

Reproductive System, day 2

Grades 4-6, Lesson #12

A Note about Language

Language is really important and we are intentionally being very careful about our language. You may notice language throughout the lesson that seems less familiar – using the pronoun “they” instead of “her” or “him”, and referring to “someone with a vulva” vs. girl or woman. This is intended to make the curriculum inclusive of all genders and gender identities.

However, in this lesson, the terms “male” and “female” are used intentionally to make the content accessible for elementary age 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.

Adapted from “Rights, Respect, Responsibility: A K-12 Curriculum” published by Advocates for Youth

Time Needed

40-50 minutes

Student Learning Objectives

To be able to...

1. Distinguish reproductive system facts from myths.
2. Distinguish among definitions of: ovulation, ejaculation, intercourse, fertilization, implantation, conception, circumcision, genitals, and semen.
3. Explain the process of the menstrual cycle and sperm production/ejaculation.

Agenda

1. Explain lesson's purpose.
2. Use transparencies or your own drawing skills to explain the *processes* of the male and female reproductive systems and to answer "Anonymous Question Box" questions.
3. Use *Reproductive System Worksheets #3 and/or #4* to reinforce new terminology.
4. Use *Reproductive System Worksheet #5* as a large group exercise to reinforce understanding of the reproductive process.
5. Use *Reproductive System Worksheet #6* to further reinforce Activity #2, above.

This lesson was most recently edited August, 2009.

Materials Needed

Classroom Materials:

- OPTIONAL: *Reproductive System Transparency/Worksheets #1 – 2*, as 4 transparencies (if you prefer not to draw)
- OPTIONAL: Overhead projector

Student Materials: (for each student)

- Reproductive System Worksheets 3-6 (Which to use depends upon your class' skill level. Each requires slightly higher level thinking.)

Activity

1. Explain the lesson's purpose.

We are doing today's lesson so that people will understand their own bodies better and feel more confident asking questions and discussing bodies with their parents and doctors.

2. Explain the *processes (the physiology)* of the male and female reproductive systems.

Using the transparencies or your own blackboard drawings, respond to the remainder of the "Anonymous Question Box" questions about the reproductive system, especially those on PHYSIOLOGY. If no questions arise regarding the following terms, explain them anyway:

- | | |
|------------------|------------------|
| 1. OVULATION | 6. CONCEPTION |
| 2. EJACULATION | 7. CIRCUMCISION |
| 3. INTERCOURSE | 8. GENITALS |
| 4. FERTILIZATION | 9. SEMEN |
| 5. IMPLANTATION | 10. MENSTRUATION |

Here is suggested language:

*The outside parts of the reproductive system are called your **genitals**. In other words, a male's genitals are the penis and scrotum. A female's genitals, also called the vulva, are the labia and clitoris.*

*Male babies are born with a sleeve of skin on their penises called the foreskin. Sometimes the doctor removes the foreskin, in a procedure called **circumcision**. The penis is normal either way, whether it's been circumcised or not.*

***Ovulation** is the releasing of a mature egg (ovum) from an ovary. It happens every 20 to 40 days, more or less. And usually a woman doesn't know when it happens. A couple of weeks later is when menstruation begins. **Menstruation** is the lining of the uterus (the blood and tissue) coming out through the vagina, so that the body can build up a fresh new lining the next month.*

***Intercourse** is the kind of sexual touch when the penis is in the vagina. It is sometimes called "vaginal intercourse" or "lovemaking" ... but "lovemaking" can mean different things to different people. **Ejaculation** is what you call it when **semen**, the fluid carrying sperm, comes out of the penis.*

*If ejaculation occurs during intercourse – or even if ejaculation happens onto the labia, without ever putting the penis inside the vagina – sperm can swim up into the uterus and tubes in search of an egg to fertilize. **Fertilization** is what you call it when a sperm cell enters an egg. But there need to be millions of sperm to begin with because that way thousands will find their way into the fallopian tube and hundreds will find the egg and begin bumping into it, gradually wearing away the protein coat, allowing one to finally get inside.*

*After the egg is fertilized, it will take a week or so to finish traveling down the tube into the uterus, where it will nest. That's called **implantation**. The combination of fertilization and implantation is what we call **conception**, meaning a pregnancy has begun.*

3. Use *Reproductive System Worksheets #3 and/or #4* to reinforce new terminology.

Allow students 5 to 10 minutes to complete one or both worksheets individually. Have pairs discuss and correct one another's papers. Then, go over them aloud; having them read the items will give them additional practice pronouncing the terms.

4. Use *Reproductive System Worksheet #5* as a large group exercise to reinforce understanding of the reproductive process.

Again, students can work individually, then pair, and then walk through it together as a large group, if their skill levels will allow.

5. Use *Reproductive System Worksheet #6* to further reinforce activity #2, above.

The Worksheet will require students to practice what makes a coherent paragraph, while requiring that they think through the chronology of reproduction.

Related Activities for Integrated Learning

A. Language Arts

Add to Glossary the terms "cell," "cervix," "clitoris," "Cowper's gland," "ejaculate," "epididymis," "fallopian tube," "fertilize," "genitals," "labia," "ovary," "ovulate," "prostate gland," "scrotum," "semen," "seminal vesicle," "testes," "urethra," and "vas deferens".

B. Math

Students can figure out, if a hypothetical female ovulates, say from age 12 to 47, 13 times a year, how many eggs are released altogether. (Answer: 455 eggs). They can determine, if a hypothetical male produced 150 million sperm a day from age 15 until his death at age 75, how many would have been produced altogether. (Answer: 3,285,000,000,000 sperm in a lifetime or 54 billion, 750 million per year).

Homework

Students' options:

- Discuss Reproductive System Worksheets with an adult in the family*
- Call the Facts of Life Line (206-328-7711) or their family doctor or use the Internet to find answers to questions from the Question Box or to one of the following common questions:

What does it mean if one breast or testicle is larger than the other?

How does a person know when to get a checkup of the reproductive system?

What is the best way to treat pimples?

What if the penis or vagina is "too big" or "too small"?

IMPORTANT NOTES:

- ❖ If you assign questions from the Question Box for students to find answers to, **make sure to type them first**, so that a student cannot recognize another student's handwriting and violate their anonymity.

- ❖ If you allow students to do their research by **Internet**, we recommend they **start here**, to minimize the possibility of their finding commercial and otherwise inappropriate or unreliable sources: <http://www.metrokc.gov/health/famplan/studentlinks.htm>

*see "Preparing Parents" page 6-7

Reproductive System Worksheet 3

NAME _____ DATE _____

DIRECTIONS: Mark an "M" next to any part of a male's body, an "F" next to any part of a female's body, or "E" if the part could belong to either a male or a female.

So your choices are "M", "F", and "E".

_____ 1. Penis

_____ 10. Urethra

_____ 2. Scrotum

_____ 11. Seminal Vesicle

_____ 3. Cervix

_____ 12. Epididymis

_____ 4. Bladder

_____ 13. Ovary

_____ 5. Vagina

_____ 14. Prostate Gland

_____ 6. Testicle

_____ 15. Uterus

_____ 7. Fallopian Tube

_____ 16. Anus

_____ 8. Cowper's Gland

_____ 17. Vas Deferens

_____ 9. Labia

_____ 18. Clitoris

Reproductive System Worksheet 4

NAME _____ DATE _____

DIRECTIONS: Put the letter of each word next to the correct definition of the word.

- | | | |
|-----------------------|-----------|---|
| a. circumcision | _____ 1. | The penis or clitoris filling with blood and getting harder and larger |
| b. conception | _____ 2. | The outside parts of the male's or female's reproductive system |
| c. ejaculation | _____ 3. | Ejaculation during sleep (sometimes called "having a wet dream") |
| d. erection | _____ 4. | The process of fertilization and implantation |
| e. fertilization | _____ 5. | A cell from a female's body that can start a pregnancy (sometimes called an "egg cell") |
| f. genitals | _____ 6. | A cell from a male's body that can start a pregnancy |
| g. implantation | _____ 7. | An operation to remove the foreskin from the penis |
| h. intercourse | _____ 8. | The meeting of the sperm and ovum |
| i. menstruation | _____ 9. | The penis being inside the vagina |
| j. nocturnal emission | _____ 10. | The gland in the brain that triggers puberty |
| k. ovulation | _____ 11. | A ripe ovum coming out of the ovary |
| l. ovum | _____ 12. | Semen coming out of the penis |
| m. pituitary | _____ 13. | The nesting of a fertilized egg in the wall of the uterus |
| n. puberty | _____ 14. | The body beginning to change from a child's into an adult's |
| o. semen | _____ 15. | The liquid that carries sperm |
| p. sperm | _____ 16. | The lining of the uterus coming out through the vagina (sometimes called "having a period") |

Reproductive System Worksheet 5

NAME _____ DATE _____

DIRECTIONS: Fill in the blanks. Then look up each word to make sure you have spelled it correctly.

1. The outside parts of the male reproductive system are the penis and the _____.
2. The outside parts of the female reproductive system are the labia and the _____.
3. A female has three openings: the _____ in the front, the _____ in the middle (where the blood comes out during her period) and the anus in the back.
4. Sperm are made in the testicles. They are stored for 2-3 months in the _____ and then they travel through the _____ and the urethra, which leads out of the penis.
5. The semen is made up of sperm and liquids. The liquids are produced by the _____, the _____, and the _____.
6. In both males and females, urine is stored in the _____ and leaves the body through the urethra.
7. Both males and females have an opening where bowel movements come out. It is called the _____.

8. A baby grows for nine months in the_____.
9. The scrotum is the sac that holds the_____.
10. The parts of the body that protect the urethra and the vagina are called
_____.
11. When an egg cell leaves the_____, it travels through the
_____ on its way to the uterus.
12. The opening of the uterus into the vagina is called the_____.

Reproductive System Worksheet 6

NAME _____ DATE _____

DIRECTIONS: Below are two stories. The events are all out of order. Get a sheet of lined paper. Write "Reproductive System Worksheet #6" at the top. Then choose ONE of the two stories (A or B) and rewrite it. Begin with the title and your name. Find a topic sentence to begin your paragraph. Put the sentences in chronological order. Make sure the last sentence is a good concluding statement.

A) The Menstrual Cycle

It travels through the fallopian tube.

The ovary releases the ovum.

About two weeks later, since the lining of the uterus is not needed for a pregnancy, it comes out through the vagina.

It is incredible how the female body knows how to prepare for pregnancy!

If the egg doesn't meet a sperm, it dissolves.

While the ovum is developing, the lining of the uterus is getting thick and soft.

Another ovum starts to develop in one of the ovaries and the process begins again.

An ovum starts to develop.

B) I am produced in the testicles.

I go from the vas deferens to the urethra.

The Life of a Sperm Cell

I go through the cervix and the uterus and into the fallopian tubes, in search of an egg cell.

I develop for two or three months in the epididymis.

When the penis becomes erect, I leave the epididymis and travel up into the body through the vas deferens.

As I pass the prostate gland, the seminal vesicles, and the Cowper's glands, fluids are added so that I can live longer and swim more easily.

Without me, an egg cell couldn't begin the amazing process of reproduction.

The urethra carries me (along with about 200 million other sperm) out of the penis in a process called ejaculation.

If I can find the ovum before the other sperm do, I will be the winner: part of a fertilized egg!

MORE DIRECTIONS: After you have finished writing your story, reread it, checking off the sentences on this worksheet to make sure you have used them all. Then read the story aloud to a friend to see whether it makes sense.

Reproductive System Worksheet 3 – Answer Key

NAME _____ DATE _____

DIRECTIONS: Mark an "M" next to any part of a male's body, an "F" next to any part of a female's body, or "E" if the part could belong to either a male or a female.

So your choices are "M", "F", and "E".

M 1. Penis

E 10. Urethra

M 2. Scrotum

M 11. Seminal Vesicle

F 3. Cervix

M 12. Epididymis

E 4. Bladder

E 13. Ovary

E 5. Vagina

M 14. Prostate Gland

M 6. Testicle

E 15. Uterus

F 7. Fallopian Tube

E 16. Anus

M 8. Cowper's Gland

M 17. Vas Deferens

F 9. Labia

F 18. Clitoris

Reproductive System Worksheet 4 – Answer Key

NAME _____ DATE _____

DIRECTIONS: Put the letter of each word next to the correct definition of the word.

- | | | |
|-----------------------|----------|---|
| a. circumcision | <u>d</u> | 1. The penis or clitoris filling with blood and getting harder and larger |
| b. conception | | |
| c. ejaculation | <u>f</u> | 2. The outside parts of the male's or female's reproductive system |
| d. erection | <u>J</u> | 3. Ejaculation during sleep (sometimes called "having a wet dream") |
| e. fertilization | | |
| f. genitals | <u>b</u> | 4. The process of fertilization and implantation |
| g. implantation | <u>L</u> | 5. A cell from a female's body that can start a pregnancy (sometimes called an "egg cell") |
| h. intercourse | | |
| i. menstruation | <u>p</u> | 6. A cell from a male's body that can start a pregnancy |
| j. nocturnal emission | <u>a</u> | 7. An operation to remove the foreskin from the penis |
| k. ovulation | <u>e</u> | 8. The meeting of the sperm and ovum |
| l. ovum | <u>h</u> | 9. The penis being inside the vagina |
| m. pituitary | <u>m</u> | 10. The gland in the brain that triggers puberty |
| n. puberty | <u>k</u> | 11. A ripe ovum coming out of the ovary |
| o. semen | <u>c</u> | 12. Semen coming out of the penis |
| p. sperm | <u>G</u> | 13. The nesting of a fertilized egg in the wall of the uterus |
| | <u>n</u> | 14. The body beginning to change from a child's into an adult's |
| | <u>o</u> | 15. The liquid that carries sperm |
| | <u>i</u> | 16. The lining of the uterus coming out through the vagina (sometimes called "having a period") |

Reproductive System Worksheet 5 – Answer Key

NAME _____ DATE _____

DIRECTIONS: Fill in the blanks. Then look up each word to make sure you have spelled it correctly.

1. The outside parts of the male reproductive system are the penis and the scrotum.
2. The outside parts of the female reproductive system are the labia and the clitoris.
3. A female has three openings: the urethra in the front, the vagina in the middle (where the blood comes out during her period) and the anus in the back.
4. Sperm are made in the testicles. They are stored for 2-3 months in the epididymis and then they travel through the vas deferens and the urethra, which leads out of the penis.
5. The semen is made up of sperm and liquids. The liquids are produced by the seminal vesicles, the prostate gland, and the Cowper's glands.
6. In both males and females, urine is stored in the bladder and leaves the body through the urethra.
7. Both males and females have an opening where bowel movements come out. It is called the anus.

8. A baby grows for nine months in the uterus.
9. The scrotum is the sac that holds the testicles. *
10. The parts of the body that protect the urethra and the vagina are called labia.
11. When an egg cell leaves the ovary, it travels through the fallopian tubes on its way to the uterus.
12. The opening of the uterus into the vagina is called the cervix.

* Note that “**testes**” is also a correct response.

Reproductive System Worksheet 6 – Answer Key

NAME _____ DATE _____

DIRECTIONS: Below are two stories. The events are all out of order. Get a sheet of lined paper. Write "Reproductive System Worksheet #6" at the top. Then choose ONE of the two stories (A or B) and rewrite it. Begin with the title and your name. Find a topic sentence to begin your paragraph. Put the sentences in chronological order. Make sure the last sentence is a good concluding statement.

B) The Menstrual Cycle

It is incredible how the female body knows how to prepare for pregnancy! An ovum starts to develop. While the ovum is developing, the lining of the uterus is getting thick and soft. The ovary releases the ovum. It travels through the fallopian tube. If the egg doesn't meet a sperm, it dissolves. About two weeks later, since the lining of the uterus is not needed for a pregnancy, it comes out through the vagina. Another ovum starts to develop in one of the ovaries and the process begins again.

C) The Life of a Sperm Cell

Without me, an egg cell couldn't begin the amazing process of reproduction. I am produced in the testicles. I develop for two or three months in the epididymis. When the penis becomes erect, I leave the epididymis and travel up into the body through the vas deferens. I go from the vas deferens to the urethra. As I pass the prostate gland, the seminal vesicles, and the Cowper's glands, fluids are added so that I can live longer and swim more easily. The urethra carries me (along with about 200 million other sperm) out of the penis in a process called ejaculation. I go through the cervix and the uterus and into the fallopian tubes, in search of an egg cell. If I can find the ovum before the other sperm do, I will be the winner: part of a fertilized egg!

MORE DIRECTIONS: After you have finished writing your story, reread it, checking off the sentences on this worksheet to make sure you have used them all. Then read the story aloud to a friend to see whether it makes sense.