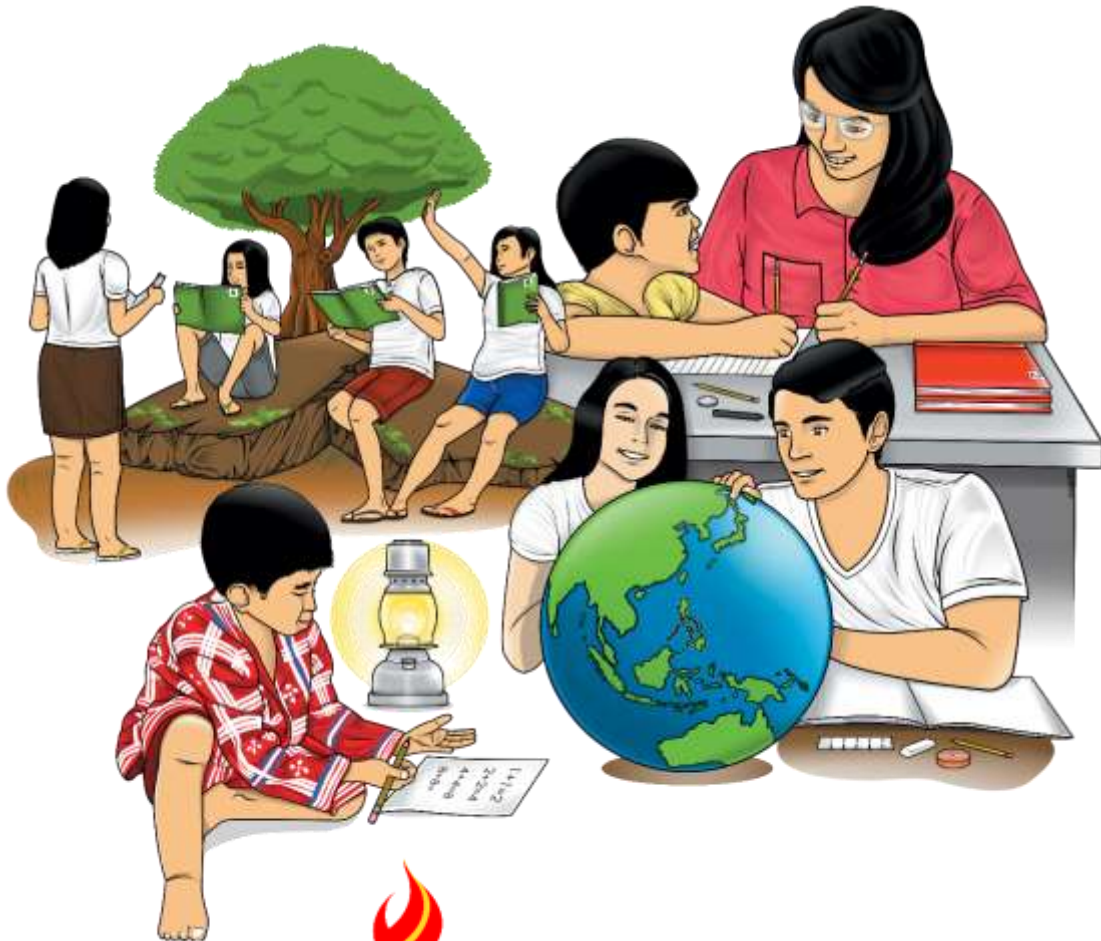


Science

Quarter 2 – Module 2: The Menstrual Cycle



GOVERNMENT PROPERTY
NOT FOR SALE

Science – Grade 5
Alternative Delivery Mode
Quarter 2 – Module 2: The Menstrual Cycle
First Edition, 2020

Republic Act 8293, Section 176 states that: No copyright shall subsist in any work of the Government of the Philippines. However, prior approval of the government agency or office wherein the work is created shall be necessary for exploitation of such work for profit. Such agency or office may, among other things, impose as a condition the payment of royalties.

Borrowed materials (i.e., songs, stories, poems, pictures, photos, brand names, trademarks, etc.) included in this module are owned by their respective copyright holders. Every effort has been exerted to locate and seek permission to use these materials from their respective copyright owners. The publisher and authors do not represent nor claim ownership over them.

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Writer:	Pia S. Catan	
Editors:	Lainez C. Mendigo, Denise Arni V. Casas, Maria Teresa S. Abuyen, Ronald R. Cabigon	
Reviewers:	Chona Kierulf, Christie S. Jamoralin, Allan Carl B. Gumera, Ryan R. Tiu	
Illustrator:	Brian Jessen Dignos	
Layout Artist:	Ismael T. Posion, Bella C. Alberca, Henrissa M. Sible, Mary Grace N. Prologo	
Management Team:		
	Ramir B. Uytico	Manuel P. Albaño
	Arnulfo M. Balane	Henrietta T. Managbanag
	Rosemarie M. Guino	Sherlita A. Palma
	Joy B. Bihag	Felicidad T. Espinosa
	Ryan R. Tiu	Ismael T. Posion
	Rowena T. Vacal	Mauricio M. Catan
		Socorro B. Ausa

Printed in the Philippines by _____

Department of Education – Regional Office No. VIII

Office Address: Government Center, Candahug, Palo, Leyte
Telefax: (053)832-2997
E-mail Address: region8@deped.gov.ph

5

Science

Quarter 2 – Module 2: The Menstrual Cycle

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Good luck and happy learning!



What I Need to Know

Puberty is a period of the adolescent stage by which significant body changes are normally experienced by both boys and girls. Everyone must learn and understand these body changes during puberty so that they could easily adapt well to the stage of adolescence.

For females, one very significant process that they go through during puberty is the so called “periods”, “menses”, or menstruation. This is the regular discharging of blood and other materials from the lining of the uterus. This is a normal process that occurs in the females’ reproductive system from puberty until menopause. It is very important to know not just for girls but also for boys, that menstruation is a normal part of the female’s monthly menstrual cycle that prepares her body for potential pregnancy.

In this module, you will be able to explain the menstrual cycle and cite common hygienic practices during menstruation.

Note: Use a separate sheet of paper for your answers in all the activities in this module.



What I Know

Directions: Choose the letter of the correct answer. Write your answers on your answer sheet.

1. Which part of the body is capable of producing the hormones estrogen and progesterone?
 - A. fallopian tube
 - B. endometrium
 - C. cervix
 - D. ovary

2. During the menstrual cycle, progesterone is at its highest level during the _____.
 - A. follicular phase
 - B. luteal phase
 - C. menstruation
 - D. ovulation

3. In a normal 28-day menstrual cycle, when would you expect ovulation to take place?
 - A. Day 11
 - B. Day 12
 - C. Day 13
 - D. Day 14

4. The term that refers to painful menstruation is _____.
 - A. dysmenorrhea
 - B. menorrhagia
 - C. oligomenorrhea
 - D. polymenorrhea

5. Which of the following is the effect of increased levels of estrogen in the follicular phase of the menstrual cycle?
 - A. Eggs begin to mature.
 - B. The egg travels into the uterus.
 - C. Thickening of the lining of the uterus.
 - D. Thinning of the lining of the uterus.

6. What usually happens to the uterus as the female's body prepares for the implantation of the fertilized egg?
 - A. It becomes thicker to provide nutrients for development of fetus.
 - B. The thickening of the uterus breaks down.
 - C. It grows thinner.
 - D. It sheds blood.

7. What happens to the egg cell in the ovary during menstruation?
- A. It dies.
 - B. It is fertilized.
 - C. It starts to mature.
 - D. It travels to the fallopian tube.
8. Which of the following statements best describes the role of corpus luteum in the menstrual cycle?
- A. It contains an egg.
 - B. It signals the uterus to thicken.
 - C. It develops a lining of blood vessels and soft tissue in the uterus.
 - D. It secretes small amount of estrogen and large amount of progesterone.
9. How many days does it take for an egg cell to travel from the ovary to the uterus?
- A. 2-3.
 - B. 3-4
 - C. 4-5
 - D. 5-6
10. A grade five pupil named Myra had a blood stain on her skirt due to menstruation. If you were her friend, what will you do?
- A. Ignore and just leave.
 - B. Let others see her bloodstain.
 - C. Laugh at her for not being cautious.
 - D. Call her in private to change her pad and skirt.



What's In

In the discussion of the menstrual cycle, it essentially involves the female reproductive organs. So, let's look back at the parts and corresponding functions of the female reproductive system.

Directions: Each item below describes some parts of the female reproductive system. Choose the part being described from the choices provided. Write the letter only on your answer sheet.

1. Which part of the female reproductive system produces eggs and hormones?

- | | |
|-------------------|-----------|
| A. fallopian tube | C. uterus |
| B. ovary | D. vagina |

2. Which of the statements below describes the uterus?

- A. It ejaculates the semen.
- B. It is a tube that leads the egg from the ovary.
- C. It is a pear-shaped organ where unborn baby is developed and it is called the womb.
- D. It produces a sugar-rich fluid that provides sperm with a source of energy to help them move.

3. Where does successful fertilization of the egg cell normally occur?

- | | |
|-------------------|-----------|
| A. endometrium | C. ovary |
| B. fallopian tube | D. vagina |

4. It is a narrow opening between the uterus and vagina which enlarges to let the passage of a fetus during birth.

- | | |
|-------------------|-----------|
| A. cervix | C. ovary |
| B. fallopian tube | D. uterus |

5. Which of the following is NOT part of the female reproductive system?

- | | |
|-------------------|------------|
| A. cervix | C. ovary |
| B. fallopian tube | D. urethra |



What's New

Activity 1

Directions: Study the illustration of the menstrual cycle below. Identify the phase being shown in each part of the cycle. Choose your answer in the box.

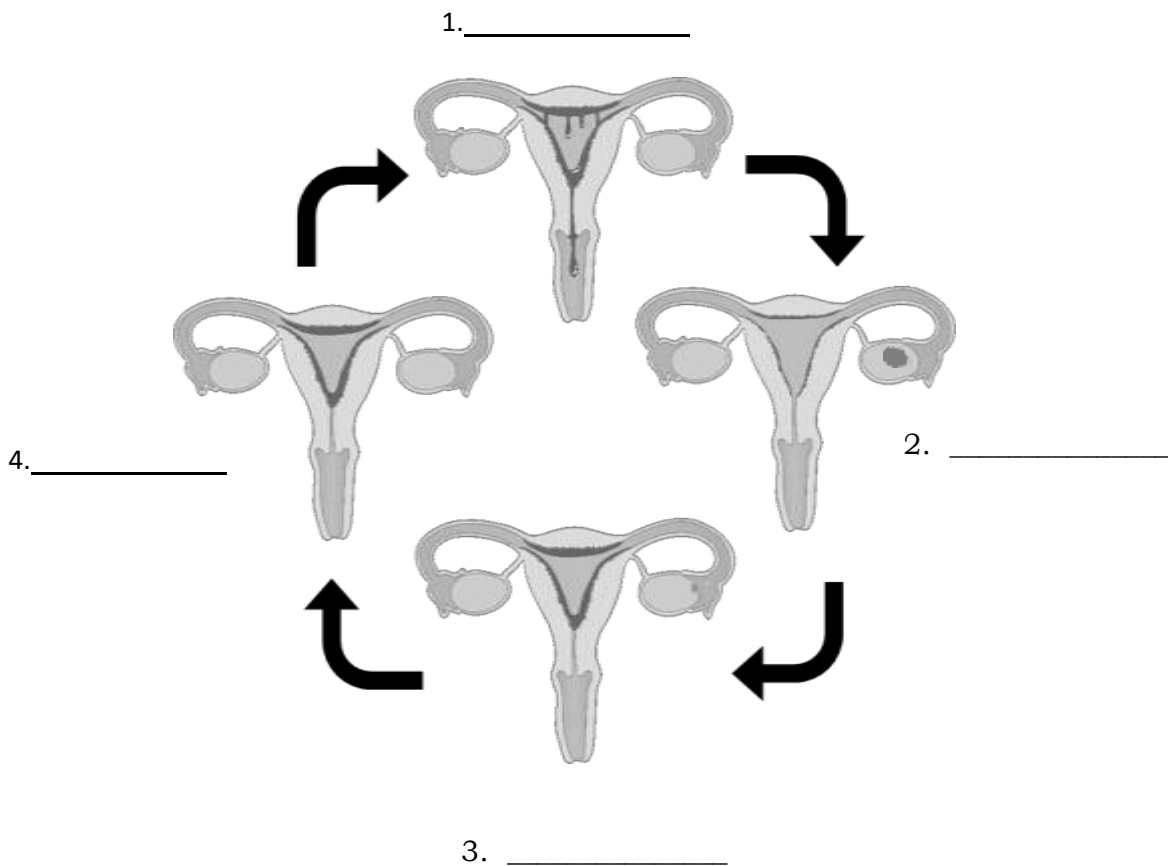


Figure 1: The Menstrual Cycle
(Dignos.nd)

Follicular Phase	Menstrual Phase
Luteal Phase	Ovulation Phase

Activity 2

Directions: Below are jumbled letters and statements that describe the phases of menstrual cycle. Read each statement and form the word being described in each item.

1. LEULTA ESPHA: _____
After ovulation occurs, the follicle develops into a hormone producing structure called the corpus luteum.
2. LAUVOITNO SEHAP: _____
If you have a regular 28-day menstrual cycle, this phase usually occurs on day 14.
3. CURALLLIOF ESPHA: _____
In this phase, the lining of the uterus starts to grow, or proliferate due to the hormone estrogen.
4. STLUAEMNR EPAHS: _____
It is a woman's monthly bleeding, commonly referred to as periods.



What is It

As mentioned earlier in this module, menstrual cycle is one of the very important processes that females go through during puberty that usually lasts for an average of 28 days. It is also considered as a normal process that occurs in the female's reproductive system as her body prepares for possible pregnancy.

As we go further in this module, we will now learn the different phases of the menstrual cycle as it actually takes place in the female's body.

Phases of Menstrual Cycle

➤ Menstrual Phase (Menstruation) (Day 1-5)

The menstrual phase is considered as “**periods**” or the woman's monthly bleeding. The first menstrual bleeding of a woman is called **menarche**. It signals that it is already possible for a woman to get pregnant. Menstrual blood, known as **menses**, is shed from the thickened lining of the uterus, known as endometrium. Menstrual blood from the uterus passes through the cervix, to the vagina, and out through the vaginal opening. This fluid may be bright red, light pink, or even brown. During menstruation, some eggs begin to mature in the ovaries. As the eggs develop, a hormone called estrogen is being released to the bloodstream. It is during this time when the female's uterine and muscle in the abdomen contract in order to release the menstrual fluid, and that, cramps and abdominal pains are felt. This pain is commonly known as **dysmenorrhea**.

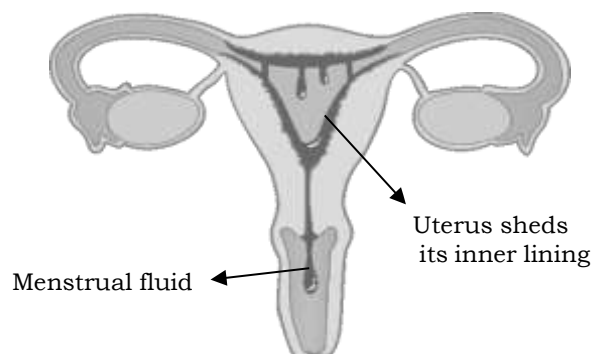


Figure 2. The Menstrual Phase
(Dignos.nd)

➤ **Follicular Phase (Pre- Ovulation) (Day 1-13)**

This phase also starts on the first day of menstruation but ends up to the thirteenth day of the menstrual cycle. In this phase, the lining of the uterus starts to grow due to a hormone known as estrogen. As the estrogen level increases, menstrual bleeding stops and the lining of the uterus thickens in preparation for receiving a fertilized egg. It also allows the pituitary gland to release a follicle stimulating hormone (FSH) that travels toward the ovaries. This hormone stimulates the egg cells in the ovaries to grow and causes the most matured egg to be released.

Follicle is a sac-like structure found inside of a woman's ovary where one egg cell starts to mature. It takes an average of 13 days for the egg cell to reach maturity. As the egg cell matures, the hormone estrogen is released by the follicle. This hormone causes the uterus to develop in preparation for the fertilized egg that may be received. At the end of the follicular phase, only one follicle will release an egg.

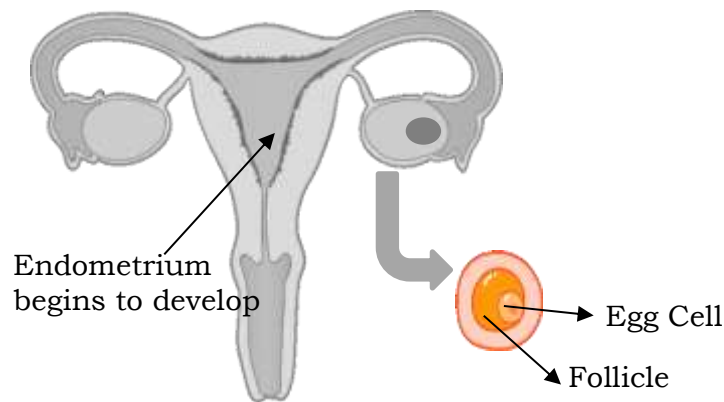
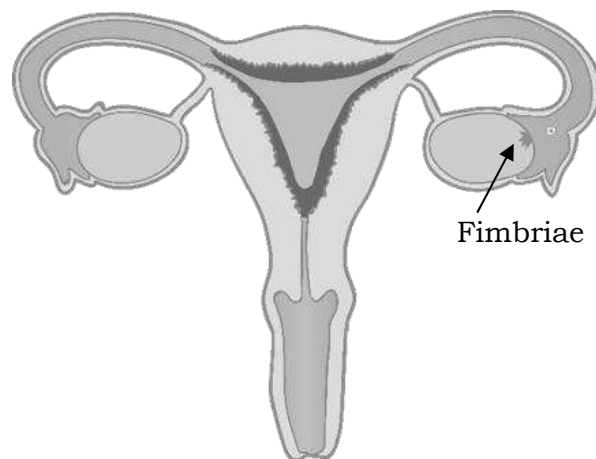


Figure 3. The Follicular Phase
(Dignos.nd)

➤ **Ovulation Phase (Day 14)**

For a menstrual cycle that usually happens in 28-days, ovulation usually occurs on day 14. During this time, a hormone is released by the pituitary gland that allows the ovary to release the matured egg cell. The release of the matured ovum to the fallopian tube is made possible through the structures called fimbriae. These are finger-like projections which are found at the end of the fallopian tube near the ovaries. Since the ovum or mature egg cannot move by itself, the sweeping movement of the cilia of the fimbriae dictates its movement.

During the menstrual cycle, ovulation occurs when a matured egg, which is also known as “ovum” is released from the follicle in the ovary to the nearest fallopian tube. As the egg moves down the fallopian tube for several days, the lining of the uterus continues to grow thicker and thicker. The egg then travels into the uterus for about three to four days. This time, to make fertilization possible, it must happen within 24 hours of ovulation, otherwise the eggs life break.

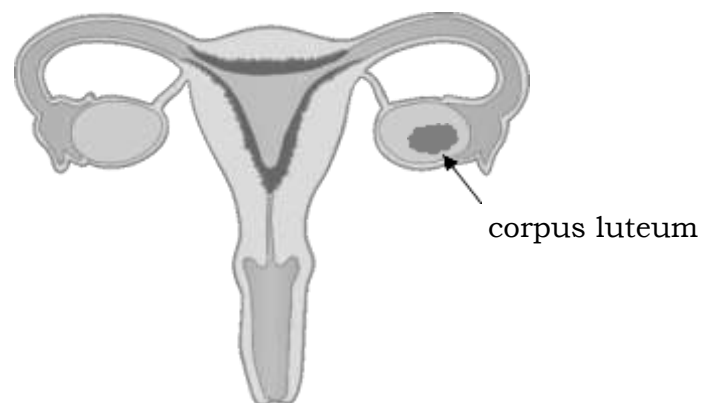


*Figure 4. The Ovulation Phase
(Dignos.nd)*

➤ **Luteal Phase (Pre- Menstrual Phase) (Day 15-28)**

This phase starts on the fifteenth day and lasts up to the end of the cycle. After ovulation, the follicles develop a structure called the corpus luteum. This is a yellow structure found in the ovary that produces small amount of estrogen and large amount of progesterone. This hormone signals the uterus to thicken. The walls of the uterus thicken with many blood vessels to provide nutrients for the coming baby if in case a sperm fertilizes the egg.

If the ovum is not fertilized or does not fuse with a sperm, the uterine lining breaks down and is discharged together with the ovum and some blood. This is known as the menstrual cycle. The cycle repeats around every 28 days and only stops when the female reached the menopausal stage, typically between 45 to 50 years of age.



*Figure 5. The Luteal Phase
(Dignos.nd)*

Common Hygienic Practices during Menstruation

It is important that proper hygiene be practiced during menstruation. Here are some of the common hygienic practices:

- Shower or bathe at least once a day.
- Wash your hands with warm water and soap.
- Use good sanitary pads and change it regularly.
- Use clean underwear and do change it everyday.
- Use warm water to clean then pat dry after every wash the vaginal area.
- Wear comfortable clothing rather than tight-fitting pants during periods.



What's More

Activity 1

Directions: Match the statements about the menstrual cycle in Column A with the corresponding terms in Column B. Write the letter of your answer on your answer sheet.

A

1. This hormone stimulates the growth of the ovarian follicles.
2. It is known as the first occurrence of menstruation.
3. This occurs when fertilization does not take place.
4. This is the lining of the uterus that becomes thicker in preparation for implantation of the fertilized egg.
5. At this stage, fertilization may take place.

B

- a. endometrium
- b. follicle-stimulating hormone
- c. menstruation
- d. menarche
- e. ovulation
- f. pregnancy

Activity 2

Directions: Identify the phase of menstrual cycle described in each item below. Write your answers on your answer sheet.

1. The lining of the uterus becomes thin after menstruation. An egg in the ovary continues to mature. Just before the mid-cycle, the mature egg moves to the surface of the ovary.
2. The lining of the uterus called endometrium becomes thicker in preparation for implantation of the fertilized egg. If fertilization does not take place, menstruation happens. The next cycle is then about to begin.
3. This occurs when fertilization does not take place. The uterine lining begins to break down and bleeding results, a process called menstruation, which lasts for 3 to 7 days.
4. The matured egg is released. It travels to the fallopian tube and moves toward the uterus.

Activity 3

Directions: Rewrite the following statements on your answer sheet. Rearrange each item based on how a menstrual cycle occurs by writing the letters A-J before the number, where A is the first and J is the last.

1. The process of fertilization may take place.
2. A new egg cell starts to mature within the ovary.
3. The lining of the uterus becomes thin after bleeding.
4. The matured egg travels from the ovary to the uterus.
5. Uterine linings begin to break down and bleeding results.
6. An egg in the ovary continues to mature.
7. The endometrium or lining of the uterus becomes thicker in preparation for the implantation of the fertilized egg.
8. The mature ovum is released.
9. The mature egg moves to the surface of the ovary just before the mid-cycle.
10. The next menstrual cycle is then about to begin.



What I Have Learned

Directions: Identify what phase of the menstrual cycle is described by each of the statements below. Write your answers on your answer sheet.

1. The ovum moves to the surface of the ovary just before the mid – cycle.
2. Uterine lining begins to break down and bleeding results.
3. The matured egg travels from the ovary to the uterus.
4. The endometrium becomes thicker in preparation for the implantation of the fertilized egg.
5. A new egg cell starts to mature in the ovary.



What I Can Do

Directions: Write a short essay to answer the question below. Use the rubrics below to give yourself a score.

After knowing that menstruation normally occurs in females, what positive realizations have you gained that you want to share with your peers?

Rubrics for Essay Output

Criteria	4	3	2	1
Organiza tion	Follows a correct arrangement of ideas. It is easy to understand, follow, and clear to read; visually appealing and relevant to the discussed ideas.	Follows a correct arrangement of ideas. It is easy to understand, follow, and clear to read.	It is easy to understand, neat, and presentable.	It is unorganized, difficult to understand and follow.
Content	The insights are comprehensively discussed, with deep understanding of the idea, and the thoughts are reflective and convincing.	The insights are moderately discussed, and the thoughts are reflective and convincing.	The insights are minimally discussed, and the thoughts are reflective and convincing.	The ideas show no insight, or understanding of reflective thought



Assessment

Directions: Identify the phase of the menstrual cycle that is being illustrated in each item below. Explain in 2-3 sentences the events that happen in each phase of the menstrual cycle. Copy the table under the figure to show your answer.

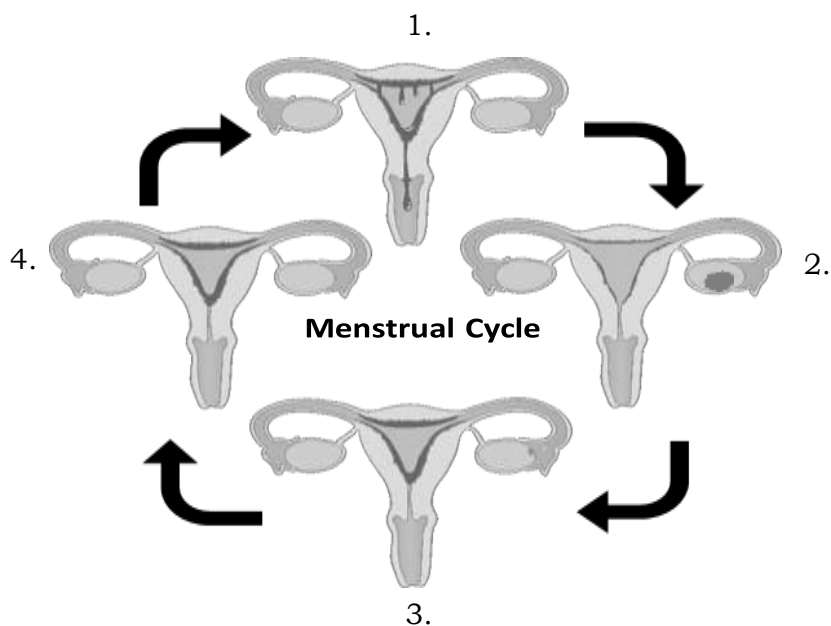


Figure 6. The Menstrual Cycle
(Dignos.nd)

Menstrual Phase	Explanation
1.	
2.	
3.	
4.	



Additional Activities

Directions: Ask your older female friends, sisters, or mother about their experiences during menstruation or “periods”. Write down some challenges that they have met and how they deal with it. Copy and use the table below, then give some hygienic practices during menstruation.

Challenges	What they have done
Common Hygienic Practices during Menstruation	
1. 2. 3. 4. 5.	



Answer Key

<p>What I Know</p> <ol style="list-style-type: none">1. D2. B3. D4. A5. C6. A7. C8. D9. B10. D	<p>What's In</p> <ol style="list-style-type: none">1. B2. C3. B4. A5. D	<p>What's New</p> <p>Activity 1</p> <ol style="list-style-type: none">1. Menstrual Phase2. Follicular Phase3. Ovulation Phase4. Luteal Phase <p>Activity 2</p> <ol style="list-style-type: none">1. Luteal Phase2. Ovulation Phase3. Follicular Phase4. Menstrual Phase
<p>What's More</p> <p>Activity 1</p> <ol style="list-style-type: none">1. B2. D3. C4. A5. E	<p>What's More</p> <p>Activity 2</p> <ol style="list-style-type: none">1. Follicular Phase2. Luteal Phase3. Menstrual Phase4. Ovulation Phase	<p>What's More</p> <p>Activity 3</p> <ol style="list-style-type: none">1. H2. B3. C4. G5. A6. D7. I8. F9. E10. J
<p>What I Have Learned</p> <ol style="list-style-type: none">1. Follicular Phase2. Menstrual Phase3. Ovulation Phase4. Luteal Phase5. Menstrual Phase		

What I Can Do
(Answers may vary)

After knowing that menstruation normally occurs in females, I realized that I had to take care of myself during menstruation by doing proper hygiene and stop teasing girls having their periods.

Assessment
(Answer on explanation may vary but the following are key points)

1. Menstrual Phase - This is when a woman has her period. The uterine and abdominal muscle contract to release the menstrual blood. During This phase the eggs begin to mature in the ovaries.
2. Follicular Phase - In this phase the lining of the uterus starts to grow. It thickens in preparation for receiving a fertilized egg.
3. Ovulation Phase - This phase happens on the 14th day if the menstruation of a female is at a normal cycle that lasts for 28- days. It is also during this time that the matured egg is released to the fallopian tube.
4. Luteal Phase - During this phase of menstrual cycle, the follicle develops the corpus luteum that produces the estrogen and progesterone. The walls of the uterus thickens with many blood vessels.

Additional Activities

Challenges	What they have done
Mood changes and depression	Mild exercise could help and meditation.
Common Hygienic Practices during Menstruation	
1. Take a shower at least once a day. 2. Change sanitary napkin as often as needed. 3. Use clean underwear and change it every day. 4. Wash hands with warm water and soap after changing sanitary napkin. 5. Wear comfortable, loose clothing, rather than jeans or tight-fitting during periods.	

References

A. Book:

Department of Education. 2013. "Science and Health BEAM 5 Unit 1 DLP 4:
The Menstrual Cycle."

B. Electronic Sources:

"Phases Of Menstrual Cycle". 2020. Menstrupedia.Com.
<https://www.menstrupedia.com/articles/girls/cycle-phases>.

For inquiries or feedback, please write or call:

Department of Education –Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072;8634-1054;8631-4985

Email Address: blr.lrquad@deped.gov.ph* blr.lrpd@deped.gov.ph