Puberty and Reproduction

A Lesson Plan from Rights, Respect, Responsibility: A K-12 Curriculum

Fostering respect and responsibility through age-appropriate sexuality education.

CA Health Standards:

Growth, Development, and Sexual Health

Standard 1: Essential Concepts **– 1.1.G:** Describe the human cycle of reproduction, birth, growth, aging and death**. 1.2.G:** Explain the structure, function and major parts of the human reproductive system

NSES ALIGNMENT:

By the end of 5th grade, students will be able to:

PD.5.CC.3 – Describe how puberty prepares human bodies for the potential to reproduce.

PR.5.CC.1 – Describe the process of human reproduction.

TIME: 60+ Minutes

MATERIALS NEEDED:

- PowerPoint: "Sexual and Reproductive Anatomy"
- Worksheet: "Human Reproduction" – one per student
- Steps to Human Reproduction Cards – one set for each small group
- Answer Key: "Human Reproduction" – one copy for the teacher
- Board/newsprint
- Markers/chalk
- LCD projector and screen
- Desktop or laptop with PowerPoint on it
- BrainPOP Reproductive Systems https://tinyurl.com/job2dqe
- BrainPOP Babies https://tinyurl.com/hx4xveh

Note to the Teacher: *Teach lessons 4, 5, and 6 within one to two weeks of each other. Parents/Guardians may opt their student out of these three lessons.*

ADVANCE PREPARATION FOR LESSON:

Print out the Steps to Human Reproduction Cards and cut them out. Make enough sets for each small group.

You should be familiar with the functioning of the reproductive system and human reproduction and be prepared to respond to questions. A review can be found at **http://www.sexualityandu.ca/sexual-health/all-about-puberty/sexual-reproduction**. It is also important for you to be aware of your district and/or state policies in place that may dictate what they can and cannot share about human reproduction.

Optional Video Resources:

Log in to ed1stop and click on BrainPOP before clicking on the links to the videos below

BrainPOP Reproductive Systems / BrainPOP Babies

LEARNING OBJECTIVES:

By the end of this lesson, students will be able to:

1. Describe how puberty prepares the human male body for the potential to reproduce. [Knowledge]
2. Describe how puberty prepares the human female body for the potential to reproduce. [Knowledge]
3. Describe the process of human reproduction by identifying the correct order of steps involved in conception. [Knowledge]

A NOTE ABOUT LANGUAGE:

The terms "boy" and "girl" are used intentionally in this lesson to make it accessible for 5th grade students, who are more concrete learners than students in middle or high school. While we use the terms "male" and "female" when referring to particular anatomy (the "male" or "female" reproductive systems, for example), it is important to remember that someone can have a penis even if they don't identify as a boy or a vulva even if they don't identify as a girl. The use of more inclusive terms related to gender identity and biological sex are introduced in subsequent grade levels.

PROCEDURE:

STEP 1: Tell students that today you are going to discuss how puberty can prepare the human body for the potential to reproduce. Ask: "Who remembers what puberty is?"

Note to the Teacher: *Answers might include a normal part of growing up when our bodies change from being a child's body to an adult body. Remind students that puberty typically begins anywhere from age 8 – 16 – usually a little earlier for female bodies than male bodies – and continues all the way until a person reaches their full adult height, sometime in the later teens for female bodies and up to the early twenties for male bodies.*

Say, "One of the biggest differences between a person who has gone through puberty and somebody who has not is that an adult body has the ability to reproduce, or make a baby. That is an important change that happens during puberty. The main changes that happen during puberty are the result of hormones: testosterone and estrogen mainly. Hormones are the natural chemicals our bodies make."
(3 minutes)

STEP 2: Start the PowerPoint with slide one and say "Who can remember the names of the male body parts that we talked about in a previous lesson?" Together with the students, name the parts on the diagram.

Note to the Teacher: *You may want to provide a word bank on the board/newsprint to help students to remember the names.*

Next, show slides two and three of the female body and again ask "Who can remember the names of the parts of the female body parts that we talked about in a previous lesson?"
(9 minutes)

STEP 3: Tell students: "Puberty starts because a person's body starts to produce a very large quantity of hormones that they were only producing in small amounts before. Male bodies start to produce a lot more testosterone and a little bit of estrogen and female bodies start to produce a lot more estrogen and a little bit of testosterone. All of these changes happen because of the new surge of these hormones."

Show students slide four that has both the male and female interior diagrams on it together. Explain to students that only some of the male and female body parts are needed for reproduction and therefore are part of the reproductive system. Say, "On the male diagram, the parts that are used in reproduction are the testicles, penis, urethra and vas deferens." Say, "On the female diagram, the parts that are used in reproduction are the uterus, ovaries, fallopian tubes and vagina." (3 minutes)

STEP 4: Tell students: "Through the production of testosterone and estrogen, the reproductive system becomes able to reproduce or make a baby." Tell them that you are now going to explain to them how conception occurs.

Note to the Teacher: *As you go through the process of conception, use the diagrams of the interior male and female bodies to help to explain each of these processes. The description below is a suggestion for explaining the process of human conception. Details can be added from the teacher's resource or excluded to meet the needs of the class and/or district and state policy.*

Say: "When puberty begins, testicles, which is where most of the hormone testosterone is produced, start to produce sperm. Sperm are tiny cells that are needed to reproduce. For reproduction to happen, the sperm exit the testicles and travel up through the two small tubes called the vas deferens. After they pass through the vas deferens, the sperm cells mix with semen. Semen is a fluid that helps to protect and nourish the sperm and make them able to fertilize an egg. After the sperm mix with the semen, they travel up through the urethra in the penis and out of the tip of the penis. This is called an ejaculation."

Next say: "When puberty begins, ovaries, which produce most of the hormone called estrogen, start to release an egg, called an ovum, about once a month. The process of the ovary releasing an ovum is called ovulation. When ovulation occurs, the egg or ovum enters the fallopian tube. (Remind students that once ovulation begins, the uterus, each month starts to prepare for a fertilized ovum because if a person becomes pregnant, the uterus is where the fetus will live and grow until it is born.) So, every month, the lining of the uterus thickens with extra blood and tissue. If no fertilized egg comes down to the uterus, which is most months, then the uterus sheds its lining, which flows out of the body through the vagina and this is called menstruation or having a period.)

Say "Conception, or reproduction, generally happens when the semen containing hundreds of millions of sperm cells leaves the penis (ejaculation) and enters the vagina through sexual intercourse.

Note to the Teacher: *It is likely that some students will react with embarrassment, discomfort, or disgust from the mention of sexual intercourse. Explain to students that this is an adult behavior and that because they are only in fifth grade, it is perfectly normal for them to think it is yucky or funny.*

The semen with the sperm travels through the vagina and into the uterus through its opening called the cervix and then into the fallopian tubes. Even though hundreds of millions of sperm are ejaculated only one sperm can attach itself to the egg and fertilize it. The fertilized egg then travels back down to the uterus where if it attaches itself to the wall of the uterus a pregnancy has started. The fetus will stay in the uterus for about nine months before a baby is born." (10 minutes)

STEP 5: Tell students that they are now going to see what they remember about conception by placing the steps of conception in the right order on a diagram. Break up students into pairs or trios. Give each group a conception worksheet and a stack of cards or slips of paper with the steps of conception on them. Explain to students that on the part of the "Y" marked "Male," they are to put the cards relating to the male part of reproduction in the correct order starting from the top (the first step is already there to help them). On the part of the "Y" marked "Female," they are to put the cards relating to the female part of reproduction in order following the first step. As students work on their diagrams, go around and offer assistance or clues to help them. (Alternatives: Depending on the need to assess students, this activity can be done independently so the teacher can assess students on an individual basis. Another option is to do this as a large group activity with the whole class. In such a situation, the teacher can make a giant diagram on the floor with chalk and enlarge the signs to have the class build a giant conception diagram). (10 minutes)

STEP 6: Review the diagrams, correcting mistakes and reviewing information. With any time remaining, ask students if they have any questions. Take as much time as possible to respond to their questions. Close by telling students that it is okay if they still have more questions. Tell them that they should go home and ask their adult family members or other trusted adults their questions. Remind them that they can always come to you or another trusted adult on school campus.
(5 minutes)

RECOMMENDED ASSESSMENT OF LEARNING OBJECTIVES AT CONCLUSION OF LESSON:

The activity in step five is designed to assess objectives one, two and three.

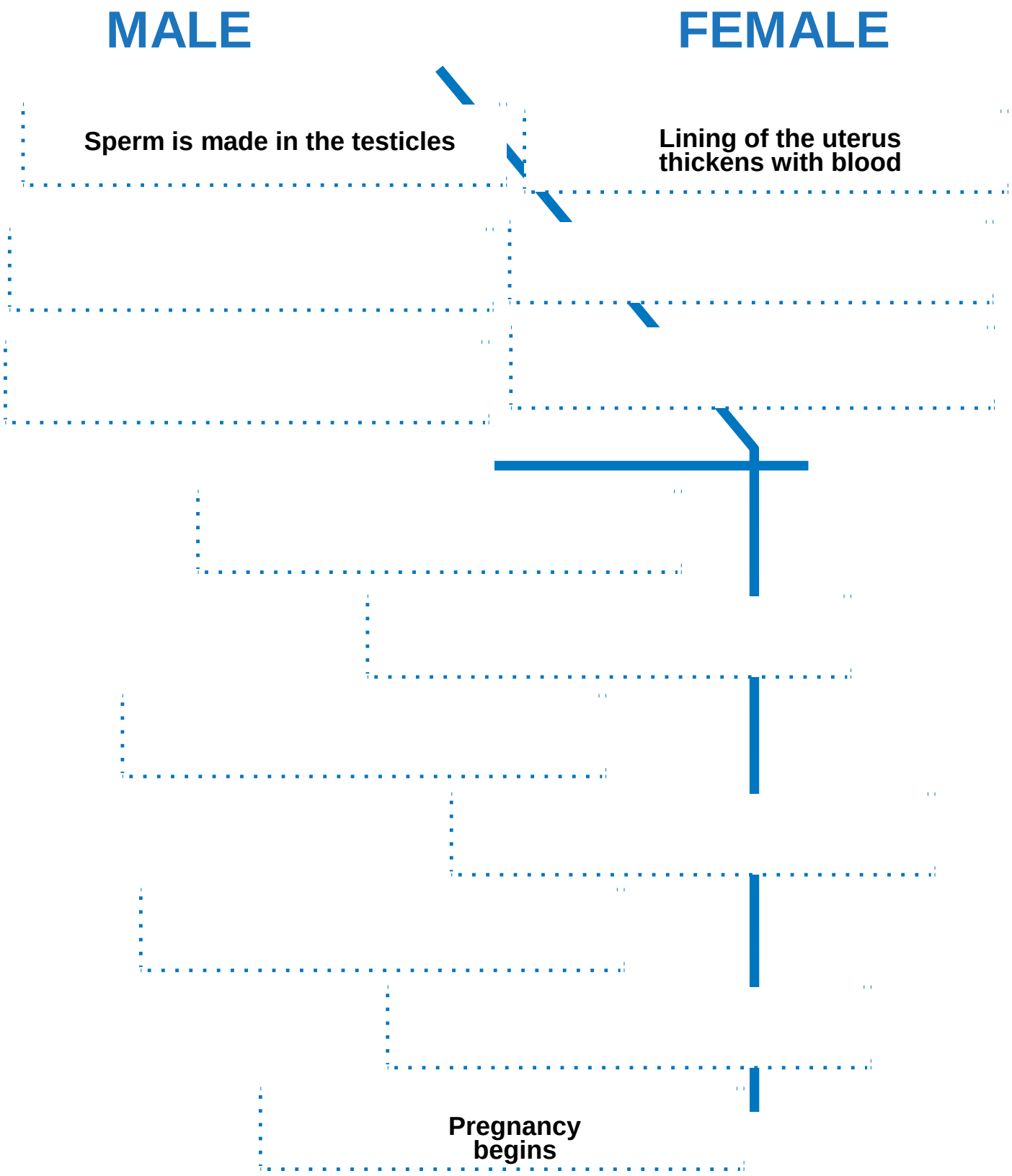
HOMEWORK:

None.

Steps to Human Reproduction Cards

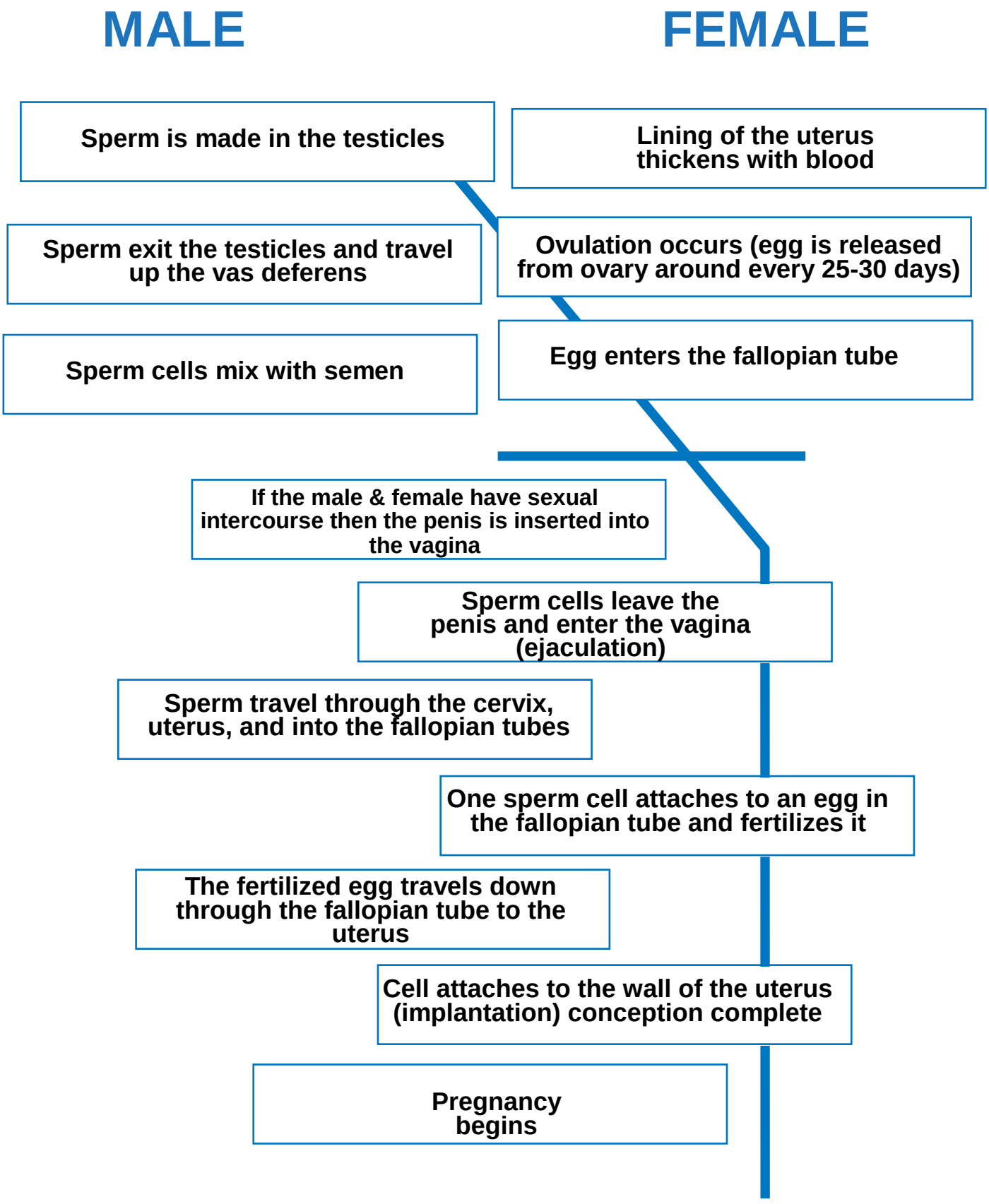
Sperm is made in the testicles	**Sperm travel through the cervix, uterus, and into the fallopian tubes**
Sperm exit the testicles and travel up the vas deferens	**Sperm cells leave the penis and enter the vagina (ejaculation)**
Sperm cells mix with other fluid to become semen	**Ovulation occurs (egg is released from ovary around every 25-30 days)**
If the male & female have sexual intercourse then the penis is inserted into the vagina	**The fertilized egg travels down through the fallopian tube to the uterus**
Egg enters the fallopian tube	**Pregnancy begins**
Fertilized egg attaches to the wall of the uterus (implantation) conception complete	**One sperm cell attaches to an egg in the fallopian tube and fertilizes it**
Lining of the uterus thickens with blood	

Human Reproduction
Worksheet



Adapted from Advocates for Youth: Rights, Respect, Responsibility

Human Reproduction
Answer Key



Adapted from Advocates for Youth: Rights, Respect, Responsibility

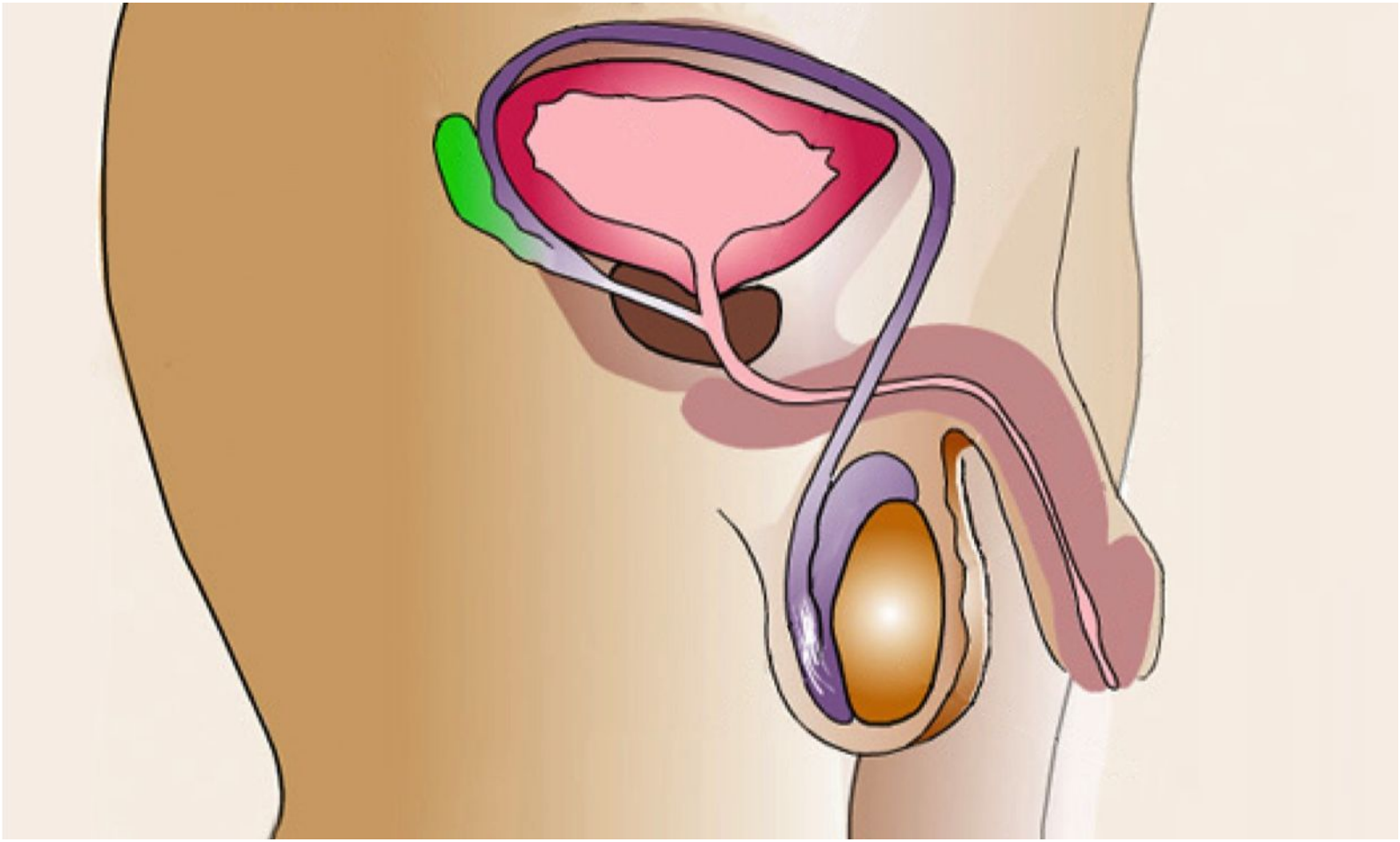
Sexual and Reproductive Anatomy

5th Grade Lesson

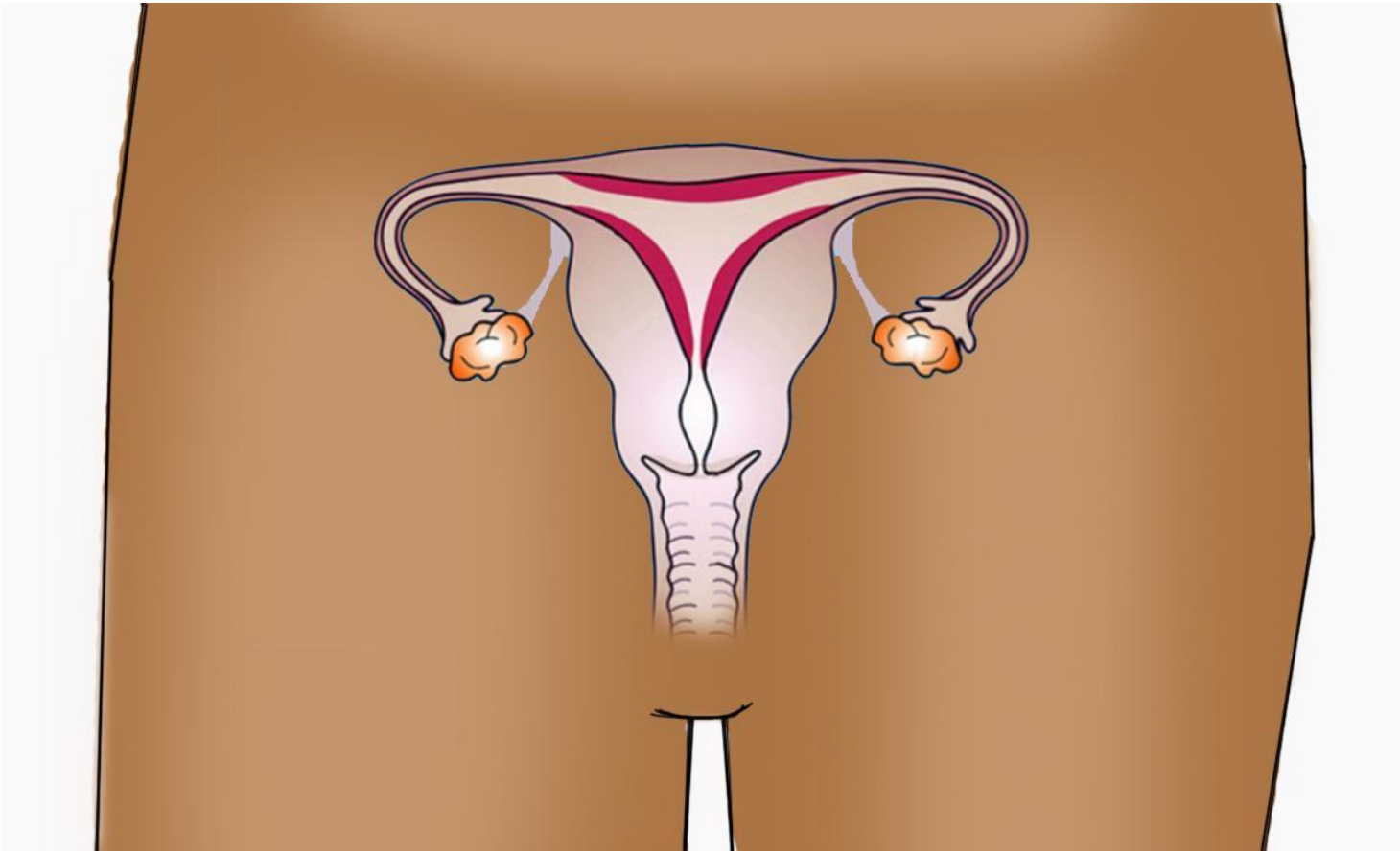
from Rights, Respect, Responsibility: A K-12 Sexuality Education Curriculum

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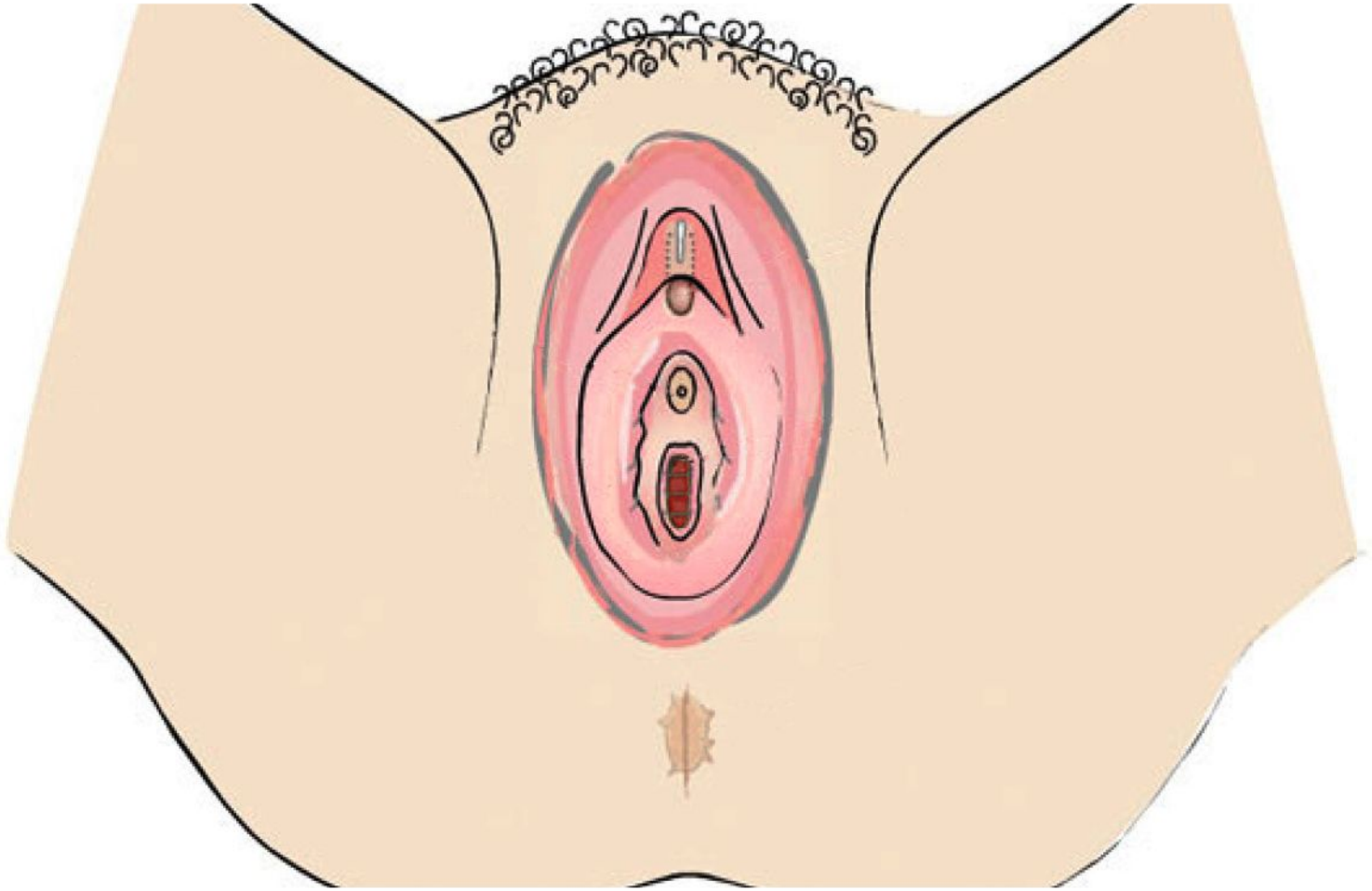
Male Anatomy



Female Anatomy



External Female Anatomy



Reproductive Anatomy

