



The Journey of an Egg

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

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

See also the [Differing Abilities](#) lesson plans 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 Egg's Journey (20-30 minutes)
- E. Class Discussion (5-15 minutes)
- F. Eggs and Ovaries Kahoot! Quiz (15-20 minutes)
- G. Question Box (5-10 minutes)

Required Materials

HANDOUT and ANSWER KEY: Reproductive System Diagrams

HANDOUT: The Menstrual Cycle

HANDOUT: The Egg's Journey

[KAHOOT! QUIZ](#) and ANSWER KEY: Eggs and Ovaries

Grade 5 The Journey of an Egg

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

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 egg-producing reproductive system (anatomy) and related systems

External genitals

Vulva

- The vulva includes the labia majora, labia minora, clitoris, and the opening of the vagina.
- The labia majora and the labia minora are the outer and inner folds of skin surrounding the vaginal opening.
- The vulva has three openings: the anus, and the openings to the urethra and vagina. This is often surprising even to people who have this reproductive system, who think that the urethra and the vagina are the same passageway.

Clitoris

- The sex organ that becomes larger and firmer during sexual arousal.
- Located above the urethra.

Anus

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

Internal reproductive organs

Ovaries

- The egg-producing glands.
- These glands contain all the eggs (ova) from birth, and start releasing them after puberty begins.

Fallopian Tubes

- These are narrow tubes that connect the ovaries to the uterus.
- The egg travels through one of the tubes after ovulation.
- Fertilization occurs in the fallopian tubes.

Uterus

- The place where a baby can grow.
- It is very low in the pelvis (nowhere near the stomach).
- It is about the size of a fist.
- The uterus (not the stomach) enlarges during pregnancy as the baby grows.
- During the menstrual cycle, the uterus grows a lining of blood that would nourish a growing fetus if fertilization and implantation occur. This lining sheds approximately once a month if fertilization and implantation do not occur.

Cervix

- The bottom of the uterus that opens into the vagina.

Grade 5 The Journey of an Egg

Vagina

- The passageway leading from the uterus to the outside of the body.
- Blood from the uterus passes through the vagina during menstruation.
- The baby passes from the uterus through the vagina during vaginal childbirth.
- The vagina is not used for urination. The urethra (the opening just above the vagina) is used for this purpose.
- Most people are born with a piece of tissue surrounding the vaginal opening. This is called the hymen – it may not be noticeable. Some people are born with an incomplete or flexible hymen. The hymen often wears away or becomes flexible during childhood.
- Once puberty begins, a person with a vagina may notice some discharge from the vagina on their underwear or toilet paper. It varies from whitish and pasty to clear and slippery. This means the body is starting to mature and periods will be starting. It is normal and keeps the vagina clean and healthy. If the discharge smells bad or the area is itchy, it could be a sign of infection and require medical treatment.

Other organs

Bladder

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

Urethra

- The tube through which urine passes from the body.
- It is the opening between the clitoris and the vagina.
- The urethra is part of the urinary system, not the reproductive system.

How the reproductive system functions (physiology)

Eggs

- Eggs are stored and released from the the ovaries. Each ovary contains about 250,000 eggs that are there since birth.
- The egg is a cell which, when fertilized by a sperm cell, can create a baby.
- An egg is released once a month after puberty begins (ovulation). Occasionally two or more eggs are released.
- The egg travels down the fallopian tubes to either be fertilized by a sperm cell, or to dissolve. If fertilized, it will travel to the uterus.
- If the egg is not fertilized, it dissolves in the fallopian tube.

Ovulation

- Once ovaries start producing hormones, messages are sent to the pituitary gland in the brain, which sends a message to the ovaries to mature and release one egg, once a month from one ovary.
- Ovulation usually alternates from one ovary to the other each month.
- People can experience varying degrees of sensation during ovulation from nothing at all to pain similar to that of menstrual cramps.

Menstruation (Period)

- The uterus prepares for growth of a baby each month in case fertilization occurs.
- Hormones from ovaries send a message to the uterus to grow a thick, soft lining of tissue and blood.
- This lining contains nutrients that would be needed to nourish a fertilized egg.
- If the egg is not fertilized in the fallopian tube, the lining is not needed to nourish the baby, so the uterus will shed the lining.
- It takes 2 to 7 days to shed the lining. Five days is the average. This is called menstruation or having a period.
- Menstrual fluid is made up of mucous, blood and tissue from the uterine lining being shed.
- The average amount of menstrual fluid during a period is about 60-80 ml.
- Once the lining is completely shed, a new lining begins to grow.
- Soon, another egg is released. If fertilization does not occur, the egg dissolves and the lining is shed. This happens over and over again, which is why we call it the menstrual cycle.
- The menstrual cycle is counted from the first day of one period, to the first day of the next period. A cycle of 28 days is average; however it can vary from 24-38 days. For the first year or two, periods can be very irregular.
- Menstruation is a normal part of puberty. It is not dirty or bad.
- Some people experience cramping during menstruation which can be relieved using a hot water bottle, mild to moderate exercise, or over-the-counter pain medication. It is important not to take more than the recommended dose of pain medication. If cramping is extreme, it may be helpful to see a doctor.
- Menstruation is not a sickness. People can generally participate in their regular daily activities such as physical education class, active play and extra-curricular activities like gymnastics or soccer. Exercise can help lessen cramps and pain during menstruation.
- Washing the vulva daily is helpful during your period because oil secretions from hair and skin can increase and menstrual fluid may become dried in pubic hair.
- Sanitary pads, tampons, period panties or menstrual cups are used to absorb menstrual fluid. Teachers may want to use the [Puberty Kit](#) to demonstrate these products.
- People continue having periods until menopause. Most people experience menopause between 40 and 58 years of age. After

menopause, a person no longer releases eggs or has periods and cannot become pregnant.

A. Ground Rules

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

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.
2. Divide students into teams of 3-4 students.
3. Distribute the **Anatomy Vocabulary** cards to each team.
4. Have teams decide which vocabulary word matches each definition, then 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 |
|------------------------|---|
| Anus | The opening at the end of the digestive tract where feces leave the body. |
| Bladder | A sac inside the body that holds urine. |
| Cervix | The bottom of the uterus that opens into the vagina. |
| Clitoris | Sensitive sex organ that becomes larger and firmer during sexual arousal. |
| Fallopian Tubes | Tubes connecting the ovaries to the uterus. The egg travels through here after ovulation. |

Grade 5 The Journey of an Egg

| | |
|------------------------------|--|
| Hymen | A membrane that surrounds or partially covers the opening to the vagina. |
| Menstruation (Period) | Monthly shedding of the lining of the uterus. |
| Ovaries | Glands that produce and release an egg each month. |
| Ovulation | Process of releasing an egg from the ovary. |
| Egg | The reproductive cell made in the ovaries. |
| Vagina | A passage leading from the uterus to the outside of the body. |
| Vulva | The external genitals, includes the labia and clitoris. |
| Urethra | Urine passes through this tube to the outside of the body. |
| Uterus | Where a developing baby grows. |

C. Anatomy Diagrams

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.

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.

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 may 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. Consider asking the students to discuss which parts of the anatomy they think are the same in all people, or which might have similar functions.

D. The Egg's Journey

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

1. Distribute the **Egg'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 if students do not have them from the previous activity. You can also hand out or display the **Menstrual Cycle** diagram. The diagram shows a cycle of 28 days, which is the average. A normal cycle can be anywhere from 24-38 days long.
4. Correct the handout together.

Answers

1. uterus
2. egg
3. ovary
4. fallopian tubes
5. cervix
6. vagina
7. menstrual cycle

E. Class Discussion

Students review their knowledge of the reproductive system and menstrual cycle, develop resiliency skills, and identify support people.

Discuss the following questions as a class:

How does a person know when they will get their first period?

- Menstruation usually begins around the ages of 9 to 15. Every person has their own internal clock that determines when the events of puberty begin.
- Generally, people can expect their first period about 2 years after breasts first start to develop, and soon after there is some hair under the arms and in the pubic area.
- Vaginal discharge is a sign that menstruation may begin soon.

Grade 5 The Journey of an Egg

What are some of the things that might worry a person about menstruation?

- Cramps
- Blood
- Smelling different
- Premenstrual syndrome (PMS)
- Getting their period unexpectedly, not having supplies available

What are some ways to cope with menstruation?

- Use pads, tampons, menstrual underwear (period panties) or a cup for menstrual flow.
- Various sizes of pads, tampons, menstrual underwear and cups are available. Unscented ones are less likely to cause skin irritation.
- Be sure to read the instructions before using tampons or a cup for the first time.
- Tampons may need to be changed every 3-4 hours, although some can now be left in longer at night. Check the instructions on the package for more information.
- Cups need to be changed every 6-12 hours.
- Pads need to be changed before they are soaked through, which will depend on the thickness of the pad and the menstrual flow. If the pad is not soaked through, change it at least every 4 hours during the day and first thing in the morning if worn overnight.
- Wash your hands before and after handling pads, tampons or cups.
- To relieve cramps, try a hot water bottle, pain medication or moderate exercise. If severe cramps persist, it is important to see a doctor.
- PMS (premenstrual syndrome) can occur any time in the two weeks before menstruation. It can make a person feel moody, irritable or have tender breasts or bloating. Exercising and limiting caffeine and salt can help minimize the symptoms of PMS.
- If your period starts at school and you don't have supplies, ask a friend, teacher or the office staff. If you have started puberty, keep menstrual supplies in your backpack, desk or locker to be prepared.
- Tracking your menstrual cycle using an app or a calendar can help you learn about your body and predict when your next period will arrive.

What do you think is the most interesting thing about the menstrual cycle?

We have studied what happens when an egg is unfertilized. What if a sperm had fertilized the egg while in the fallopian tube?

- If the egg is fertilized, it may travel to the uterus and then implant in the uterine lining (implantation). This could result in a pregnancy. This is the focus of the lesson plan "Reproduction".
- Students will learn more about the stages of pregnancy and fetal development in grade 6.

Grade 5 The Journey of an Egg

What needs to happen before a person is able to have a baby?

- A person needs to ovulate (release an egg) and a sperm cell needs to fertilize the egg in order to produce a baby.
- Because a person will ovulate before their first period, it is possible to become pregnant even if they have never had a period, if they have vaginal sex or a penis or semen come in contact with the vaginal area.
- Puberty is the beginning of the body changing to be able to produce a baby.

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

- Parent
- Trusted adult
- Teacher or guidance counsellor
- Health care provider

F. Eggs and Ovaries Kahoot! Quiz

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

1. Open the Kahoot! Quiz: [Grade 5 Eggs and Ovaries](#)
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

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

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

This lesson addresses the following [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.
- Menstruation is the monthly cycle that prepares the body for a possible pregnancy.
- The female reproductive system includes ovaries that contain egg cells.
- Ovulation occurs when an egg releases from an ovary.
- Hormonal changes regulate the menstrual cycle and ovulation.
- The egg travels to the uterus and is released with the lining of the uterus, if unfertilized.

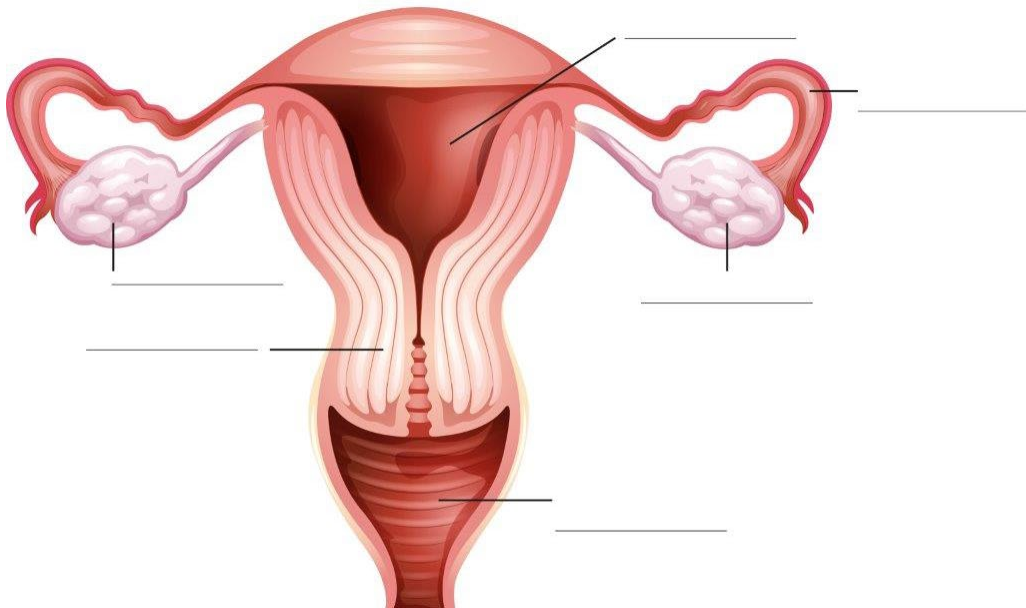
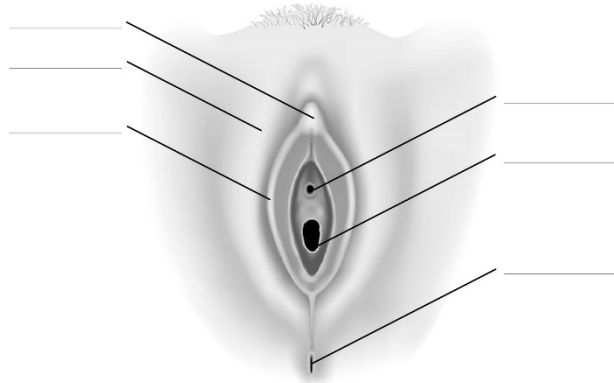
Understanding

- 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.

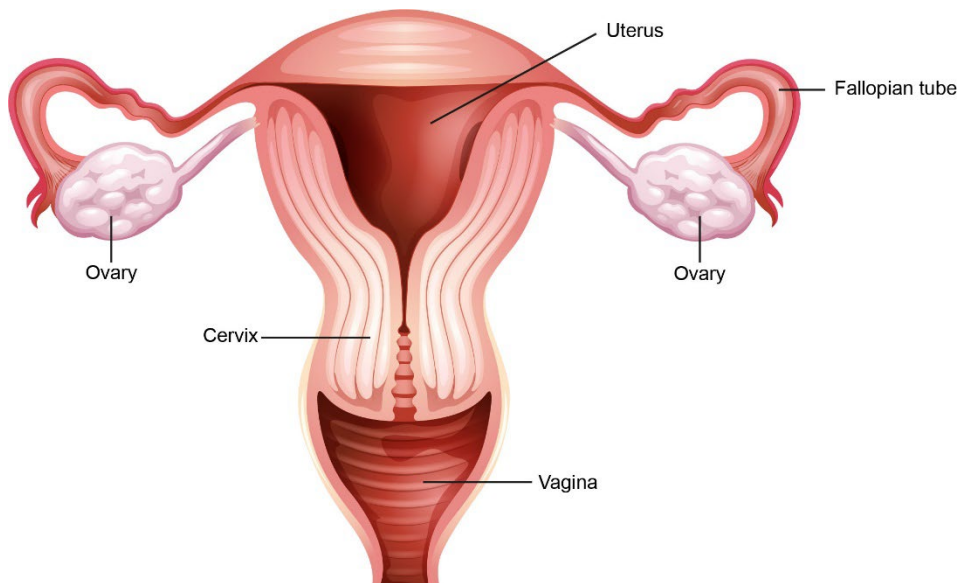
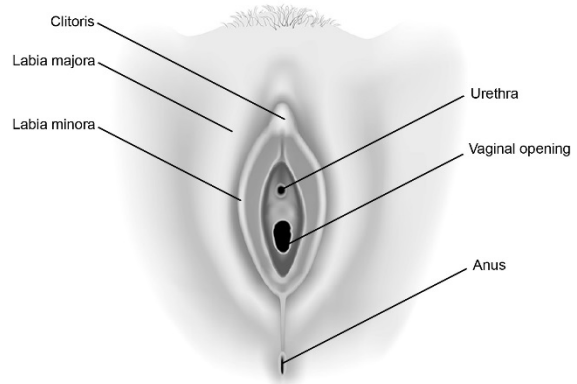
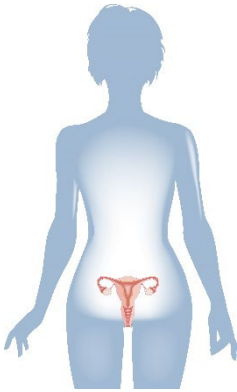
Skills and Procedures

- 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.

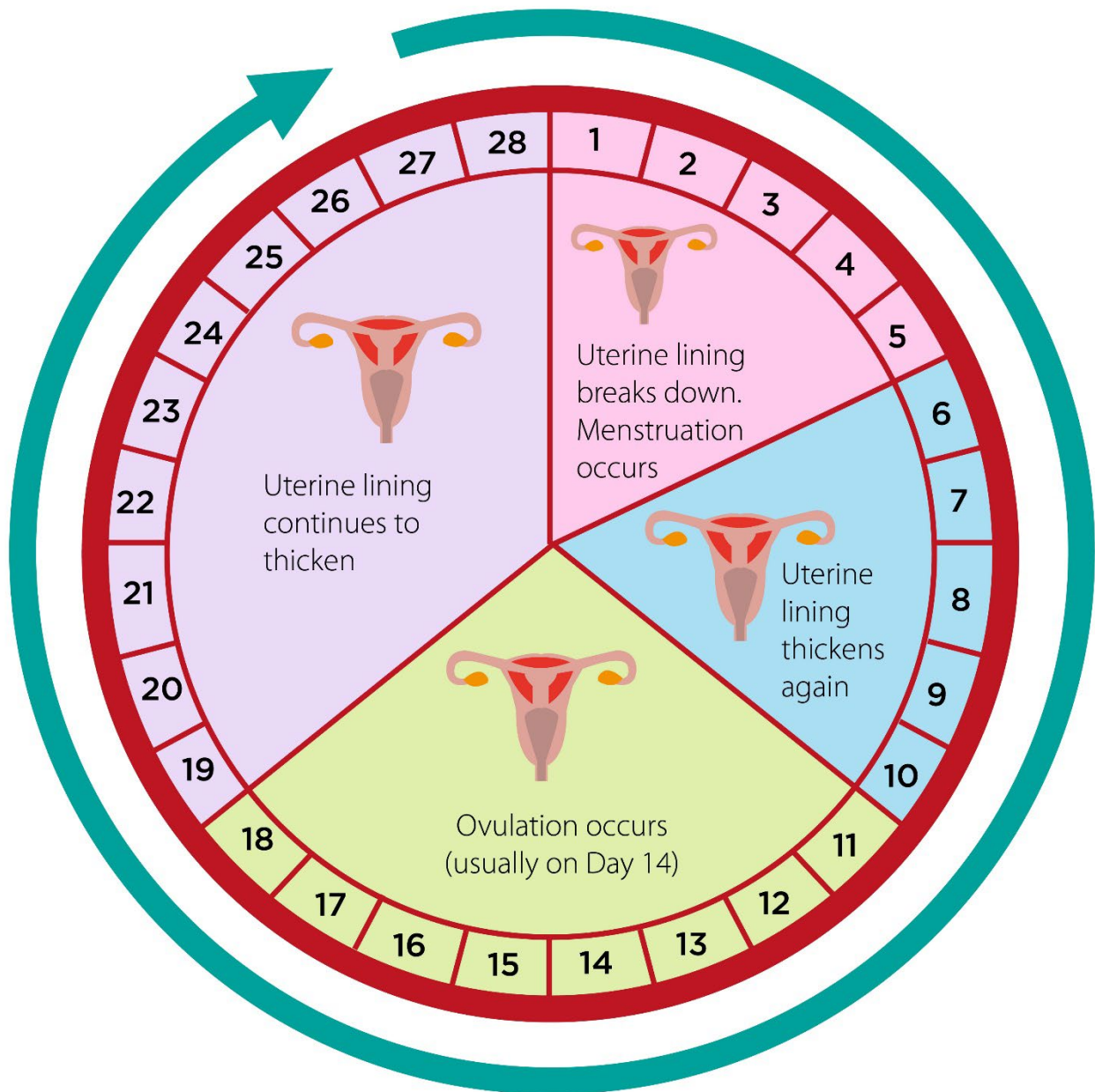
Reproductive System



Answer Key



The Menstrual Cycle



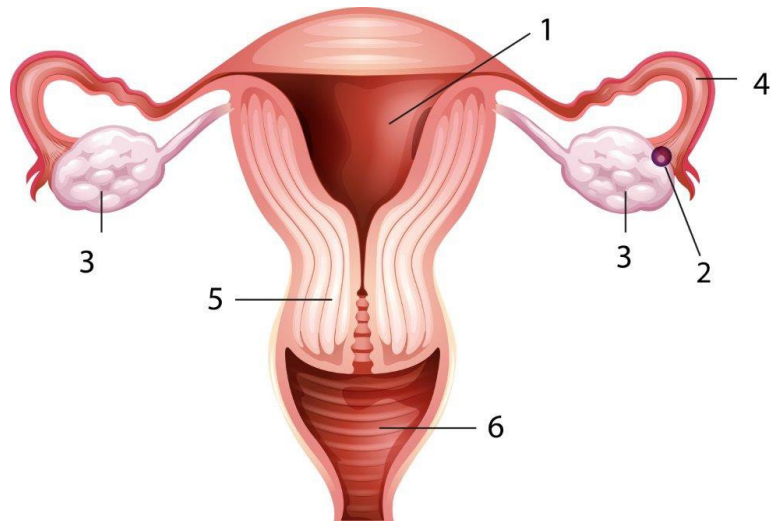
This diagram shows an average menstrual cycle that is 28 days long. Cycles can vary in length from 24-38 days.

The Egg's Journey

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

Word Bank

cervix
fallopian tubes
menstrual cycle
ovary
egg
uterus
vagina



Once upon a time, there was a reproductive system. Each month, due to changes in hormones, the

_____ (1) invited a thick, soft lining made up of tissue and blood to grow along its walls. The lining contained nutrients that would be needed to nourish a growing baby if a pregnancy was to occur. Once the lining had grown, it waited for the ovaries to do their job. The ovaries contained special reproductive cells, each cell called an _____ (2). Each month, one of these cells would reach maturity and be released from the _____ (3).

This month, it was the right ovary that got to release an egg. The left one would have to wait until the next month. The _____ (4), which wait for the ovaries to release an egg, waved their numerous arms. The waving arms grabbed the egg that was just released and gently guided it into one of the tubes. After about a day of travel, the egg began to dissolve. When it had disappeared, the brain sent a message to the lining of the uterus telling it that a fertilized egg wasn't going to arrive, so it could leave the uterus. Slowly, the lining passed through the _____ (5), into the _____ (6), and out of the body.

As soon as the lining was gone, the uterus invited a new lining to start to grow. This time around, it would be the ovary and fallopian tube on the left that would do all the work. Then, the process would start all over again. This process is called the _____ (7).

ANSWER KEY: Grade 5 Eggs and Ovaries

Correct answers are in bold text.

1. The internal parts of the egg-producing reproductive system include:
 - the vulva, clitoris and anus
 - **the uterus, ovaries and fallopian tubes**
 - the bladder, urethra and uterus
 - the vulva, vagina and ovaries

The vulva and clitoris are external, not internal parts of the reproductive system. The anus is part of the digestive system and the bladder and urethra are part of the urinary system.

2. The external parts of the egg-producing reproductive system include:
 - urethra, vagina, and clitoris
 - fallopian tubes, labia major and labia minor
 - **labia minor, labia major and clitoris**
 - uterus, urethra and vagina

The vagina, fallopian tubes and uterus are all internal parts of the reproductive system. The urethra is part of the urinary system.

3. The place where a baby grows is called the:
 - stomach
 - vagina
 - ovaries
 - **uterus**

While the sperm meets the egg in the fallopian tubes, the baby grows and develops in the uterus for the remainder of the pregnancy.

4. The eggs are produced and stored in the:
 - uterus
 - fallopian tubes
 - **ovaries**
 - cervix

All the eggs a person will have are already in the ovaries, when that person is born. The ovaries each hold about 250,000 eggs at birth.

5. On average an ovary will release:
- **one egg each month**
 - one egg each year
 - one egg each time the person has sex
 - seven eggs each month

This number is based on an average menstrual cycle of 28 days. Menstrual cycles can range in length from 24-38 days. It is common for cycles to be irregular for the first few years.

6. Menstruation:
- is the release of an egg from the testicles
 - **is the shedding of the uterine lining each month**
 - only happens if there is a fertilized egg in the uterus
 - **can be a normal and healthy part of growing up**

Menstruation is the shedding of the uterine lining; it is a normal process for anyone with a uterus.

7. People who get cramps during menstruation (their period) can:
- never exercise
 - **try a hot water bottle to relieve cramps**
 - **continue to do their daily activities**
 - **try exercising to relieve cramps**

Cramps are a common experience for many people while menstruating. Finding the solution that works for each person can take time. If these common measures do not help, see a health care provider.

8. The average length of a menstrual cycle is
- 1 year
 - 1 week
 - **28 days**
 - 7 days

This number is an average. Menstrual cycles can range in length from 24-38 days. It is common for cycles to be irregular for the first few years.

9. The menstrual cycle includes:
- **ovulation, thickening and shedding of the uterine lining**
 - ejaculation, fertilization, implantation
 - ovulation, fertilization, implantation
 - fertilization, thickening and shedding the uterine lining

Fertilization and implantation are part of pregnancy, not menstruation. Ejaculation is part of the sperm production/reproduction process.

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



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



**The bottom of the
uterus that opens
into the vagina.**



**Sensitive sex organ
that becomes larger
and firmer during
sexual arousal.**



**Tubes connecting the
ovaries to the uterus.
The egg travels through
here after ovulation.**



**A membrane that
surrounds or partially
covers the opening to
the vagina.**



**Monthly shedding
of the lining of the
uterus.**



**Glands that produce
and release an egg
each month.**



**Process of releasing
an egg from
the ovary.**



**The reproductive
cell produced in
the ovaries.**



**A passage leading
from the uterus to
the outside of the
body.**



**The external
genitals, includes
the labia and the
clitoris.**



**Urine passes
through this tube to
the outside of the
body.**



**Where a developing
baby grows.**



Anus

Bladder

Cervix

Clitoris

Egg

Fallopian Tubes

Hymen

Menstruation

Ovaries

Ovulation

Vagina

Vulva

Urethra

Uterus



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