



OVERVIEW

BIG IDEA

Adolescence is a time of physical, mental and social change.

OBJECTIVE

4.2 Explain the anatomy & physiology of the male reproductive system.

AGENDA

1. Diagram/Labeling
2. Reading
3. Notes
4. Assessment

HOMEWORK

Research embryonic sex development and write an explanation of how our sex develops.

LESSON 4.2

Male Reproductive System

SUMMARY:

This lesson will provide a basic background of the male reproductive system, focusing on the structures and functions of the main reproductive organs. Students will complete a labeling exercise, a short reading, and note-taking.

STANDARDS:

Next Generation Science Standards:

LS1.A: Structure and Function



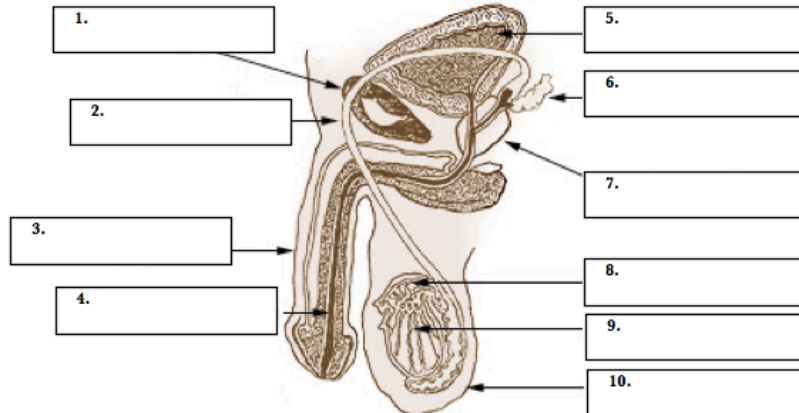
Male Reproductive System

Obj. 4.2: Explain the anatomy & physiology of the male reproductive system.



Label the diagram with the structures of the male reproductive system. If you don't know any, leave them blank. If you think you might know some, take some guesses!

Male Reproductive System



Take notes to accurately record the 10 structures of the male reproductive system shown above.

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Revisit the conversation on norms (from lesson 4.1) before beginning this lesson.

DO NOW: There is more to the male reproductive system than many students think. Ask students if they are aware of illnesses or dysfunctions of the male reproductive system (ex: prostate cancer, testicular cancer, erectile dysfunction, etc.)

NEW INFO: The ductus deferens is the same anatomical part as the vas deferens. Ask students if they know what a vasectomy is? (What part in particular is cut?)



Read the following short excerpt from kidshealth.org:

Most species have two sexes: male and female. Each sex has its own unique reproductive system. They are different in shape and structure, but both are specifically designed to produce, nourish, and transport either the egg or sperm. Unlike the female, whose sex organs are located entirely within the pelvis, the male has reproductive organs, or genitals, that are both inside and outside the pelvis. The male genitals include:

- the testicles
- the duct system, which is made up of the epididymis and the vas deferens
- the accessory glands, which include the seminal vesicles and prostate gland
- the penis

In a guy who has reached sexual maturity, the two testicles, or testes, produce and store millions of tiny sperm cells. The testicles are oval-shaped and grow to be about 2 inches (5 centimeters) in length and 1 inch (3 centimeters) in diameter. The testicles are also part of the endocrine system because they produce hormones, including testosterone. Testosterone is a major part of puberty in boys, and as a guy makes his way through puberty, his testicles produce more and more of it. Testosterone is the hormone that causes boys to develop deeper voices, bigger muscles, and body and facial hair, and it also stimulates the production of sperm.



1. **FUNCTIONS:** What are the 3 main functions of the male reproductive system?

- 1.
- 2.
- 3.

2. **SEX CELLS:** What are the male sex cells and how are they delivered?

sperm:

semen:

pre-ejaculate:

3. **PUBERTY:** What are some changes males undergo during puberty?

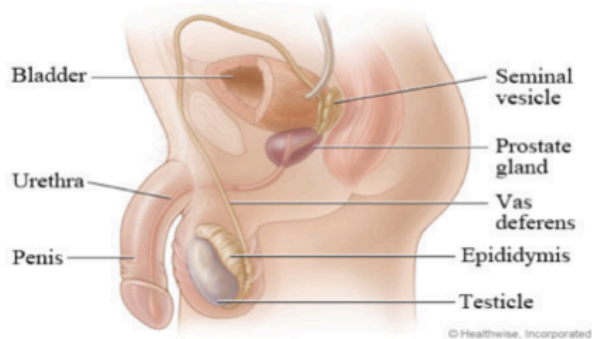
NEW INFO: Ask students if they know what testosterone is responsible for?

Testosterone is a steroid hormone from the androgen group and is found in mammals, reptiles, birds, and other vertebrates. In mammals, testosterone is secreted primarily in the testicles of males and the ovaries of females, although small amounts are also secreted by the adrenal glands. It is the principal male sex hormone and an anabolic steroid.

In men, testosterone plays a key role in the development of male reproductive tissues such as the testis and prostate as well as promoting secondary sexual characteristics such as increased muscle, bone mass, and the growth of body hair. In addition, testosterone is essential for health and well-being as well as the prevention of osteoporosis. **(From wikipedia)**



Write the **main function** of each labeled male reproductive system part on the diagram below:



Part:	Function:
Urethra	
Penis	
Seminal vesicle	
Prostate gland	
Vas deferens	
Epididymis	
Testicle	



Research embryonic sex development to find out when and how sex is determined in the womb. Write a short explanation, citing your sources.

ASSESS:

Answers:

Urethra: transports semen and urine out of body

Penis: acts as a conduit for sperm to enter vagina during intercourse

Seminal vesicle: secrete fluid containing nutrients for sperm

Prostate gland: secrete an alkaline (basic) fluid to counter the acidity of vagina, protecting sperm

Vas deferens: Transport system for sperm; propels sperm forward

Epididymis: Storage reservoir for sperm, where they will mature and become activated

Testicle: Production of sperm and testosterone

HOMEWORK:

The purpose of this homework assignment is for students to discover the parallels between the male and female reproductive systems. Ultimately, students should learn that, " In the first weeks of life, a fetus has no anatomic or hormonal sex, and only a karyotype distinguishes male from female. Specific genes induce gonadal differences, which produce hormonal differences, which cause anatomic differences, leading to psychological and behavioral differences, some of which are innate and some induced by the social environment." (from wikipedia)