

# Grade 5

## The Journey of a Sperm



### Learner Outcomes

***Students connect puberty to the capacity for human reproduction.***

[Knowledge, Understanding, and Skills and Procedures](#) for this outcome that are covered in this lesson are listed at the end.

### How To Use

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This lesson plan contains several activities to achieve the learner outcome above. You may choose to do some or all of the activities, based on the needs of your students and the time available. Some of the activities build on the ones that come before them, but all can be used alone.

For a quick lesson, combine activities A, C, D and G.

### Classroom Activities & Timing

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See also the  
[Differing Abilities](#)  
lesson plan on  
Puberty and  
Reproduction.

- A. Ground Rules (5-10 minutes)
- B. Anatomy Vocabulary Matching Game (15-20 minutes)
- C. Anatomy Diagrams (15-20 minutes)
- D. The Sperm's Journey (20-30 minutes)
- E. Class Discussion (5-15 minutes)
- F. Sperm and Testicles Kahoot! Quiz (15-20 minutes)
- G. Question Box (5-10 minutes)

### Required Materials

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HANDOUT and ANSWER KEY: Reproductive System Diagrams

HANDOUT: The Sperms' Journey

HANDOUT: Sperm Production

[KAHOOT! QUIZ](#) and ANSWER KEY: Sperm and Testicles

CARDS: Anatomy Vocabulary

All the student handouts are also available in the [Grade 5 Workbook](#).

All the diagrams are also available as slides in [Grade 5 Diagrams](#).

## Background Information for Teachers

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### Inclusive Language

Language is complex, evolving and powerful. In these lessons, [inclusive language](#) is used to be inclusive of all students, including those with diverse gender identities, gender expressions and sexual orientations. This includes the use of 'they' as a singular gender-neutral pronoun.

A person's sex can be assigned at birth as male or female. Some people are intersex (the reproductive, sexual or genetic biology of a person is unclear, not exclusively male or female or otherwise does not fit within traditional definitions of male or female). Assigned sex is independent of gender.

Gender identity is a person's internal sense of identity as girl/woman, boy/man, fluid among genders or no gender (regardless of what sex they were assigned at birth).

For many people, their gender is the same as the sex they were assigned at birth (cisgender). For others, their gender identity is different from the sex they were assigned at birth. They may use terms like transgender, trans, non-binary, gender fluid, gender queer, agender or others, to describe their gender identity. The umbrella term 'trans' is primarily used here, to describe people whose gender identity and sex assigned at birth differ. While this umbrella term does not fit everyone, the intention is to be inclusive as possible.

In these lessons, you will notice that body parts and processes are not labelled as male or female. While it is ok to use the terms boy/girl/male/female when talking to or about individuals, it is important not to assume that all boys or girls have certain anatomy, and to consistently use inclusive language. Learning to discuss anatomy without gendering people, parts or processes is a shift for many people. These lessons use language that can help you and your students make this shift, so that everyone, including people who are intersex and gender diverse, are included and feel seen.

## **The parts of the sperm-producing reproductive system (anatomy) and related systems**

### **External Genitals**

#### **Penis**

- The external sex organ.
- Semen and urine are released from the penis.
- It is made up of spongy material that fills up with extra blood (becomes erect and gets hard) when sexually aroused.
- There is no bone in the penis, even though 'boner' is common slang for an erection.
- During puberty, the penis grows as does the rest of the body. Size varies from person to person.

#### **Foreskin**

- The skin on the end of the penis that retracts during an erection.
- This skin may be partially removed in a procedure called circumcision. Circumcision is a procedure to remove the foreskin from the penis. It is usually done soon after birth by a doctor or trained religious person. Some people are circumcised and some are not. It doesn't affect the function of the penis. There is not usually a medical or health reason for circumcision.
- People who are uncircumcised gently pull back the foreskin to clean around the head of the penis every day or so.

#### **Scrotum**

- The sac that holds the testicles.
- The testicles are kept just below body temperature in order to produce healthy sperm. The scrotum pulls the testicles closer to the body if it is cold and lowers away from the body if it is hot.

#### **Testicles**

- The sex glands that produce sperm and testosterone.
- They are held in the scrotum.
- They are on the outside of the body so that they can stay cooler than body temperature for healthy sperm production.
- It is normal for one to hang lower.
- This is a very sensitive area of the body. It is important to protect the testicles during contact sports, etc.

#### **Anus**

- The opening at the end of the digestive tract where feces leaves the body.
- The anus is part of the digestive system, not part of the reproductive system.

## **Internal Reproductive Organs**

### **Epididymis**

- A long coiled tube that connects a testicle to a vas deferens.
- Where sperm matures and is stored.

### **Vas Deferens**

- A narrow tube that carries sperm from the testicles to the urethra.

### **Seminal Vesicles**

- Two small pouches behind the bladder that produce and store seminal fluid.
- This fluid mixes with sperm and other fluid to produce semen.

### **Prostate Gland**

- Enlarges to block urine from leaving the bladder when sperm is ejaculated.
- Produces fluid that is part of semen. The fluid feeds and protects sperm when they are ejaculated.

### **Urethra**

- Urine and semen pass through this tube to the outside of the body.
- Urine and semen cannot come out at the same time. There are two branches to the urethra, one from the bladder and the other from the vas deferens. When the penis is ready to release semen, a valve blocks off the branch to the bladder so urine cannot come out. This process is similar to the way a person is prevented from swallowing and breathing at the same time. Air goes to the lungs and food goes to the stomach but both pass through the esophagus.

### **Bladder**

- The sac that holds the urine produced by the kidney.
- The bladder is part of the urinary system, not the reproductive system.

## **How the reproductive system functions (physiology)**

### **Erection**

- An erection is a reflex action that happens when a person has a hormone fluctuation, sexual thought or feeling or the penis is touched.
- The brain sends a message to the penis causing it to become larger and firmer. It will stand out from the body.
- Although people may experience erections when they are younger, they seem to occur more often and unexpectedly during puberty.
- Erections are a normal process of growing up.

- They can happen at different times (first thing in the morning, during sleep, vibrations from riding a bicycle, sexual arousal).
- Erections will go away by themselves or after ejaculation.

### Sperm

- The reproductive cell that, if it fertilizes an egg, can create a baby.
- Each sperm is very small; there are over 300 million sperm in 5 ml of semen.
- Millions are made every day in the testicles and stored in the epididymis. Sperm that are not released through ejaculation are reabsorbed by the body.
- The sperm travel up the vas deferens and mix with fluid from the seminal vesicle and prostate to form whitish sticky fluid called semen.

### Semen

- The combination of sperm and fluid from the seminal vesicle and prostate that is ejaculated from the penis.

### Ejaculation

- Although people may experience erections at an early age, they are not able to ejaculate until their bodies begin producing sperm and semen during puberty.
- The first ejaculation normally occurs around the ages 13 to 17.
- The volume of semen ejaculated is usually about 2-5 ml.
- Nocturnal emissions (wet dreams) are when a person gets an erection and then ejaculates while sleeping. This is the body's way of adapting to the commencement of sperm and semen production. Some people have nocturnal emissions and others do not. Nocturnal emissions usually become less frequent later in puberty once the body is used to producing sperm and semen.

## A. Ground Rules

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Ensure [ground rules](#) are established before beginning this lesson. For classes that have already established ground rules, quickly reviewing them can help ensure a successful lesson.

## B. Anatomy Vocabulary Matching Game

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Students identify the basic components of the reproductive system and can describe the basic functions of the various components.

1. Display the **Anatomy Definitions** around the room.

## Grade 5 The Journey of a Sperm

2. Divide students into teams of 3-4.
3. Distribute the **Anatomy Vocabulary** cards to each team.
4. Have teams decide which vocabulary word matches each definition. They post their word on the matching poster. Encourage groups to decide each match on their own and not worry if they make a different choice than another group.
5. Review the correct definition-word matches as a class, and move vocabulary words to the correct definitions as needed.

Answer Key:

Vocabulary Word	Definition
<b>Anus</b>	The opening at the end of the digestive tract where feces leave the body.
<b>Bladder</b>	A sac inside the body that holds urine.
<b>Ejaculation</b>	Release of semen from the penis.
<b>Erection</b>	The penis becomes larger and firmer, sometimes due to sexual arousal.
<b>Foreskin</b>	The skin of the penis tip.
<b>Penis</b>	The external sex organ that releases semen and can become erect.
<b>Scrotum</b>	External sac containing the testicles.
<b>Semen</b>	Thick fluid containing sperm.
<b>Seminal Vesicles</b>	Where semen is produced and stored.
<b>Sperm</b>	Reproductive cell made in the testicles.
<b>Testicles</b>	Sperm producing glands.
<b>Urethra</b>	Urine and semen pass through this tube to the outside of the body.
<b>Vas Deferens</b>	Narrow tubes that carry sperm from the testicles to the urethra.

## C. Anatomy Diagrams

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*To help students understand body and genital diversity, note that not everyone's genitals look the same, or like what is shown in diagrams and pictures. Not everyone's body fits into one or the other of the diagrams. Variation in size and shape is normal and healthy.*

*The diagrams of anatomy help students learn the vocabulary associated with reproduction. Students may need help understanding the difference between the internal and external, or side and anterior views of the reproductive systems. Showing the diagrams that orient the internal organs inside the body help students understand what the diagrams represent.*

1. Distribute the **Reproductive System** diagrams handout. Explain the relationship between the external and internal views of the reproductive system.
2. Ask the students to fill in as many of the blanks as they can. You may wish to have the students work individually, in pairs, or in their small groups from the previous activity. Emphasize that they will not know all the answers and that is ok.
3. Display the correct answers so all students can assess and correct their diagrams and discuss.
4. If the class has already completed the Journey of an Egg lesson, ask the students which parts of the anatomy are the same for everyone, or which have similar functions. If that lesson has not been completed, ask them to predict which parts/functions will be the same.

## D. The Sperm's Journey

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*This activity builds on the students' understanding of reproductive anatomy and links the anatomy to the physiology of how the reproductive system functions.*

1. Distribute **The Sperm's Journey** handout.
2. Have students complete the activity by filling in the blanks with the appropriate terms. This activity can be done individually or using a small group technique such as [think-pair-share](#).
3. You may wish to provide resources such as the **Reproductive System** diagrams handout or **Sperm Production** handout if students do not have them from the previous activity.
4. Correct the handout together.

### Answers

1. testicles
2. scrotum
3. sperm
4. penis
5. vas deferens
6. seminal vesicle
7. semen
8. urethra
9. ejaculation

## E. Class Discussion

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*Students review their knowledge of the reproductive system and sperm production, develop resiliency skills, and identify support people.*

Discuss the following questions as a class and share the responses below if they are not mentioned by the class:

### **What are some reasons people might get an erection?**

- Sexual arousal
- Reflex response
- Pleasant thoughts or feelings
- Hormone changes
- Excitement
- Vibrations
- Nocturnal emission
- Some erections seem to be random, or not related to any clear cause

### **How do you think a person might feel if they get a nocturnal emission or an unwanted erection?**

- Embarrassed
- Shy
- Excited

### **What are some ways to cope with an unwanted erection?**

- Focus on something else until it goes away.
- Sit down.
- Put your hands in your pockets to try to hide it.
- Wear baggy pants if it keeps happening.
- Remember that it is probably more noticeable to you than to anyone else and this is a normal part of growing up.

### **What are some ways to cope with a wet dream?**

- Change your sheets.
- Wash your pajamas or underwear.



- Remember that nocturnal emissions are a normal and healthy part of growing up.

**What do you think is most interesting about sperm production?**

**If you still have questions about anatomy or physiology, puberty changes, or sexuality who can you ask?**

- Parent or other trusted adult
- Teacher or guidance counsellor
- Health care provider

## **F. Sperm and Testicles System Kahoot! Quiz**

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*This quiz can be a great review, wrap-up of the unit, or a fun energizer in between other activities. For more information on using Kahoot!, visit [kahoot.com](https://kahoot.com)*

1. Open the Kahoot! Quiz: [Grade 5 Sperm and Testicles](#)
2. As a class, answer the quiz questions and discuss the answers together. You can play the quiz in individual or team mode.

## **G. Question Box**

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*Answer any questions from the [question box](#) in the previous lesson. Have students submit any new questions and address them next class.*

*Addressing the questions at the next class allows you time to review the questions and prepare responses.*

## **Self-Reflection**

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During the lesson, were:

- ground rules being followed?
- good practices established regarding group work and discussion?

What will you change for future classes with this group?

What will you change for future use of this lesson?

## Learning Outcomes

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This lesson addresses the following Grade 5 [Physical Education and Wellness curriculum](#) outcomes:

### Knowledge

- Each part of the human reproductive system serves a specific function.
- The human reproductive system and other body systems are interconnected.
- The male reproductive system includes testicles that produce sperm.
- Sperm travels through the vas deferens and is combined with other fluid to produce semen.

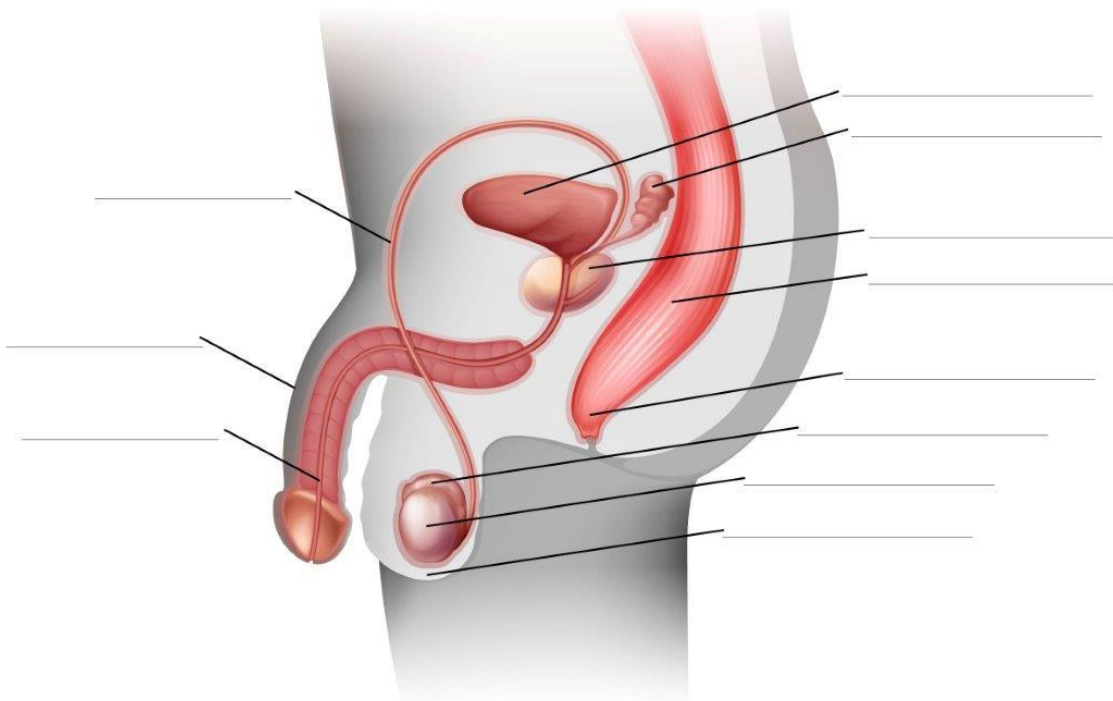
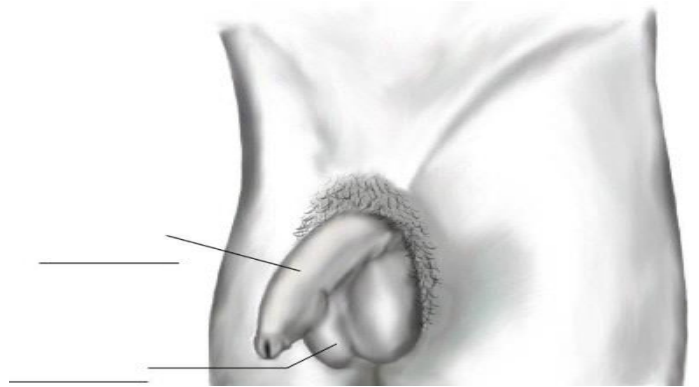
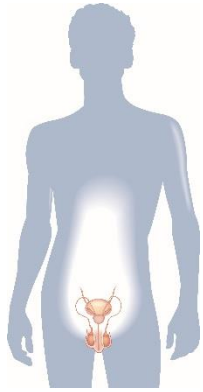
### Understanding

- Well-being is supported through knowledge and awareness of human reproduction.
- Human reproduction includes a sequence of biological processes.
- Puberty signals changes in a person's reproductive capability.
- Puberty is often associated with the process of menstruation and sperm production.

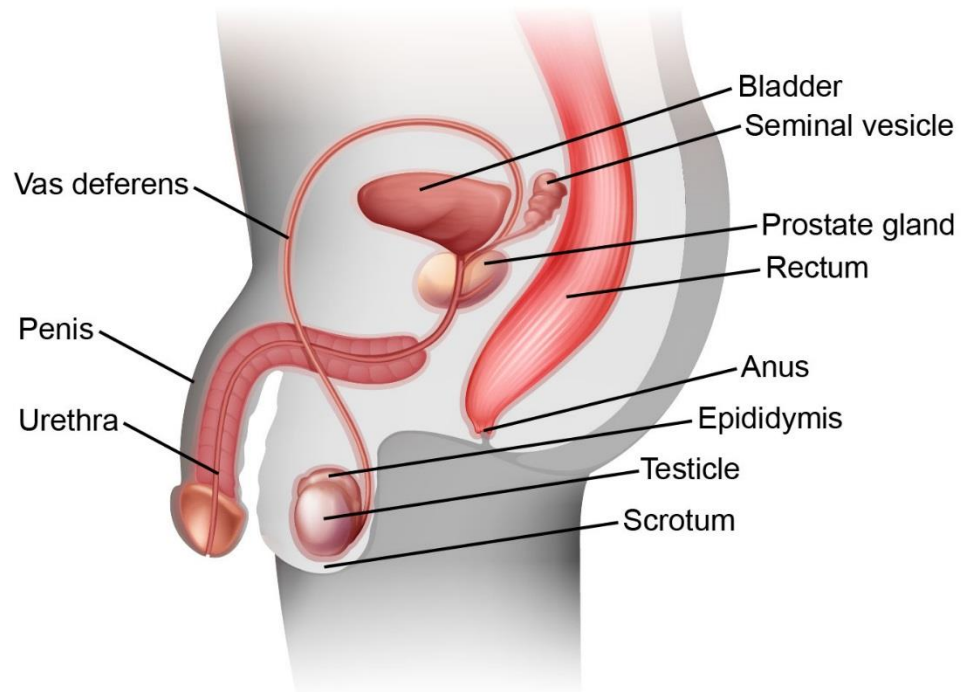
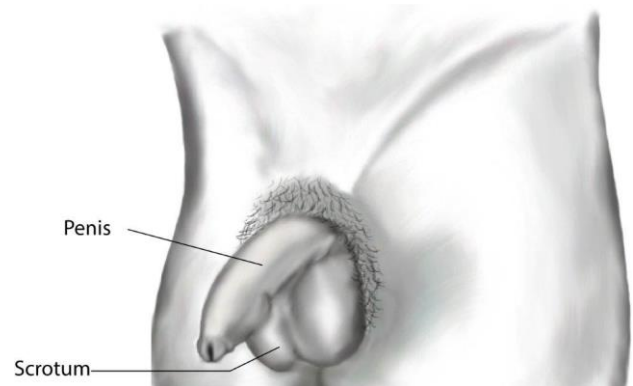
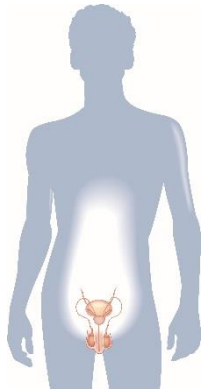
### Skills and Procedures

- Identify the components of the human reproductive system.
- Describe the functions of the components of the human reproductive system.
- Describe how physical changes in puberty affect reproductive capability.
- Describe the processes of menstruation and sperm production.

# Reproductive System



# Answer Key



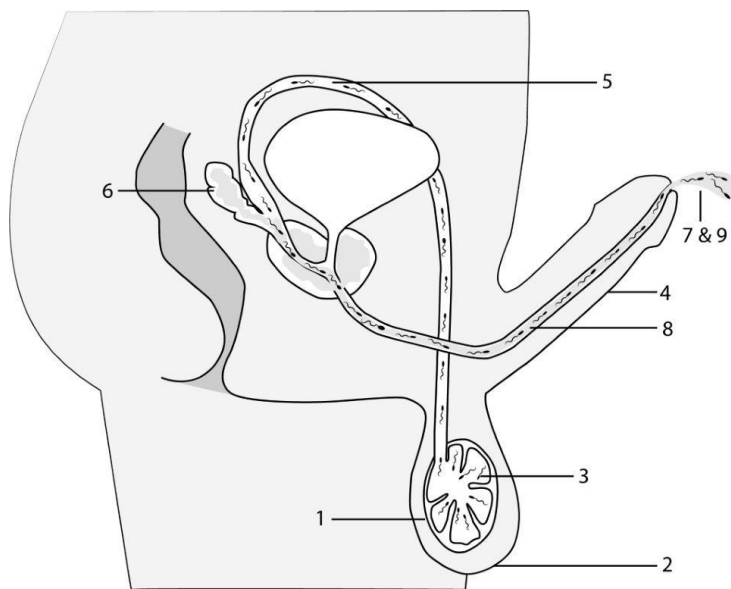
# The Sperm's Journey

Read the following story and fill in the blanks using the words provided.

## Word Bank

ejaculation  
penis  
scrotum  
semen  
seminal vesicle  
sperm  
testicles  
urethra  
vas deferens

Once upon a time, there was a pair of \_\_\_\_\_ (1). They were held in a special sac called the \_\_\_\_\_ (2).



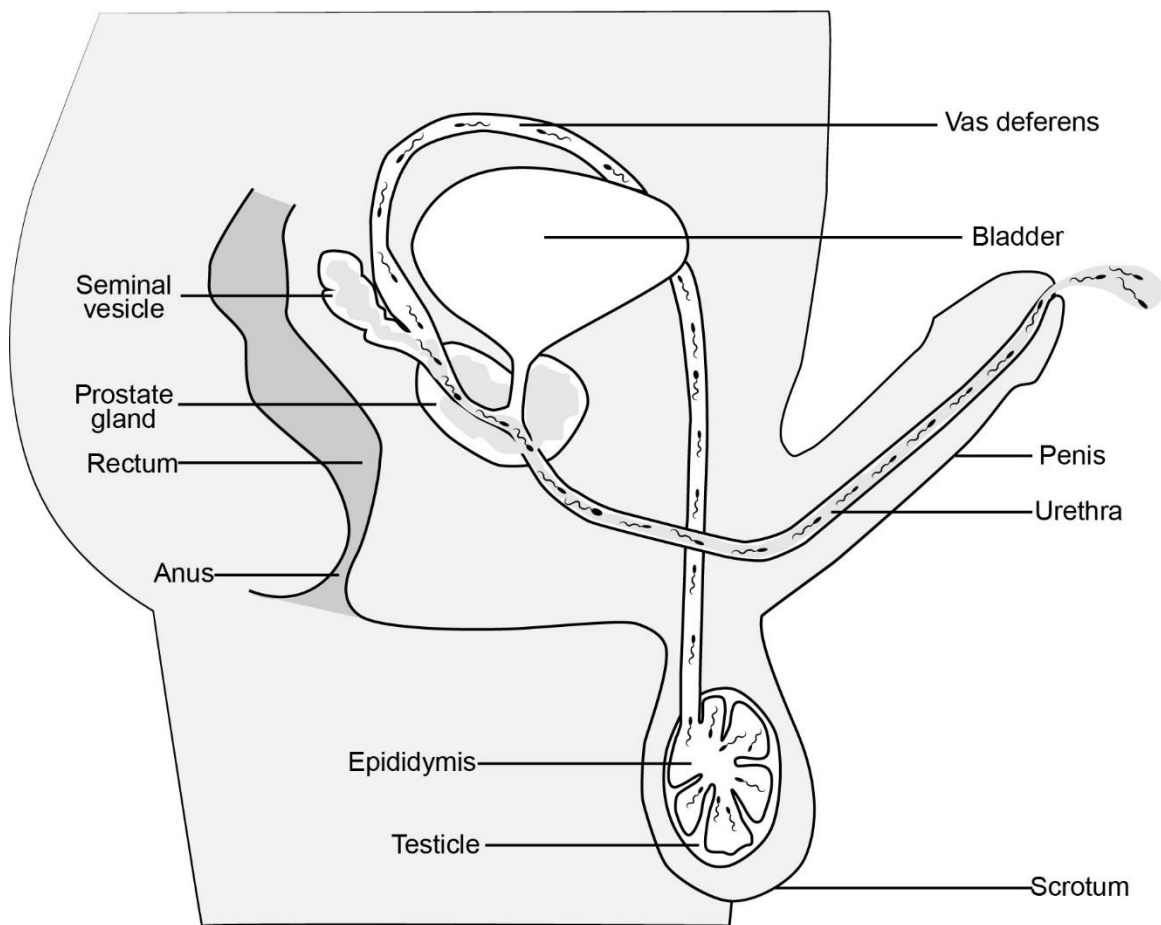
This sac could hold the testicles close to the body to keep them warm, or let them hang away from the body to keep them cool. The testicles made special reproductive cells called \_\_\_\_\_ (3). Once these cells were made, they would wait to be released from the testicles. Sometimes, they would wait so long that they dissolved. Other times, they would be released from the testicles, make a journey through the reproductive system and leave the body.

One day, the sperm got to be released from the body. First, the \_\_\_\_\_ (4) became larger and firmer until it stuck out from the body. When the penis gets this way it is called an erection. The sperm travelled up the \_\_\_\_\_ (5). Along the way, it mixed with fluid from the prostate gland, and with seminal fluid, which was made in the \_\_\_\_\_ (6).

Once these fluids mixed, they decided to call themselves \_\_\_\_\_ (7). Together they travelled from the vas deferens into a tube called the \_\_\_\_\_ (8).

By this time, the semen was almost at the end of the journey. After travelling through the vas deferens and the urethra, the semen was released from the penis in a process called \_\_\_\_\_ (9). The erection went away and the penis became smaller and softer.

# Sperm Production



## ANSWER KEY : Grade 5 Sperm and Testicles

**Correct answers are in bold text.**

1. The external parts of this reproductive system include the:

- prostate and scrotum
- urethra and penis
- **penis and scrotum**
- bladder and anus

The prostate and urethra are internal parts; the bladder is part of the urinary system and the anus is part of the digestive system.

2. The internal parts of this reproductive system include the:

- bladder, kidneys and urethra
- scrotum, penis and testicles
- anus, penis and rectum
- **vas deferens, seminal vesicles and epididymis**

The bladder and kidneys are part of the urinary system. The penis, testicles and scrotum are external parts of the reproductive system. The anus and rectum are parts of the digestive system.

3. The sac that contains the testicles is called:

- the vas deferens
- **the scrotum**
- the penis
- the testes

Testes is another word for testicles.

4. Release of semen from the penis is called:

- erection
- circumcision
- testiculation
- **ejaculation**

5. The testicles:

- **are held in the scrotum**
- **produce sperm**
- **are a very sensitive area of the body**
- produce semen

Semen is the combination of sperm and fluids produced by the seminal vesicles and prostate gland.

6. Semen is:

- the same thing as sperm
- made of urine and sperm
- stored in the vas deferens
- **a whitish fluid containing sperm**

Semen is the combination of sperm and fluids produced by the seminal vesicles and prostate gland. These fluids feed and protect the sperm. A 5 ml sample of semen contains about 300 million sperm cells.

7. Sperm are produced in the:

- **testicles**
- seminal vesicles
- urethra
- penis

The sperm are produced in the testicles, and then leave the body through the urethra in the penis. The seminal vesicles produce the fluid that combines with sperm to make semen.

8. Sperm travel from the:

- prostate gland through the vas deferens and out the rectum
- urethra past the penis and out the bladder
- **testes through the vas deferens and out the urethra**
- seminal vesicle through the vas deferens and out the urethra

Sperm make the journey from testes and out of the body during ejaculation.

9. Sperm that are not released by ejaculation are:

- released when urinating
- **reabsorbed into the body**
- held in the testicles forever
- released with feces

The body makes millions of sperm each day, and reabsorbs them to recycle if they are not ejaculated.



## 10. Wet dreams (nocturnal emissions):

- **can be a normal and healthy part of growing up**
- **often begin in puberty**
- only happen when a person dreams about sex
- happen every night

Some people have frequent wet dreams, others do not. Wet dreams are usually defined as when semen is ejaculated from the penis when the person is sleeping. Girls or people assigned female also might notice they release some fluid from the genitals when they are sleeping. People of any gender can have an orgasm while sleeping.

**The opening at the  
end of the digestive  
tract where feces  
leaves the body.**



**A sac inside the body  
that holds urine.**



**Release of semen from  
the penis.**



**The external sex organ  
that releases semen and  
can become erect.**



**The penis becomes  
larger and firmer,  
sometimes due to  
sexual arousal.**



**The skin of the  
penis tip.**



**External sac  
containing the  
testicles.**





**Thick fluid  
containing sperm.**



**Where semen is  
produced and stored.**



**Reproductive cell  
made in the testicles.**



**Sperm producing  
glands.**



**Urine and semen pass  
through this tube to  
the outside of the  
body.**



**Narrow tubes that  
carry sperm from the  
testicles to the  
urethra.**



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**Anus**

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**Bladder**

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**Ejaculation**

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**Erection**

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**Foreskin**

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**Penis**

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# Scrotum

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# Semen

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# Seminal Vesicles

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# Sperm

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# Testicles

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# Urethra

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# Vas Deferens

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