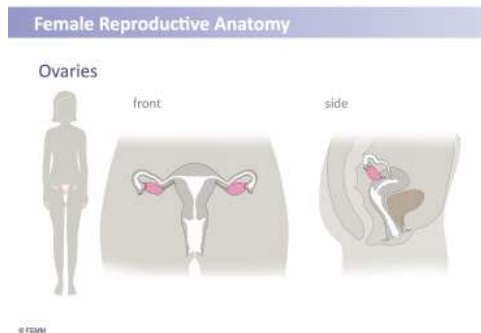
Step 3 (10 minutes): Overview of the female reproductive system anatomy

Hand out the **Female Anatomy Worksheet** to students. Give students a few minutes to complete the worksheet on their own.

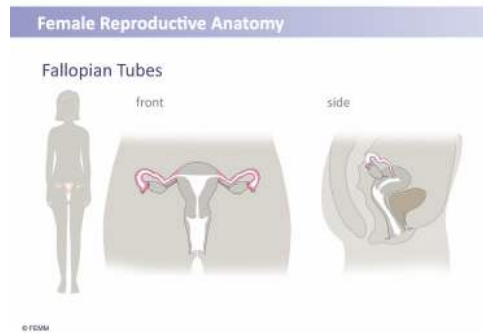


Then, have students check their answers while reviewing the following slides as a class.

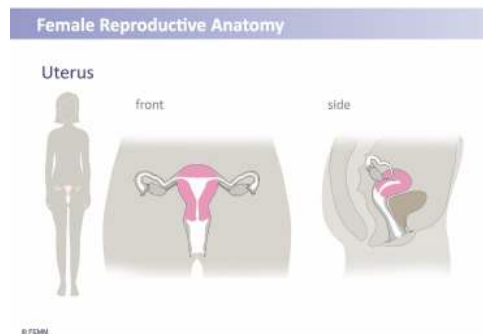
The reproductive organs are the group of organs in the lower belly/pelvis that work together in women to mature an egg (female cell of reproduction) and develop a growing baby.



The **Ovaries** are small organs/glands that sit on either side of the uterus. The ovaries take turns; each month one is responsible for developing and releasing an **egg**. The egg is the female cell of reproduction. The woman's ovaries store her eggs from birth. When an egg is released from the ovary, this is called **ovulation**. Ovulation is a very important event that should occur each month in a healthy woman who has already gone through puberty, regardless of whether a woman is ready to have a child or not. Why? One reason is that the **egg**, as it develops, produces **estrogen**, which your body needs.



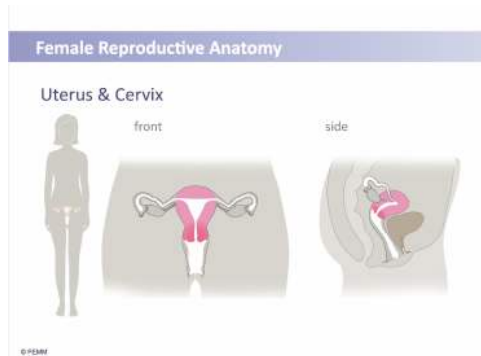
The **Fallopian Tubes** are long thin tubes that are situated on either side of the uterus, providing a way for the egg to travel from the ovary to the uterus. They are not actually connected, but contain fingerlike projections called **fimbriae** that grab the egg and move it into the tubes. They are about the width of a spaghetti noodle.



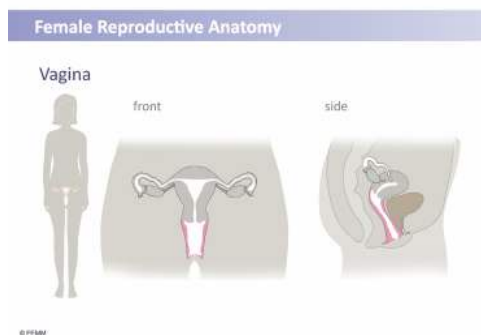
The **Uterus** is the hollow, pear shaped organ in which a baby can grow and develop. The lining of the **uterus** is shown in light pink. The lining of the uterus is called the **endometrium**. This mucus membrane lining responds to an increase in hormones each month to thicken in preparation to someday support a possible pregnancy. The uterus is very strong and stretchy and can grow up to 1,000 times its size as the baby grows. When a woman becomes pregnant, the baby attaches to this lining to receive the nourishment it needs to grow. But if a woman does not become pregnant, then this lining sheds at the end of her ovulatory cycle, in what we know as menstruation and her hormonal levels decrease once again.

The **Cervix** is the opening at the base of the uterus; a narrow canal that opens into the vagina. **Cervical mucus is a fluid produced by the cervix**. Your cervical mucus changes

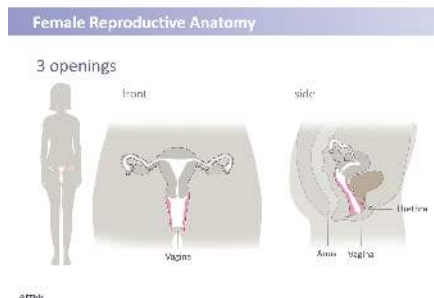
throughout your menstrual cycle.



The **Vagina** is the canal that connects the uterus to the outside of the body. It is the entrance to the reproductive organs in sexual intercourse. It is also the exit for menstrual blood each cycle. It is the exit when a baby is delivered - and for this reason, It is sometimes also referred to as the birth canal.



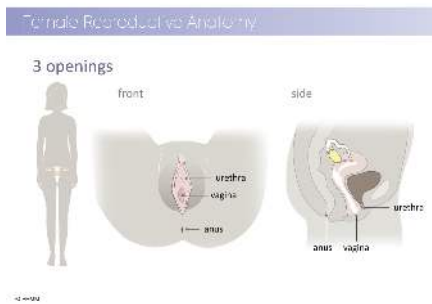
The organ in brown on the right hand side of the slide is the **bladder**.



The bladder is not part of the reproductive system, but rather part of the **urinary system**. The **urethra** is the tube that carries the urine (pee) from the bladder to the

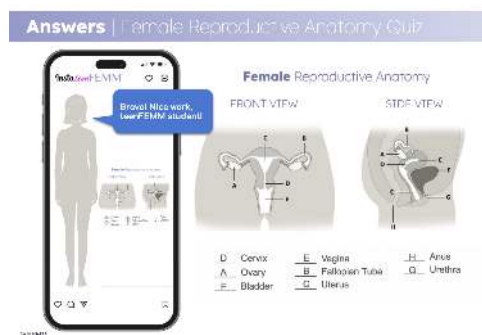
outside of the body. The opening behind the vagina is the **anus**. The anus is part of the digestive system. It is the opening for waste to exit the digestive tract.

Women have three openings: the **vagina**, the **urethra** and the **anus**.



The proximity of these three openings can increase the risk of bacteria transfer. This means that when using the bathroom, it is important to always wipe **from front to back** to avoid introducing bacteria from the digestive system towards the vagina and/or urethra. The top and front part of this area is called the pubic area. This is also where hair will grow on the skin and this is completely normal. Men also grow pubic hair in their pubic area.

How did you do on the Female Reproductive Anatomy Quiz? Ask students to tally their score out of eight.



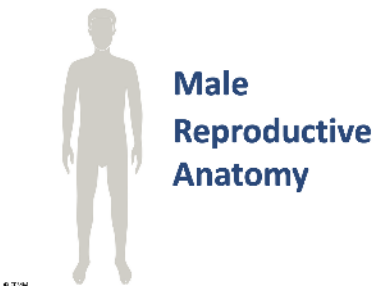
Step 4 (10 minutes): Introduce the Male Reproductive Anatomy.

As we know, the reproductive system is responsible for bringing about a new life. But a healthy reproductive system is also vital to the overall, everyday health of a person - for

both women and men.

Testosterone is the dominant male hormone, and is very important as boys go through puberty; it helps to direct the bodily changes that boys go through: wiring their brains, strengthening their bones and influencing their mood. Let's learn the names for the different organs that make up the male reproductive system and how they work together to support men's health.

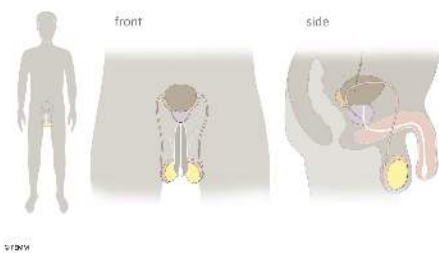
Male Reproductive Anatomy



Reference the slides below to define and describe the anatomy of the male reproductive system. There will be a quiz on the Male Reproductive Anatomy, too!

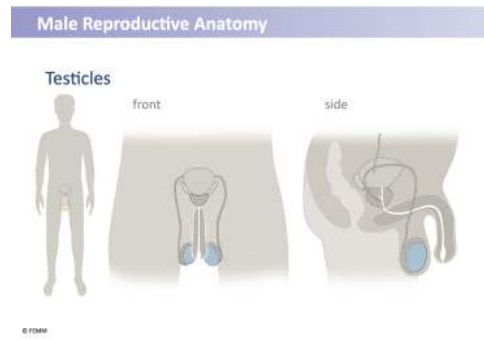
Male Reproductive Anatomy: Here you see the whole male reproductive system.

Male Reproductive Anatomy



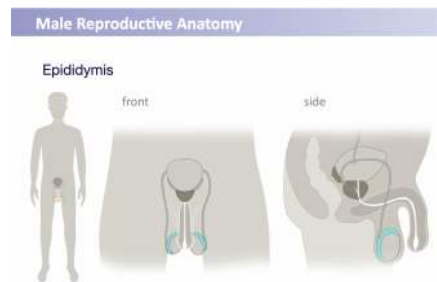
The testicles are highlighted in yellow. The scrotum is presented in gray, the skin that encloses the testes. The bladder is brown, but just like we reviewed in the female reproductive system it is actually part of the urinary system. The urethra is the tube shown in white that travels through the penis.

Let's learn about at each of these body system parts more in-depth:



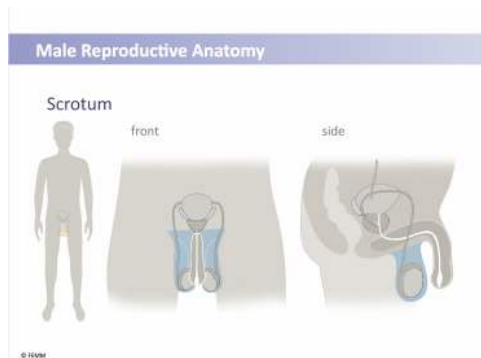
The **Testicles** are 2 organs that produce **sperm**, the male cell of reproduction and the main male reproductive hormone, **testosterone**.

Did You Know? The testicles are located outside the body in order to maintain the ideal temperature for sperm production. Sperm production occurs at around 93.2°F (34°C). This is 5.4°F (3°C) below our normal body temperature of 98.6°F (37°C). Just those few degrees make all the difference!



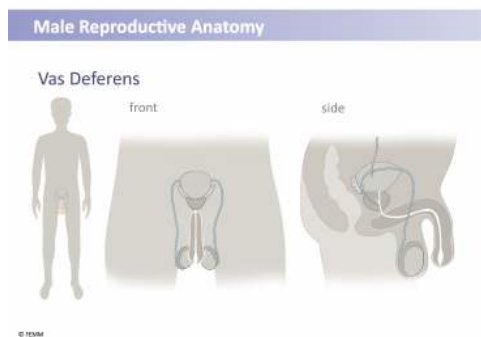
Attached to each testicle is the **Epididymis**, a coiled tube or passageway. Sperm is made in the testicles and then travels to the epididymis. In adult males, the length of epididymis (if it was uncoiled and stretched out) is between 20 to 23 feet long! It takes sperm around 4 to 6 weeks just to travel through the epididymis. The human body is amazing!

Scrotum: The scrotum is the protective sac that encloses the testes and epididymis and draws them toward or away from the body in order to regulate temperature.

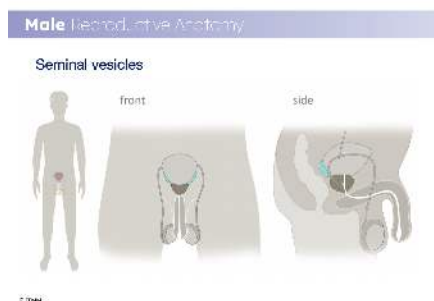


Vas deferens: A tube that transports sperm out of the testicles. There are two vas deferens, one for each testicle. They are about the width of a spaghetti noodle.

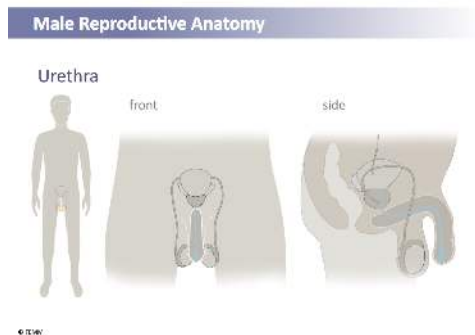
*Compare: the **fallopian tubes** are long thin tubes that are situated on either side of the uterus, providing a way for the egg to travel from the ovary to the uterus. They are about the width of a spaghetti noodle.*



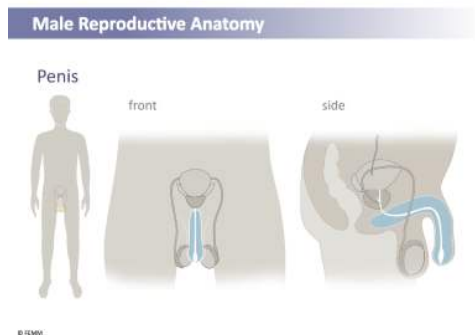
Seminal vesicles: a pair of glands on either side of the bladder that contribute fluid to semen, to help nourish and transport sperm.



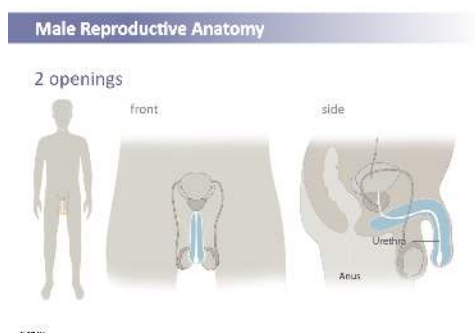
Urethra: The urethra is the tube that travels out the penis and allows either urine or seminal fluid to escape (though never at the same time).



Penis: The penis is actually made up of two parts: the shaft and the glans. The shaft is the main part of the penis and the glans is the tip. At the end of the glans is a small slit or opening, which is where semen or urine exit the body through the urethra (either one or the other, these bodily movements don't happen at the same time).



In this final anatomy slide, point out the 2 openings to the body that men have, as opposed to the three that women have, shown in the side image:



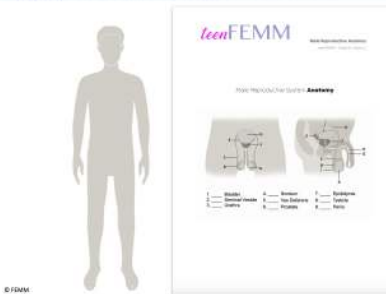
urethra: tube that travels through the penis, carrying either: urine from the bladder OR semen from the reproductive system. These things don't happen at the same time.

anus: opening for waste to exit from the digestive system

Step 5 (5 minutes): Male Anatomy Quiz Worksheet

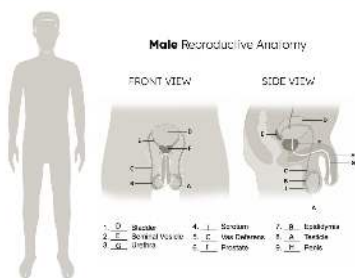
Provide students with the **Male Reproductive Anatomy Worksheet** and ask them to label the parts of male reproductive anatomy.

Quiz | Male Reproductive Anatomy



Review answers on the following slide or with the **Teacher's Answer Key** provided in the materials.

Answers | Male Reproductive Anatomy Quiz



CONCLUSION

Now you have a good understanding of the parts that make up both the male and female reproductive systems. The male reproductive system is responsible for developing the male cell of reproduction: the sperm and the hormone testosterone. The female reproductive system is responsible for developing the female cell of reproduction: the egg and the hormones estrogen and progesterone. **For both boys and girls, the most important thing to remember right now is that the development of the**

cells of reproduction is an indicator of healthy hormone levels in your body as you continue through puberty. In the next lesson, we will focus on ovulation and hormones, paying attention to what this means for your brain, body, mood, energy and overall health.

REFERENCES

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