

Development of Sperm During Puberty

Lesson Plan

Resource: H&PE Elementary Resources

Unit: Human Development and Sexual Health

Grade(s): 5

Lesson: 2 of 5

H&PE Curriculum Expectations

2019 H&PE Curriculum Expectations: A1.5, D1.4

Materials

- **KWL Chart**(one per student)
- Student Resource: External Reproductive System Body Parts (*included at the end of the lesson*)
- **Teacher Resource: Anecdotal Recording Chart**
- Teacher Resource: External Reproductive System Answer Key (*included at the end of the lesson*)

Learning Goals

- We are learning to describe the process of developing spermatozoa.
- We are learning how the production of sperm relates to reproduction and our overall development.

Overall Assessment

Using the Teacher Resource: Anecdotal Recording Chart, observe and provide written and verbal feedback on students' knowledge of spermatogenesis and its relationship to changes during puberty.

Minds-On

Share the learning goals with the class and co-construct success criteria with students. Consider posting the success criteria in the learning space for reference throughout the lesson.

Review the ground rules/agreements established in Lesson 1. Have students identify why each ground rule/agreement is important and how it creates an emotionally safe and inclusive learning environment for everyone.

Distribute the KWL Chart to the students and have them complete the first two columns recording what they know and want to know more about, using the following teacher prompts.

- Teacher prompt: "What are the changes people whose anatomical sex assigned at birth is male or have an external reproductive system might experience at puberty?"

Student response: Penis and testicles grow bigger, hair grows on genitals, shoulders get wider

- Teacher prompt: "What are sperm?" Student response: Sex cells produced by the testicles. They have heads and tails, which let them "swim".
- Teacher prompt: "What is the purpose of sperm cells?" Student response: Fertilization of the egg.
- Teacher prompt: "What is spermatogenesis?" Student response: The production of sperm cells in the testes.

(The content from the "Student Responses" was adapted from: Region of Peel, Healthy Sexuality Program. (2011). [Growing Up! A handbook on puberty and maturing.](#))

Action

Divide students into pairs. Display the following Anatomical terms and Definitions for body parts for pairs to view and match.

Anatomical terms

- Anus
- Foreskin

- Glans
- Penis
- Urethra
- Bladder
- Cowper's gland
- Epididymis
- Large intestine (bowel)
- Prostate
- Scrotum
- Testicle
- Seminal vesicles
- Sperm
- Vas deferens

Definitions for body parts

- The opening through which solid waste (fecal matter) leaves the body; part of the digestive system.
- A fold of skin which covers the glans; also called the prepuce; sometimes removed at birth for religious or hygienic reasons.
- The head of the penis that has many nerve endings, which make it sensitive to the touch.
- External reproductive organ; deposits sperm into the vagina during sexual intercourse; also passes urine out of the body; varies in size and appearance from person to person.
- The tube in the penis that is a passageway for urine and sperm to leave the body; also part of the urinary system.
- An organ in the body where urine collects; part of the urinary system.
- Small glands on either side of the urethra that produce a clear fluid.

- The microscopic tubes through which sperm are transported as they mature, and are stored in until ejaculation.
- One of two round organs inside the scrotum that produce sperm and the hormone testosterone; some individuals have only one testicle. Before puberty, a testicle is the size of a marble. At puberty, testicles grow to the size of a walnut.
- The internal organ that carries solid waste to the anus for elimination; part of the digestive system.
- A gland located beneath the bladder. It produces a liquid which helps sperm move along more easily.
- A sac located behind the penis. It contains the testicles and controls the temperature of the testicles for sperm production.
- Two small glands located on each side of the bladder. Produces a fluid that combines with sperm to make up semen.
- Sex cell produced by the testicles. It has a head and a tail, which lets it “swim”, making it resemble a tadpole.
- A passageway that carries sperm from the testicle to the urethra.

(The definitions were extracted from: Peel Public Health. (2011). [Healthy Sexuality Program. Changes in me: a resource for educators on puberty and adolescent development](#)).

Make sure the terms and definitions are listed in random sequence. Note that the terms and definitions are currently in the correct order (i.e. term 1 and definition 1 match up). Provide each pair with a full set of the strips of paper to match the correct term with the definition. Review the correct term and definition word matches as a class.

Provide each pair with the Student Resource: External Reproductive System Body Parts and have pairs work collaboratively to correctly label the diagram (they can use the terms and definitions as a guide). Consider having pairs label some or all of the diagram based on student readiness. (Reference Teacher Resource: External Reproductive System Answer Key for correct answers.) Display Teacher Resource: External Reproductive System Answer Key for pairs to view. Have pairs assess and correct their diagrams.

Display the following word bank and spermatogenesis paragraph for pairs to view, omitting the numbers (these are the correct answers for teacher reference).

Word Bank

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

Spermatogenesis Paragraph:

The journey of the sperm begins in the [blank] (1) which are held in a special sac called the [blank] (2). These male reproductive cells are called [blank] (3). If they do not leave the body, they simply dissolve. Other times, if they are released from the testicles, they make their way through the reproductive system.

First, the [blank] (4) becomes larger and longer. This is called an erection. The sperm travel along the [blank] (5) mixing with fluid from the prostate gland and seminal fluid from the [blank] (6). Once these fluids mix, it is called [blank] (7). Together, they travel from the vas deferens in a tube called the [blank] (8). At the end of its journey, the semen is released from the penis in a process called [blank] (9). The penis then becomes smaller and softer after the erection goes away.

(The *Spermatogenesis Paragraph* was adapted from: Alberta Health Services. (2012). **Teaching Sexual Health**).

Explain to pairs that the paragraph describes a process called spermatogenesis. Have pairs reference their anatomical terms, definitions and labelled diagram to decide on the correct word to fill in the blanks. Review the completed paragraph for pairs to assess and correct their answers.

Consolidation

Have students review and record additional information on their KWL Chart to document what they have learned and any further questions they may have.

Notes to Teachers

Consider using a question box throughout this unit for students to ask questions anonymously. Then answer the questions at appropriate instructional moments during the unit.

The language of “boys” and “girls” or “male” and “female” is gender interpreted, and often assigned based on a person’s biological sex at birth. It excludes individuals who are intersexed and/or whose gender identity does not align with their assigned biological sex. It is more accurate to talk about anatomy rather than gender and use “bodies with” or “people with” language when referring to developments and changes in puberty. Using this language supports an inclusive classroom in which diversity is recognized and provides a strong model to help students understand that bodies are unique, come in all shapes, sizes, types, and all bodies are good bodies.

Teachers should be sensitive to the students in their class and varying comfort levels with content. Note that students may be uncomfortable based on differences in knowledge, norms or physiological responses (e.g., fainting, increased heart rate) when discussing or viewing images of body organs, changes at puberty, or blood. Consider strategies to increase student comfort with the topic such as providing students additional time through the lesson to build their comfort level, having students work individually or in pairs, using a question box, reviewing ground rules, and inform students that it is ok to take a break if they are experiencing these types of responses.

Hygiene habits, norms and practices will vary from family to family. It is important to be aware of, and respect and accept these differences. Be sensitive to the fact that not everyone can afford to have their clothes laundered regularly, have multiple changes of clothes, etc. Similarly, students may not have access to regular opportunities to bathe or may not be able to afford a variety of hygiene products. Teachers need to be alert to ensure the classroom climate is positive and caring. Consider seeking out local sources of support for students to access hygiene items free of charge.

Teachers should be aware of student disclosures and/or triggers, and know appropriate actions to take (i.e., have a social worker or child and youth worker participate in the lesson, be available to meet with students as needed, know reporting procedures to administration and children's aid society, etc.).

For additional information about puberty, consult your local public health unit website or visit these websites:

- [Centre for Sexuality](#)
- [kidshelpphone.ca](#)
 - [Puberty and people assigned male at birth](#)
- [Intersex Society of North America](#)
- [Sex & U](#)
- [The Shore Centre: The Penis and Testes](#)

For background information about sex assigned at birth visit [Caring for kids](#).

Consider including video or picture book resources available and approved by your board to deepen student understanding of the lesson content and/or to consolidate their learning.

Student Resource: External Reproductive System Body Parts

Figure 1: External reproductive system – unlabelled internal and external organs

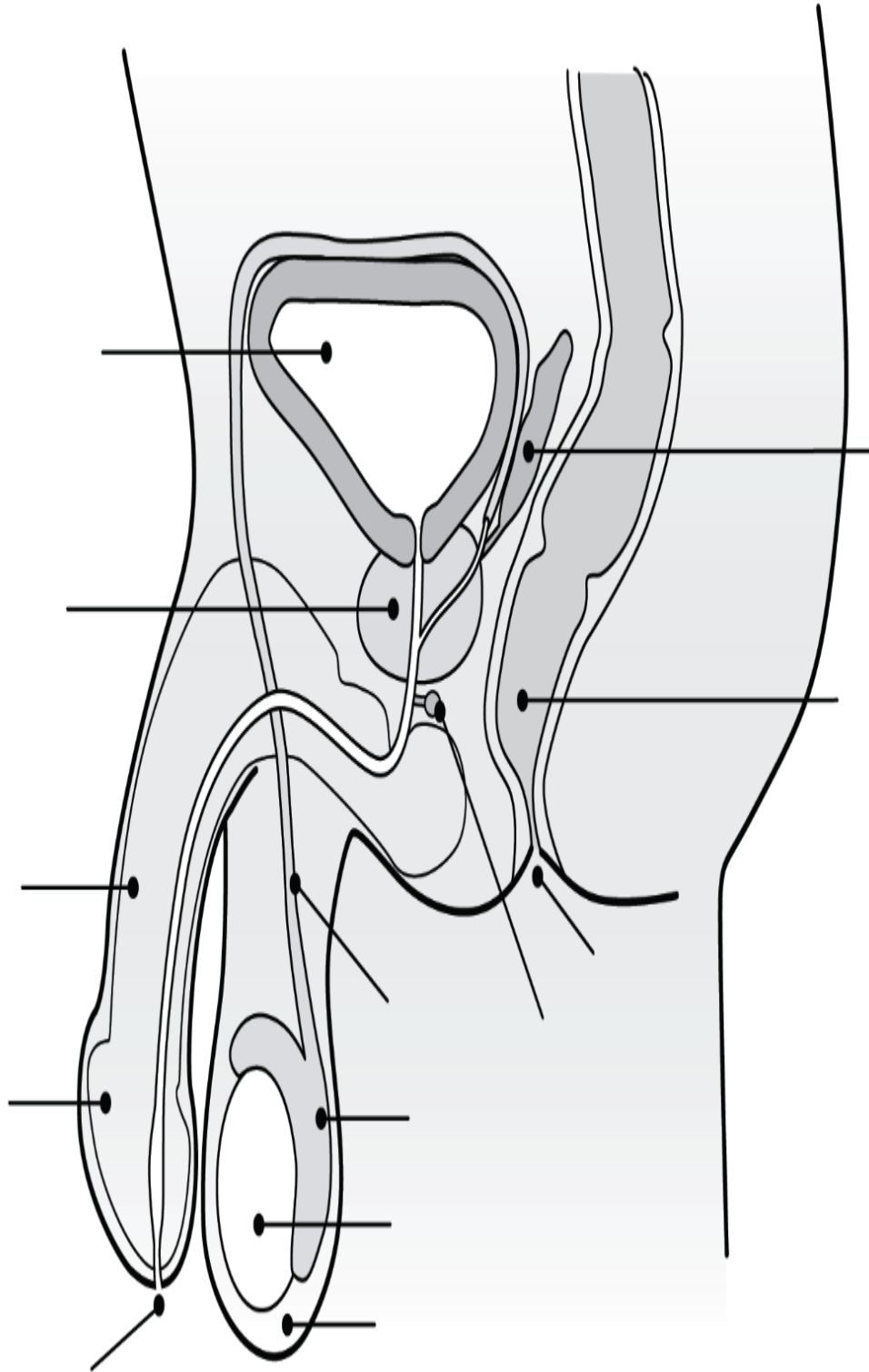


Figure 2: Unlabelled sperm

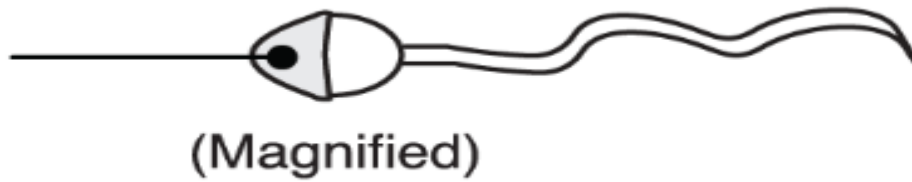
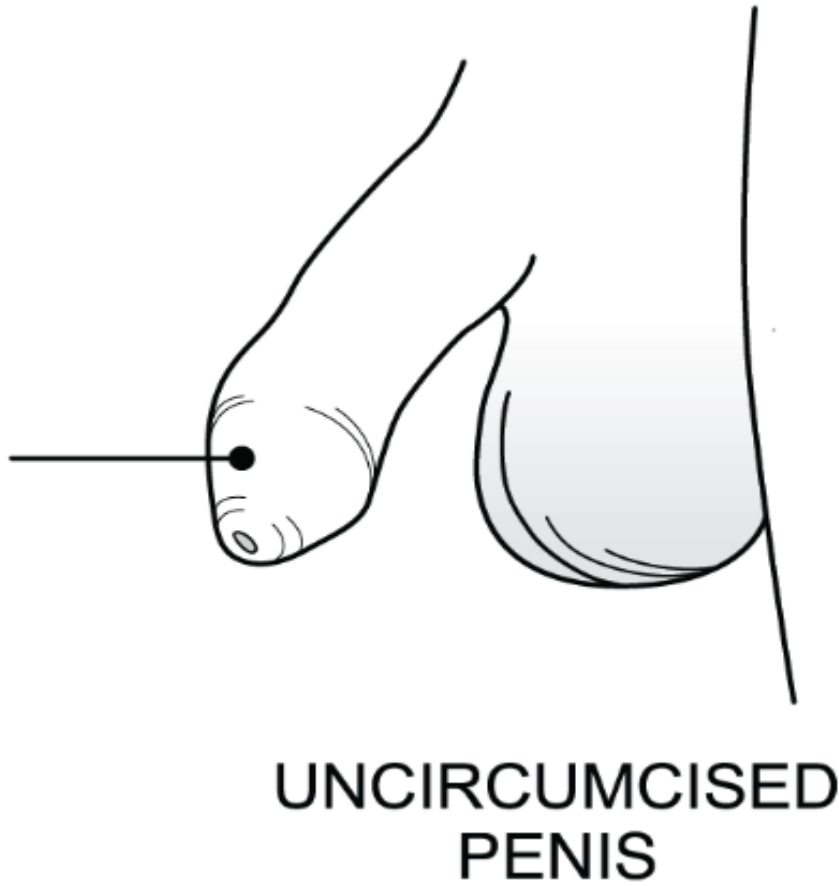


Figure 3: Unlabelled uncircumcised penis



Teacher Resource: External Reproductive System Answer Key

Figure 1: External reproductive system – internal and external organs

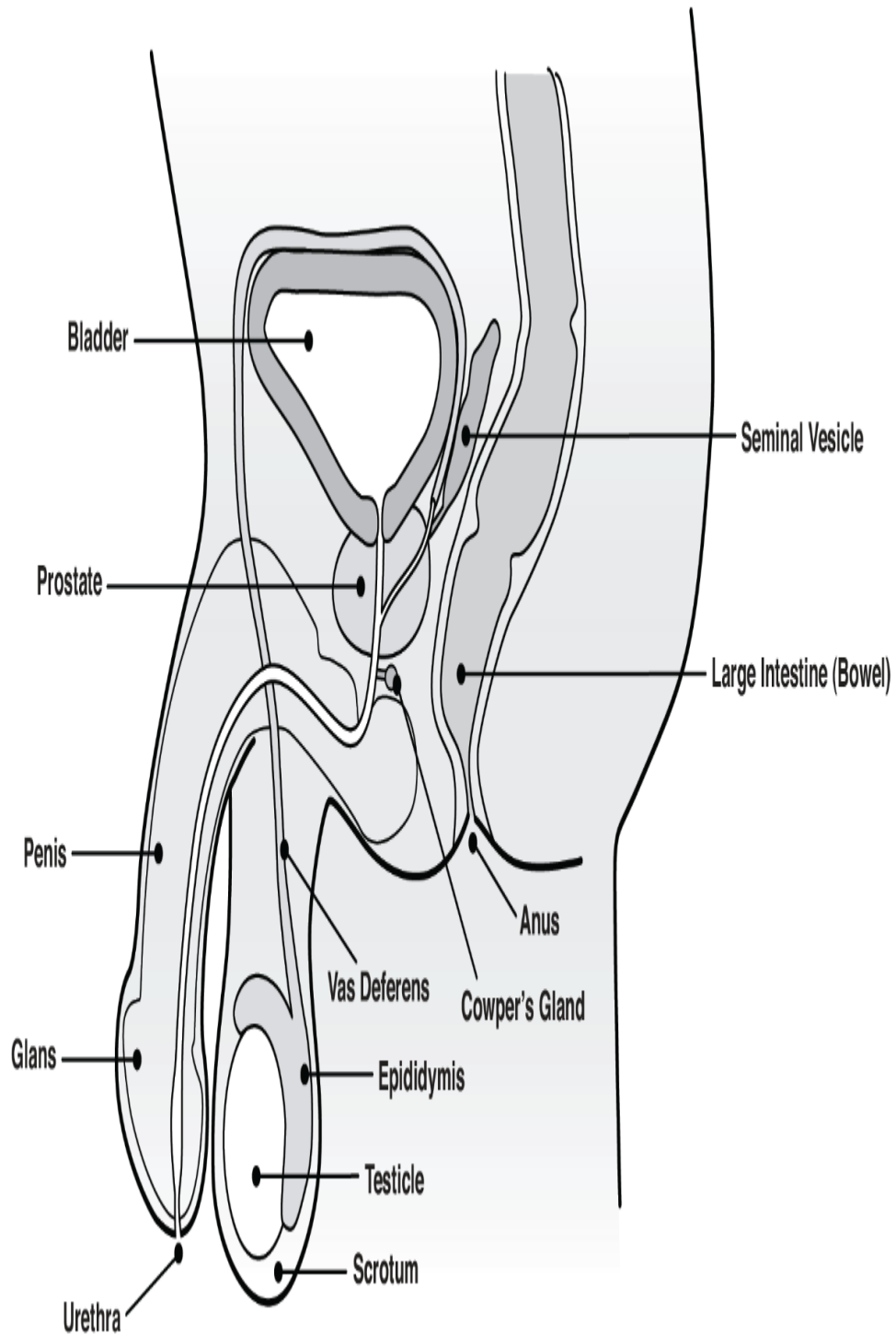


Figure 2: Sperm



Figure 3: Uncircumcised penis

