

The Development of An Egg During Puberty

Lesson Plan

Resource: H&PE Elementary Resources

Unit: Human Development and Sexual Health

Grade(s): 5

Lesson: 3 of 5

H&PE Curriculum Expectations

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

Materials

- Index Card (one per student)
- Student Resource: Internal Reproductive System Body Parts (*included at the end of the lesson*)
- Teacher Resource: [Anecdotal Recording Chart](#)
- Teacher Resource: Internal Reproductive System Answer Key (*included at the end of the lesson*)
- Teacher Resource: The Menstrual Cycle (*included at the end of the lesson*)

Learning Goals

- We are learning to describe the process of developing an egg during puberty.
- We are learning how the production of an egg 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 the development of an egg, sperm and fertilization leads to reproduction.

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 established in Lesson 1. Using a **Think Pair Share** strategy, have students share one way they have helped to create and maintain an emotionally safe and inclusive learning environment for themselves and their classmates and any other ground rules that might be added to the list.

Have pairs of students join with another pair to create a group of 4. Use the following teacher prompts for groups to recall what they learned in Lesson 1 about the physical changes that occur at puberty for people who are assigned female at birth or have an internal reproductive system (alternatively, consider creating a quiz using available technology for students to recall what they have learned).

- **Teacher prompt:** “What are some of the physical changes that occur at puberty for people who are assigned female at birth or have an internal reproductive system?” *Student responses:* Height and weight increase rapidly, breasts develop, underarm and pubic hair, ovulation and menstruation may begin
- **Teacher prompt:** “What is a period?” *Student response:* The days when the uterus sheds its lining because it is not needed for the implantation of an embryo.
- **Teacher prompt:** “What is ovulation?” *Student response:* When the ovaries produce an egg.
- **Teacher prompt:** “How many days is a menstrual cycle for people who are assigned female at birth or have an internal reproductive system?” *Student response:* (On average 28 days.)

(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. Consider creating different pairs from those formed in Lesson 1 to provide students with an opportunity to work with other students. Explain to students that this activity will help them learn about the internal body parts for people who are assigned female at birth or have an internal reproductive system.

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

Anatomical terms:

- Anus
- Clitoris
- Labia Majora
- Labia Minora
- Urethra
- Vaginal opening
- Vulva
- Cervix
- Fallopian tube
- Ovary
- Ovum
- Uterus
- Vagina

Definitions for body parts:

- The opening through which solid waste (fecal matter) leaves the body; part of the digestive system.
- The external and internal erectile tissue in people with vulvas and vaginas. The clitoral glans is the small, pea-size part of the clitoris that extends outside the body above the urethral opening and has

many nerve endings that makes it very sensitive to the touch.

- Folds of skin, covered with pubic hair, that surround and protect the urethra, clitoral glans, and vaginal opening.
- Folds of skin that lie just inside the labia majora and surround the openings to the vagina and urethra.
- Opening through which urine leaves the body; part of the urinary system.
- Opening through which blood leaves the body during a period, and through which a baby can be born.
- The external/outer genital area of a person with a vagina.
- Opening to the uterus, at the top of the vagina. Produces mucus that can either facilitate the passage of sperm during parts of the menstrual cycle or may block the passage of sperm during other parts of the cycle.
- One of two passageways from the ovary to the uterus that an egg travels down; egg and sperm may join in the tube; is about the diameter of a pencil lead.
- One of two reproductive organs located on either side of the uterus; contains egg cells (ova); produces the hormones estrogen and progesterone, which cause bodily changes and may cause mood changes.
- Sex cell released by an ovary; also referred to as an egg.
- Where the menstrual discharge comes from during menstruation; where a fetus will grow if the person becomes pregnant.
- A small, muscular, tube leading from the uterus to the outer part of the body. It is able to stretch.

*(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: Internal Reproductive System Body Parts. Have pairs work collaboratively to 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: Internal Reproductive System Answer Key for correct answers.) Display Teacher Resource: Internal Reproductive System Answer Key for pairs to view. Have pairs assess and correct their diagrams.

Use Direct Instruction, the Teacher Resource: The Menstrual Cycle, and the following prompt to explain the menstrual cycle.

Teacher prompt: “We are going to talk about something called the menstrual cycle that occurs in bodies with an internal reproductive system. It may seem scary at first, but it is perfectly normal. Menstruation is the medical term for having a ‘period’ and is the monthly flow of blood from the uterus. This begins during puberty. Not all bodies begin menstruation at the same age. Generally, every month, an egg leaves one of the ovaries and travels down one of the fallopian tubes towards the uterus. In preparation, the walls of the uterus develop a lining of extra blood and tissue to act as a cushion for the egg in case fertilization occurs. When an egg is fertilized, it attaches itself to the lining of the uterus and begins to develop into an embryo. If fertilization does not occur, the lining of the uterus is no longer needed, and it leaves the body through the vagina as blood, and this is a normal process. This is the monthly flow of blood. The whole process is called the menstrual cycle.” (Extracted from: Ontario Ministry of Education. (2019). [The Ontario Curriculum, Grades 1–8: Health and Physical Education.](#))

Continuing with Direct Instruction, highlight some or all of the following information:

- Menstruation is the movement of menstrual blood and tissue from the uterus through the vagina. It typically happens for a period of 3-7 days every month.
- The total amount of menstrual flow can be from 2 tablespoons to 1/2 cup but it can seem like more. Menstrual blood starts as a reddish colour fluid and changes to a darker brownish colour toward the end of menstruation.
- The age of first menstruation (menarche) varies from as young as age 9 to as old as age 16, with the average being between the ages of 12 and 13.
- A menstrual cycle is the time from the first day of bleeding in one cycle to the first day of bleeding in the next cycle.

- The length of time between menstrual periods differs for each person but is about 28 days. The average length of a menstrual cycle in the first few years is 21-45 days. After that, the normal length becomes 21-35 days, with the average length of a menstrual cycle being 28 days.
- Day 1-5 of the cycle, the uterine lining begins to break down and the egg leaves the body. This is menstruation.
- Day 6-10 of the cycle, the ovaries start to make more estrogen again and another lining begins to grow.
- Day 11-18 of the cycle, the lining is ready for an egg to be released from the ovaries. This is called ovulation.
- Day 19-28 of the cycle, progesterone causes the lining of the uterus to continue to thicken to prepare for pregnancy. If the egg is not fertilized by a sperm, the lining inside the uterus is not needed, the egg dissolves and the uterine lining begins to break down and leaves the body during menstruation. This is the start of a new monthly cycle.

(The menstrual cycle information was extracted from: Proctor and Gamble. (2022). [Always Changing and Growing Up. Puberty Education Program Instructor's Guide](#).)

Use an [Elbow Partner](#) strategy for students to think about how the processes of menstruation and spermatogenesis relate to reproduction and overall development using the following prompts.

- **Teacher prompt:** “We have learned about the process of menstruation and spermatogenesis. What is the purpose of these processes?”

Student response: “Menstruation is how the body gets ready for pregnancy. Sperm is produced to fertilize an egg. When they join together, pregnancy occurs.”

- **Teacher prompt:** “What are some physical and emotional symptoms a person might experience during menstruation?”

Student response: “A person can have menstrual cramps, feeling moody, irritable, have tender breasts or feel bloated.”

- **Teacher prompt:** “How do these changes that occur at puberty affect a person in other ways?”

Student responses:

- ○ “Not everyone experiences these changes at the same time and in the same way, so teasing people about these changes isn’t right. It can be very hurtful.”
- “In my culture and my family, becoming an adult is a cause for celebration. In various cultures, women are viewed with the highest regard, and menstruation is seen as sacred.”
- “We don’t talk about it in my family. What I see in the media and online is a bit confusing, so it’s good to know what these changes in my body actually mean. The more I know, the better I can take care of myself.”

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

After Elbow Partners have had time to discuss the question, use the student responses to provide the answers.

Consolidation

Provide each student with one index card. On their index card, students write one question and answer regarding the changes during puberty using the knowledge they have learned about spermatogenesis and menstruation. Move around the space reviewing student questions and answers. Use a [Quiz-Quiz-Trade](#) strategy and student-generated questions for students to consolidate their learning about spermatogenesis and menstruation and the changes that occur during puberty.

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 female at birth](#)

- [Intersex Society of North America](#)
- [Sex & U](#)
- [The Shore Centre: Period Power](#)
- [The Shore Centre: Vulvas and Vaginas](#)

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: Internal Reproductive System Body Parts

Figure 1: Internal reproductive system – unlabelled internal organs

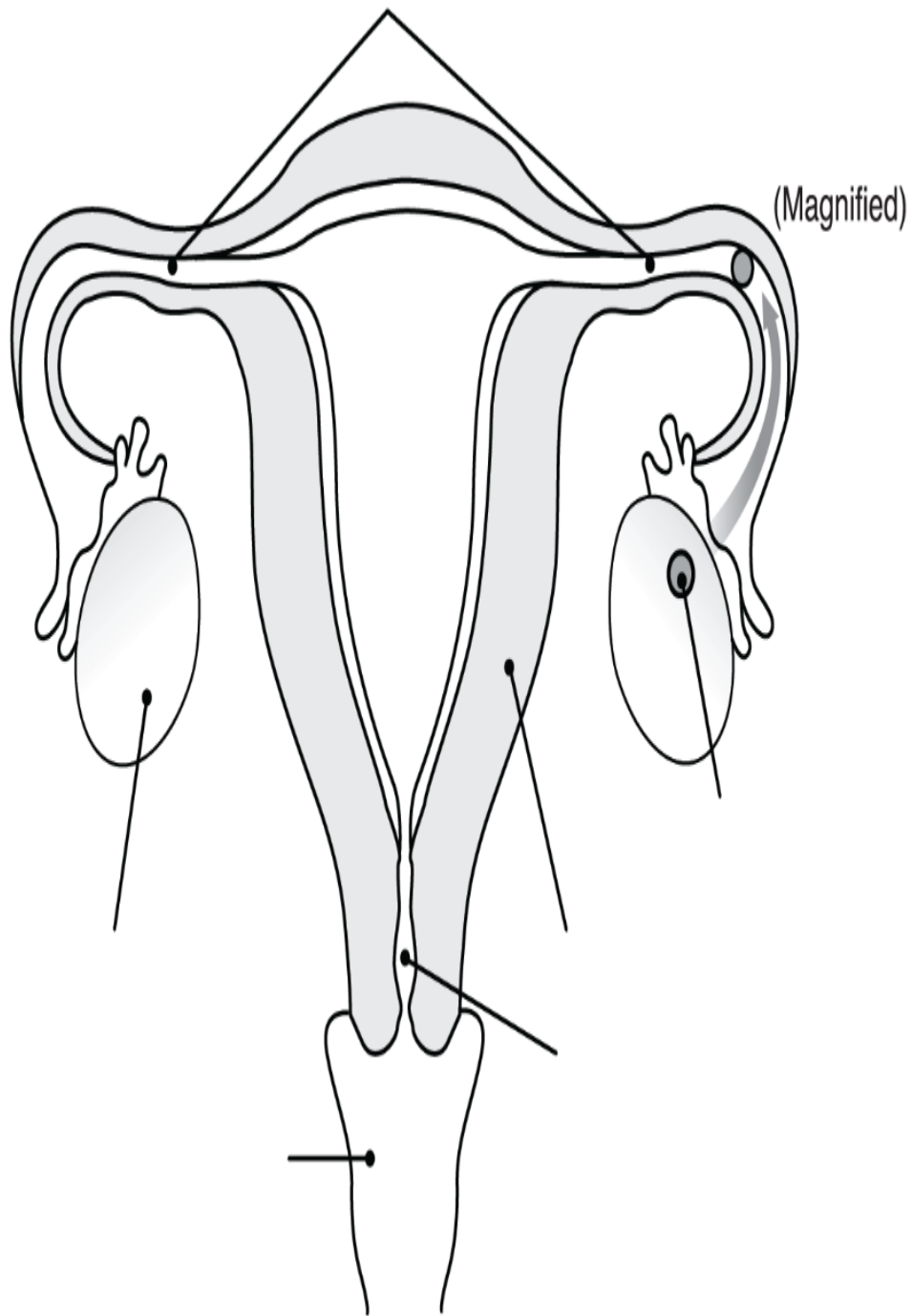
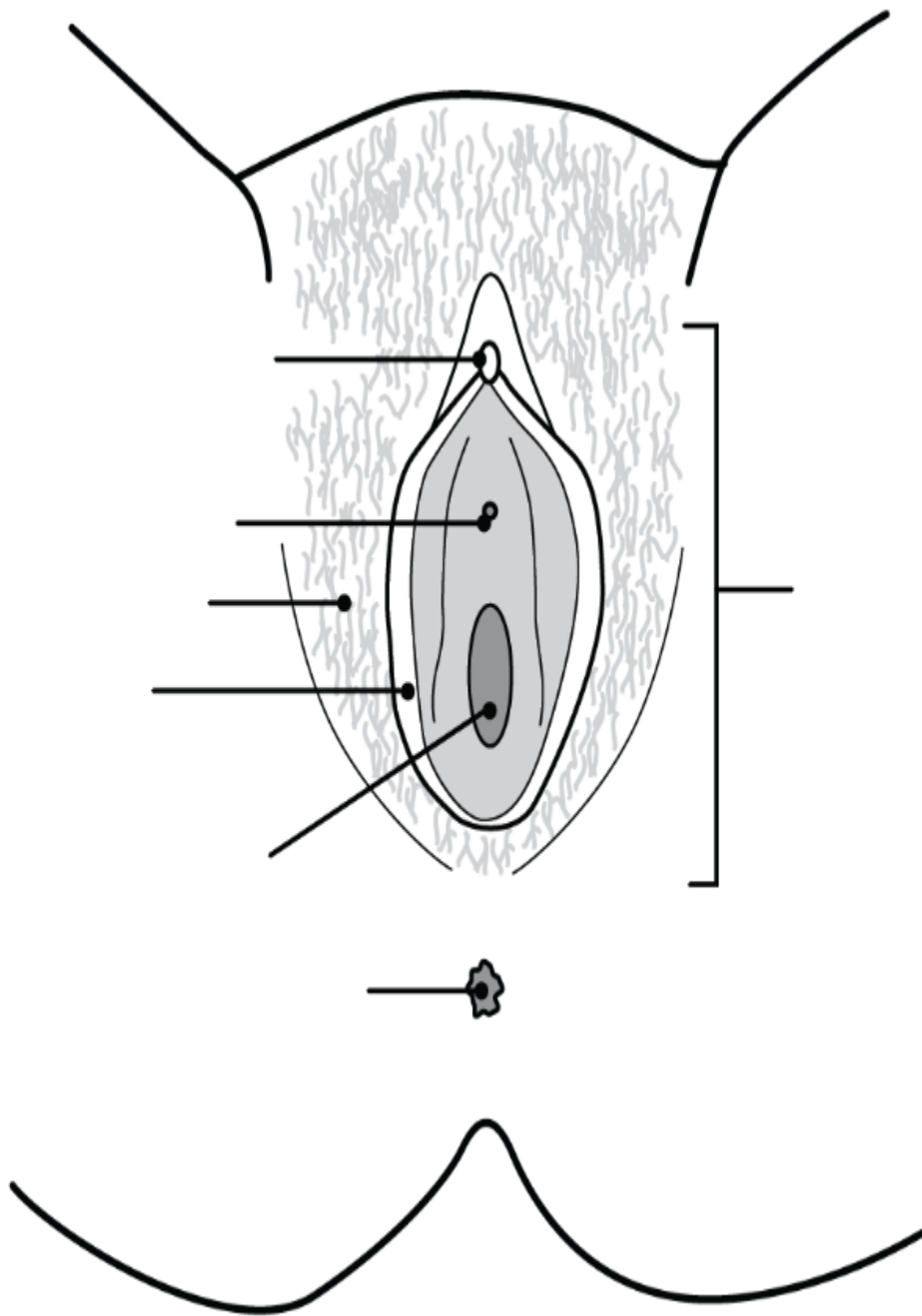


Figure 2: Internal reproductive system – unlabelled external organs



Teacher Resource: Internal Reproductive System Answer Key

Figure 1: Internal reproductive system – internal organs

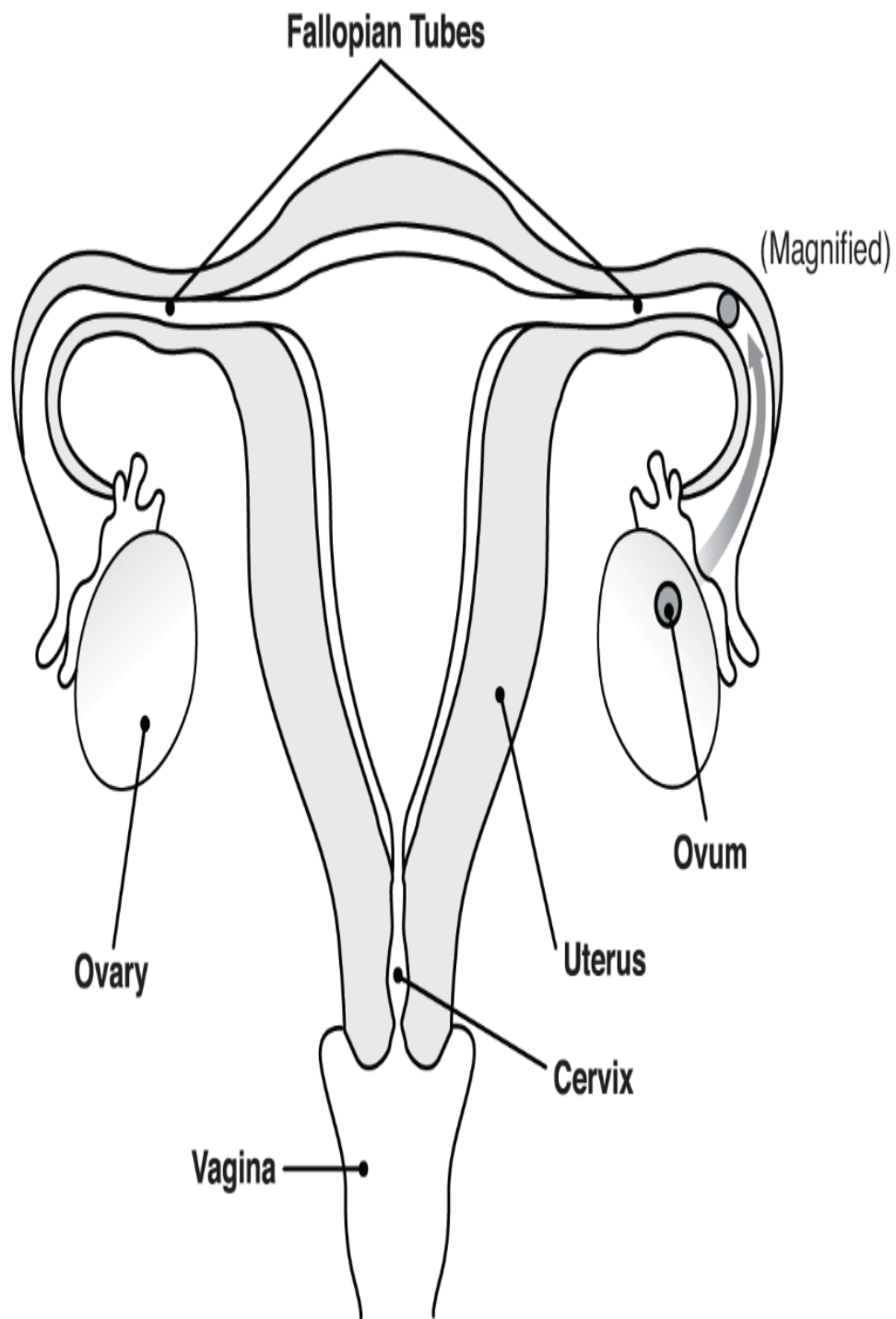
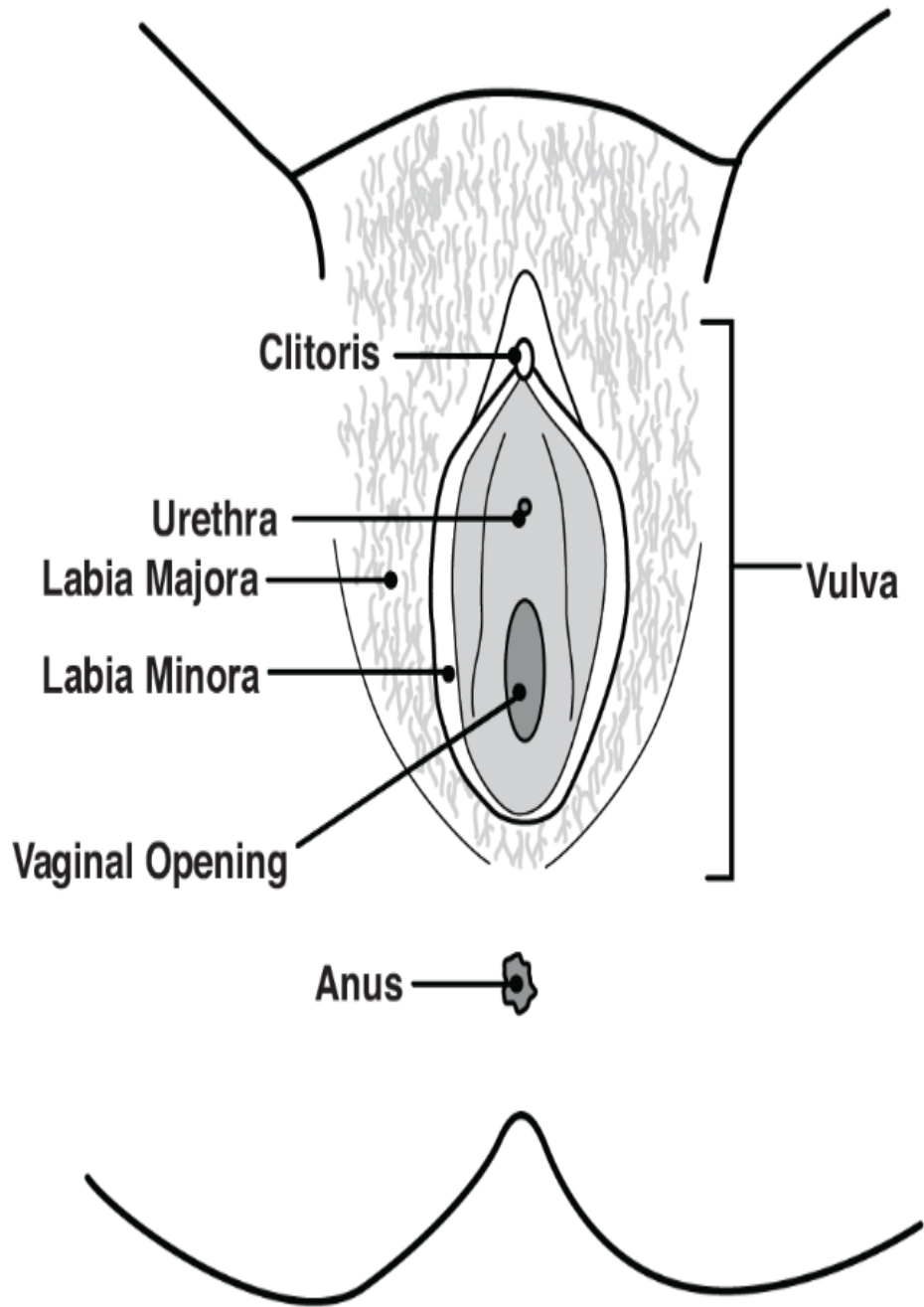
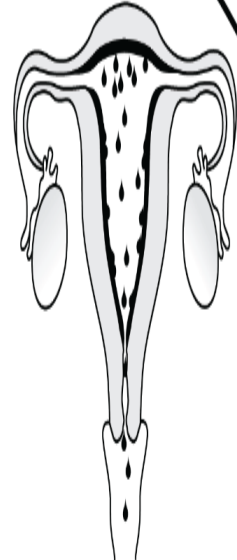
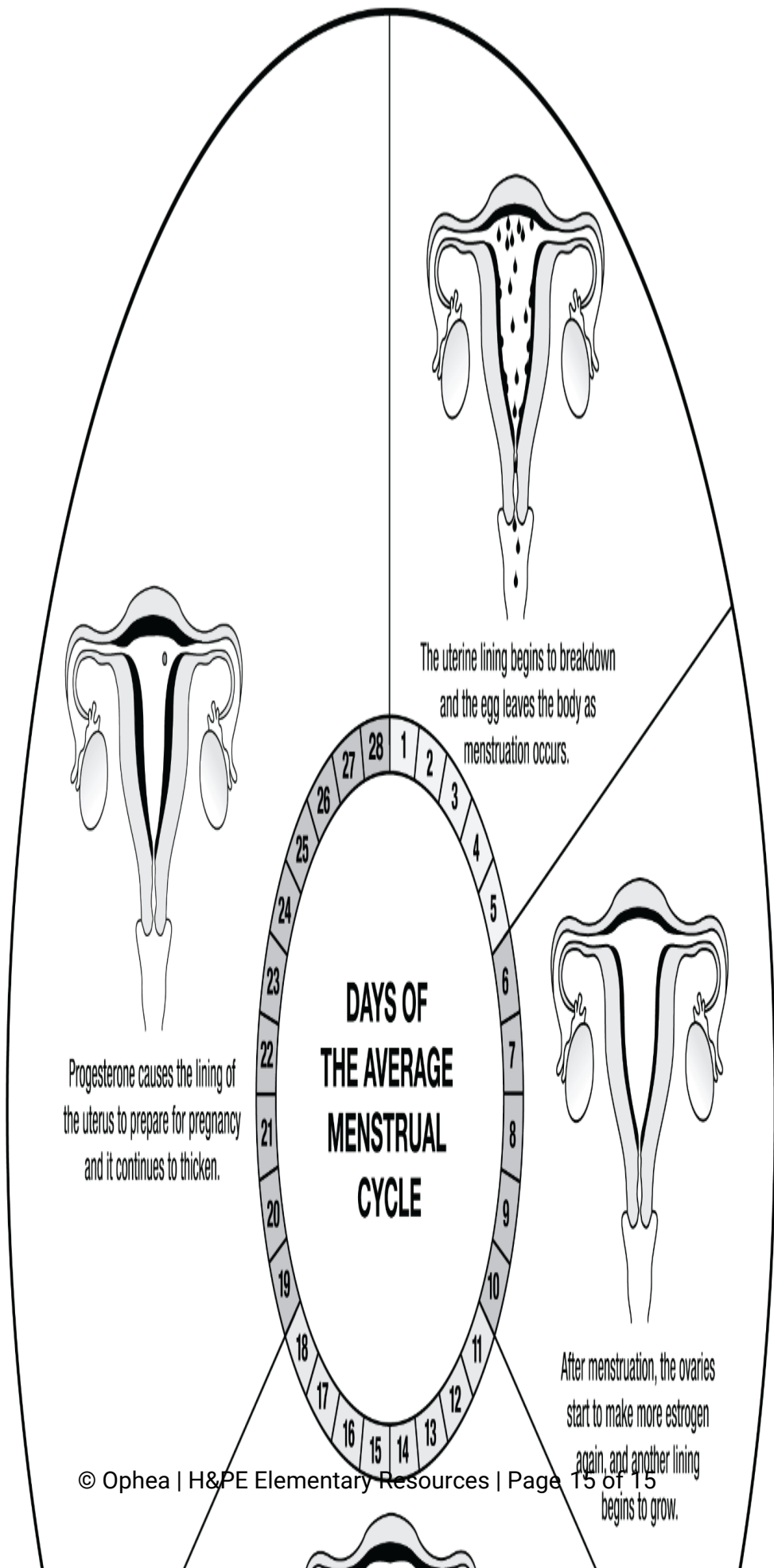


Figure 2: Internal reproductive system – external organs

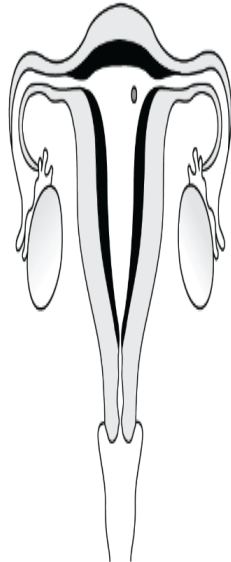


Teacher Resource: The Menstrual Cycle

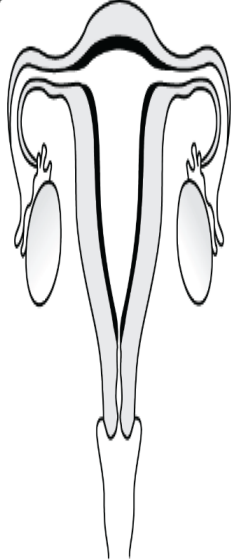
Figure 1: The menstrual cycle



The uterine lining begins to breakdown and the egg leaves the body as menstruation occurs.



Progesterone causes the lining of the uterus to prepare for pregnancy and it continues to thicken.



After menstruation, the ovaries start to make more estrogen again, and another lining begins to grow.

