

Revised 2/1/2012



## Reproductive Anatomy, Conception, Pregnancy, and Birth

### **Lesson Goals**

Explain the Structure and Function of the Male and Female Reproduction Systems  
Review Proper Vocabulary for the Male and Female Reproductive Systems  
Review the Process of Human Reproduction from Conception to Birth

### **SEL Goals**

Self-awareness, self-management, social awareness

### **Terms Used**

Reproduction  
Vaginal Intercourse  
Fertilization  
Sperm  
Egg  
Pregnancy

**Materials:** Folders, Journals. *Who's Got What?* handout, *Male Anatomy* handout, *Female Anatomy* handout, *Fertilization: A Fill-in-the-Blank Story* handout, DVD - Life's Greatest Miracle - NOVA.

**Activity 1 - Males/Females/Both**

*~ The purpose of this activity is to review the vocabulary associated with the male and female reproductive systems and the changes that occur in both the male and female reproductive systems during puberty.*

State that today's activity will help students learn and talk about the similarities and differences in the process of puberty for males and females.

Ask what kind of changes young people can expect to go through during puberty. (Possible responses: the way teen bodies look on the outside and inside, feelings, emotions, decisions, etc.)

Highlight that puberty is a process and doesn't happen overnight. A lot of changes occur over time based on a gradual increase of sex hormones, which affect how people develop physically and emotionally. These changes are normal parts of puberty.

Distribute Males/Females/Both Changes cards and tape MALES, FEMALES, and BOTH signs on the board with space for the students to tape their cards underneath. Depending on the size of the class, some students may get more than one card.

As the students to come up to the board one or two at a time and tape their Change card on the board in the appropriate MALES, FEMALES, or BOTH column. Encourage students to guess; many may be unsure where to place their cards.

After students have placed all cards, review cards and ask students whether they are placed correctly. Encourage discussion about why a card might need to be moved. Move cards to places outlined on the next page.

**Process Questions**

1. What did you notice about the placement of most of the cards? (More under both showing that we are more alike going through puberty than different).
2. How might this change the way you see the other sex?
3. What card placements were surprising to you?
4. What are some feelings people might have while going through puberty?
5. What age is normal to go through puberty? (Between 9 and 16; however, this is not always the case).
6. If a person has sexual feelings during puberty, does that mean they are ready to engage in sexual activity? What's the difference?

**BOTH**

Skin & Hair Get More Greasy

Hands & Feet Get Bigger

Develop Pubic Hair

Facial Bones Change

Hair Grows Under Arms

Grow Very Quickly

Sweat More

Shoulders Get Broader

Voice Gets Deeper

Breasts Grow

May Feel Moody

Have Sexual Feelings/Dreams

Begin to Get Hair on Face and Legs

Gain More Responsibility

Become More Mature

Experience Physical Responses to Sexual Feelings

**FEMALES**

Ovaries Release Eggs

Periods Begin

Vaginal Discharge Appears

**MALES**

Testes Begin to Grow

Have Wet Dreams

Get Erections

Penis Grows

**Activity 2 - Who's Got What? (10 minutes)**

*~ The purpose of this activity is to review terms by associating them as being parts of the male, female, or both the male and female reproductive systems.*

Tell the students that during today's class, they will be learning or reviewing the parts of the male and female reproductive systems.

Pass out the Who's Got What handout. Give each student a few minutes to label each part as a male part, a female part, or both. After they are done, the teacher should read over the correct answers.

Alternative approach: Group the students into teams of three or four. Give each group the Who's Got What handout. Give the groups a few minutes to label each part as a male part, a female part, or both. After each group has assigned each part, the teacher should read over the correct answers. Students should mark the correct answers on their sheets as well.

**Process Questions**

1. Do most people know the correct terms for the parts of the male and female reproduction systems? Why or why not?
2. Why is it important to use the correct anatomical terms when referring to the parts of male and female reproductive systems.

**Activity 3 - The Parts and What they Do**

*~ The purpose of define the parts and function of the male and female reproductive systems.*

Distribute the Male Anatomy handout and Female Anatomy handout and copies of both anatomy diagrams. Ask students to take a few minutes to review the male anatomy terms and the female anatomy terms and to fill in as much of the diagram as they can on their own.

Once students have had some time to do this activity on their own - go over the diagrams giving them all the correct answers. Use the anatomy posters to label all the parts of the male and female reproductive systems. While the students follow along and continue to label their sheets, explain the parts of the male anatomy.

Remind students that the brain is the most important part of both the male and the female reproductive systems. The brain is the part of the body that controls when puberty begins and ends for each individual, and it is also responsible for causing people to have sexual feelings and dreams.

## Who's Got What

Instructions: For each body part below, indicate whether it is part of the male reproductive system ("M"), the female reproductive system ("F"), or both the male and female reproductive systems ("B").

\_\_\_\_\_ Scrotum

\_\_\_\_\_ Vas deferens

\_\_\_\_\_ Brain

\_\_\_\_\_ Labia

\_\_\_\_\_ Urethra

\_\_\_\_\_ Prostate gland

\_\_\_\_\_ Foreskin

\_\_\_\_\_ Fallopian tubes

\_\_\_\_\_ Cowper's glands

\_\_\_\_\_ Ovaries

\_\_\_\_\_ Hymen

\_\_\_\_\_ Clitoris

\_\_\_\_\_ Epididymis

\_\_\_\_\_ Testes

\_\_\_\_\_ Penis

\_\_\_\_\_ Uterus

\_\_\_\_\_ Vulva

\_\_\_\_\_ Vagina

\_\_\_\_\_ Cervix

\_\_\_\_\_ Sperm

\_\_\_\_\_ Seminal vesicles

\_\_\_\_\_ Fimbria

\_\_\_\_\_ Ova

\_\_\_\_\_ Anus

## Who's Got What

Instructions: For each body part below, indicate whether it is part of the male reproductive system ("M"), the female reproductive system ("F"), or both the male and female reproductive systems ("B").

  M   Scrotum

  M   Vas deferens

  B   Brain

  F   Labia

  B   Urethra

  M   Prostate gland

  M   Foreskin

  F   Fallopian tubes

  M   Cowper's glands

  F   Ovaries

  F   Hymen

  F   Clitoris

  M   Epididymis

  M   Testes

  M   Penis

  F   Uterus

  F   Vulva

  F   Vagina

  F   Cervix

  M   Sperm

  M   Seminal vesicles

  F   Fimbria

  F   Ova

  B   Anus

## Male Reproductive System

**Scrotum:** A skin sac that holds the testes outside the body.

**Testes** (singular: **testicle**): Organs that produce sperm and the male sex hormone, testosterone.

Explain what sperm production means for reproduction.

**Epididymis:** The coiled tubes behind the testicles where sperm mature and are stored.

**Seminal vesicles:** Glands on each of the vas deferens that produce fluids that mix with the sperm to make semen.

**Prostate gland:** A gland under the bladder that contains pleasure sensors and produces fluids that mix with sperm to make semen.

**Cowper's glands:** Glands on either side of the urethra that make a fluid that lines the urethra when a man gets an erection, before ejaculation (pre-ejaculate). This fluid acts as a lubricant for the sperm during ejaculation.

**Vas deferens:** Tubes that carry sperm from the testes to the urethra.

**Urethra:** A tube that can carry sperm and urine out of the body.

**Penis:** An organ made of soft, spongy tissue and blood vessels, used for reproduction, urination, and pleasure. When the penis becomes erect, or "hard," it becomes filled with blood. This is called an erection.

Note: Erections are a normal part of being male. Explain cause of erections. Erections may occur because of certain thoughts or feelings, they may be caused by a stimulus, or they may happen for seemingly no reason at all. This is because even when a person is not consciously aware of it, the brain is always in control of a person's anatomy - including their reproductive system.

**Foreskin:** A loose skin that covers the head of the penis; all males are born with it  
Explain circumcision.

## Female Reproductive System

**Ovaries:** Organs that contain ova (singular: ovum) and produce hormones, (estrogen, progesterone) that cause body changes, ovulation, and menstruation. Ova are often referred to as egg cells.

**Fallopian tubes:** Small tubes that carry the egg from the ovaries to the uterus. This is where sperm will join with or fertilize an egg, which is the first step necessary for pregnancy to happen.

**Fimbria:** The finger-like parts on the end of each fallopian tube; they find an egg after it is released from the ovary and sweep it into the tube.

**Uterus:** The pear-shaped, muscular reproductive organ from which women menstruate and where a pregnancy develops.

**Cervix:** Part of the uterus that includes the opening between the uterus and the vagina.

**Vagina:** A passage that connects the uterus and the outside of the body. It serves as the birth canal and a passageway for menstrual fluids to leave the body. It is also used for pleasure.

**Hymen:** A thin piece of skin that may partially cover the opening of the vagina. Many women are born with no visible hymen. The hymen is a thin membrane that may cover the opening to the vagina. It can disintegrate over time. It is normal for a girl to have a noticeable hymen, and it is also normal if a girl does not have a noticeable hymen.

**Clitoris:** A small mound of skin containing many nerve cells; it is very sensitive to the touch. It is located between the labia at the top of the vulva.

**Urethra:** The tube that carries urine out of the body.

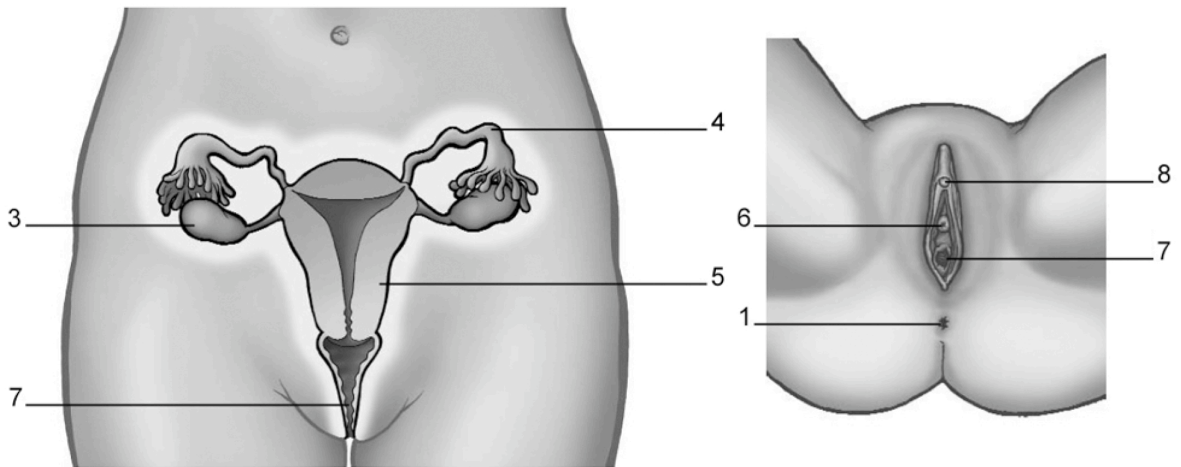
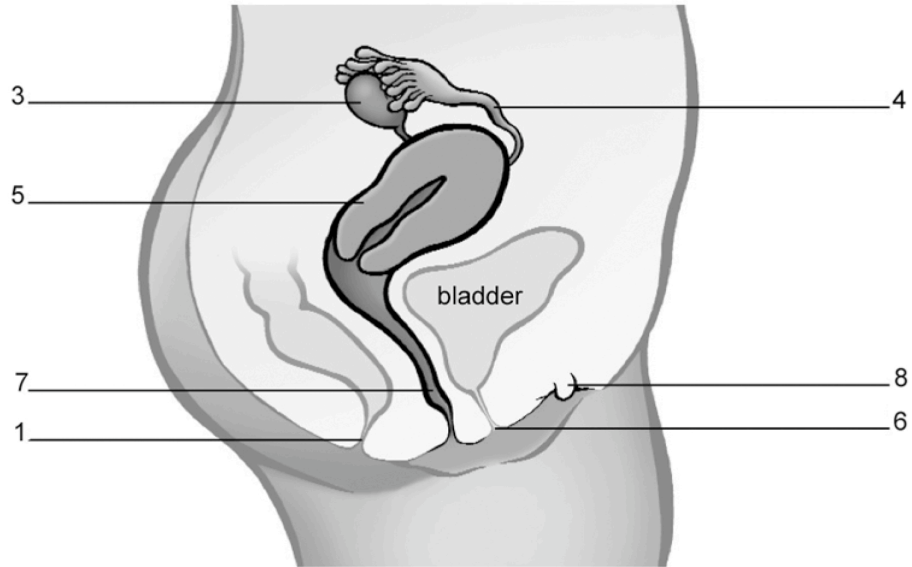
**Vulva:** A woman's external sex organs, including the clitoris, urethra, both sets of labia, and the opening to the vagina.

**Labia:** The outer and inner labia (also called "lips) are two folds of fleshy tissue on the outermost parts of the vulva. The outer lips are closer to the legs. Pubic hair grows there on most women. The inner lips protect the inner vulva and do not have pubic hair.

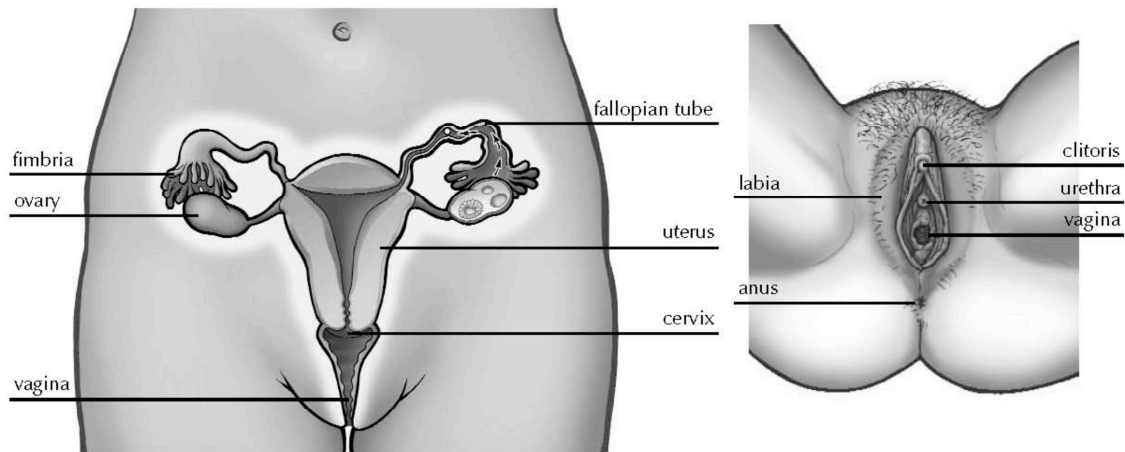
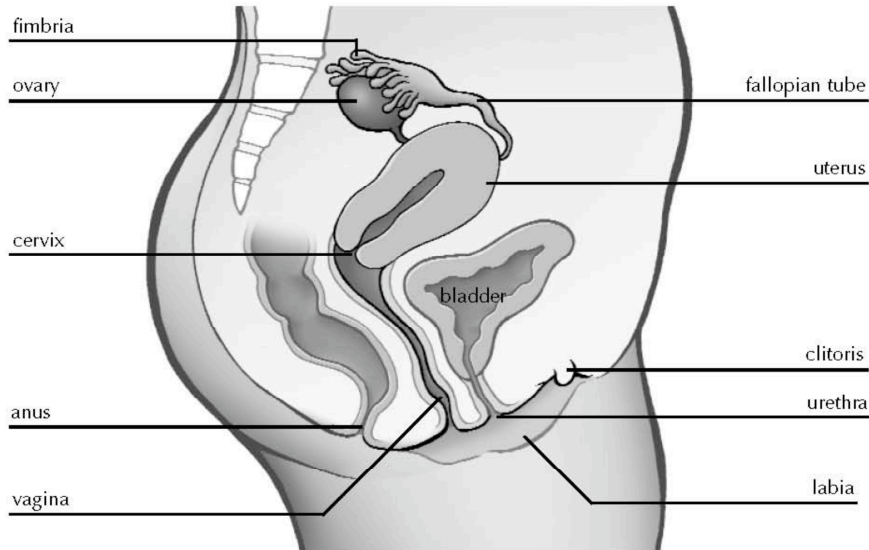


Sexual/Reproductive Anatomy Handout

# FEMALE



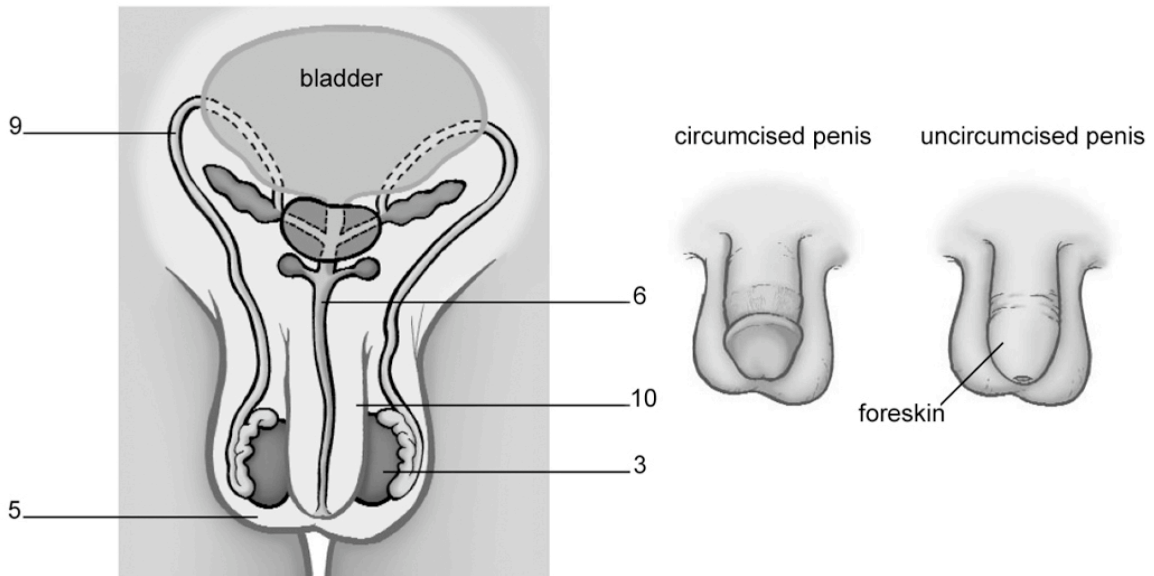
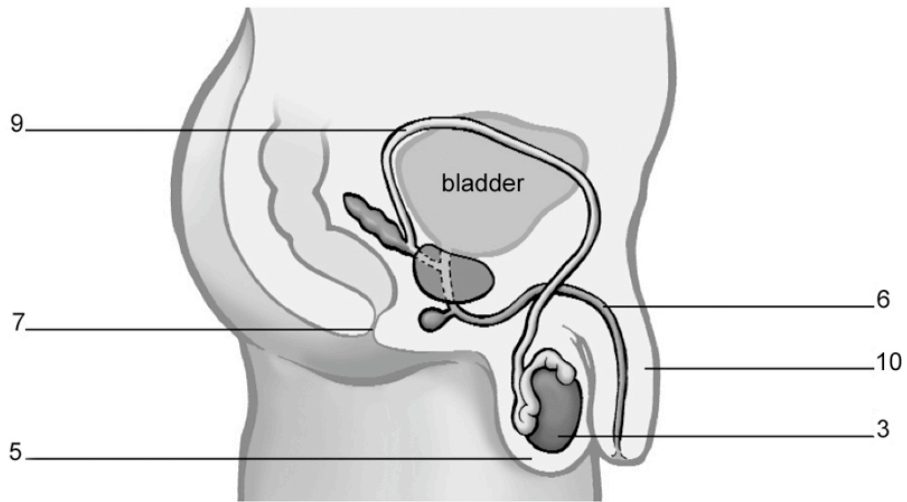
**Female Reproductive System Answer Key**



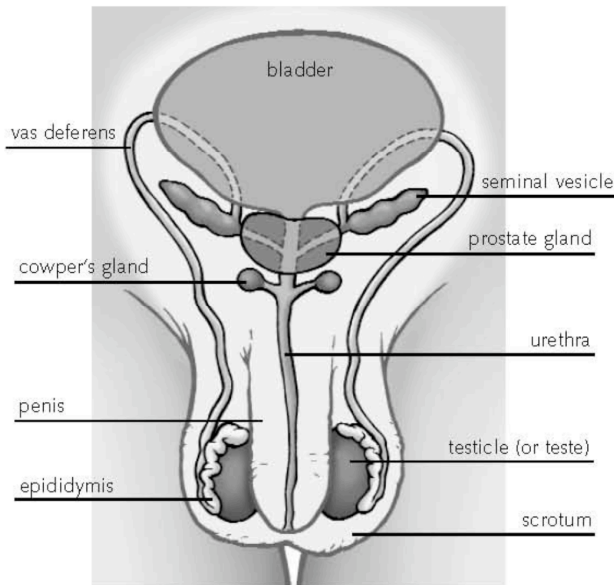
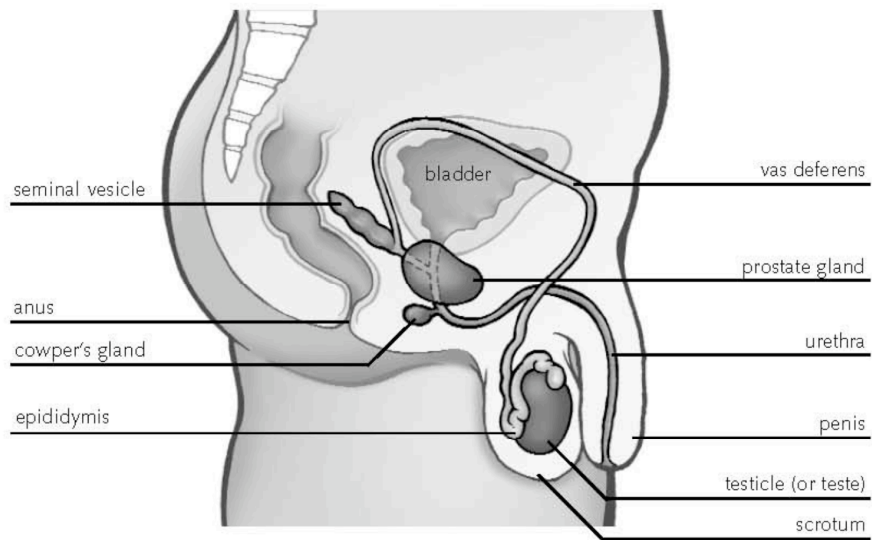
These drawings are an example of sexual/reproductive parts. People's bodies come in all different shapes, sizes, and colors. For more information, contact Planned Parenthood at 1-800-258-4448, or visit our website at <http://www.getrealeducation.org>. Images © 2010 Planned Parenthood League of Massachusetts.

Sexual/Reproductive Anatomy Handout

# MALE

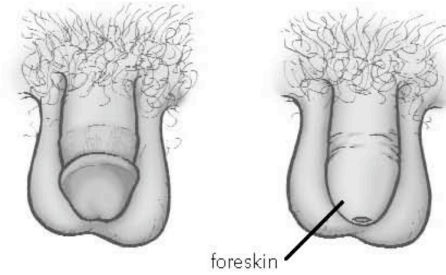


**Male Reproductive System Answer Key**



circumcised penis

uncircumcised penis



These drawings are an example of sexual/reproductive parts. People's bodies come in all different shapes, sizes, and colors. For more information, contact Planned Parenthood at 1-800-258-4448, or visit our website at <http://www.getrealeducation.org>. Images © 2010 Planned Parenthood League of Massachusetts.

**Activity 4 DVD - NOVA: The Miracle of Life**

*~ The purpose of this activity is to review the process of human reproduction from conception to birth. The characters in this DVD are a young married couple planning for the birth of their first child.*

Can be viewed using our DVD, or can be viewed online at:

<http://www.pbs.org/wgbh/nova/miracle/program.html>

This hour-long program is divided into eight chapters. At the end of each chapter stop and check in with students to check their understanding and allow them to ask questions. Then set the context for the following chapter.

[Choose a chapter and select QuickTime or Real Video to begin viewing. If you experience difficulty viewing on-line, it may be due to high demand and you will have to resort to the DVD.]

**1. Passing on Your DNA (running time 09:53)**

- states that human bodies are designed to make babies.
- points out that human bodies are made up of about 100 trillion cells and composed of tissues and organs.
- notes that sexual reproduction allows two individuals to provide DNA to create new beings that are different from their parents.

**2. The Egg's Journey (running time 06:00)**

- introduces a man and a woman expecting a baby.
- states that men produce sperm from puberty on, but all of a female's eggs are made when a fetus.
- explains ovulation.
- notes that an egg has all components to start life except DNA from sperm, and a few hours after being released, the egg will die if it does not join with a sperm.
- discusses human sexual chemistry and the physical aspects of it.

**3. The Sperm's Journey (running time 05:41)**

- states that the acidic nature of the vagina kills sperm that don't travel quickly enough through it.
- tells that even in healthy men, up to about 60 percent of the sperm are imperfect.
- explains that woman's body controls whether, or not a healthy sperm reaches an egg and successfully fertilizes it.
- states what happens to the cervix during ovulation, describes the sperms' journey into a fallopian tube, and notes how sperm fertilizes the egg.

#### 4. The First Two Weeks (*running time 04:58*)

- states that sperm and egg join to create a viable embryo, but more than 50 percent of all fertilized eggs don't develop.
- explains that after the sperm enters the egg, meiosis is completed.
- discusses the process of how the cells, now called a blastocyst, move toward and attach to the mother's uterine lining

#### 5. The Embryo Takes Shape (*running time 07:47*)

- explains that when the blastocyst is the size of a poppy seed, cells organize into an embryo.
- discusses gastrulation, a process in which three different layers of cells develop, and different organs develop from each layer.
- tells that at four and one-half weeks, the embryo is about 1/5 in. long.
- summarizes that all organs develop from the same cell with 46 chromosomes, but cells in different organs do not look alike because different genes are activated in different cell types causing different proteins to be made.

#### 6. Messages in the Genes (*running time 04:35*)

- notes that one pair of chromosomes among 23 determine the sex—XX for female and XY for male.
- explains that late in the sixth week, a chain of chemical reactions occur turning on some genes and off others.
- presents how the journey becomes a fetus.
- tells that at six months, the fetus is 400 times larger than at two months.

#### 7. Feeding the Growing Fetus (*running time 06:39*)

- explains that in a growing fetus a few crucial events are still occurring, including fat being laid down in the brain.
- describes the role of the placenta.
- outlines how different body organs develop.

#### 8. The Third Trimester (*running time 07:07*)

- notes that by the third trimester, all organ systems are in place.
- describes how fat is laid down in the brain, and how a fatty covering called myelin surrounds nerve cells.
- explains the brain's need for nourishment during the final trimester.
- shows the birth of the developed fetus, and explains how dangerous human births were, particularly before C-sections were possible.

**Activity 5 - Fertilization Fill-in-the-Blanks Story (10 minutes)**

*~ The purpose of this activity is to give students an opportunity to review their knowledge about the pathway of the sperm to the egg during vaginal intercourse.*

Tell students they will be writing about the path of the sperm from the testes to the point of fertilization. They will do this by completing the Fertilization: Fill-in-the-Blank handout.

When they have completed their worksheets, select at least one story to read out loud. Ensure that all the answers are correct.

**Activity 6 - Anonymous Questions**

*~The purpose of the anonymous question box is to provide students with a way to ask those questions that they might feel uncomfortable asking out loud in class.*

Address students questions in Anonymous Question Box. Give students a new question to answer if they don't have one about the class material, and remind students to place their anonymous questions in the box as they leave the classroom.

Name: \_\_\_\_\_

## FERTILIZATION: A FILL-IN-THE-BLANKS STORY

(Handout 9.A-4)

**Instructions:** Use the words on the following page to complete the story. Make sure to use the correct parts of the male and female anatomy in the appropriate blanks.

Scooter, a(n) \_\_\_\_\_ (adjective) \_\_\_\_\_ (male sex cell), was \_\_\_\_\_ (verb ending in -ing) around in the \_\_\_\_\_ (part of the man's body that produces testosterone) when he received a(n) \_\_\_\_\_ (adjective) message from the brain: "Arousal alert! Arousal alert! We have an erection!" The message blared \_\_\_\_\_ (adverb). Scooter, along with \_\_\_\_\_ (the number of sperm in the average ejaculation) sperm, prepared \_\_\_\_\_ (adverb) and moved into the \_\_\_\_\_ (part of the man's body where sperm are held before an ejaculation). Scooter's tail flipped \_\_\_\_\_ (adverb) as he made his way up the \_\_\_\_\_ (the tube sperm travel after leaving the testes) and past the \_\_\_\_\_ (glands that make fluids that combine with sperm and become semen). From there he passed through the \_\_\_\_\_ (the part that makes it impossible for a man to urinate and ejaculate simultaneously), down the \_\_\_\_\_ (the tube that runs through the penis), and out the tip of the \_\_\_\_\_ (the part that's made up of spongy tissue, blood vessels, and nerves). Suddenly he was in a(n) \_\_\_\_\_ (adjective) world he'd never seen before. "OMG!" he exclaimed as he and the other sperm made their way through the \_\_\_\_\_ (the opening of the female reproductive system out of which a woman would give birth), through the \_\_\_\_\_ (the part of the uterus that contains the opening to the vagina), and into the \_\_\_\_\_ (the muscle where a fetus would develop during a pregnancy).

Meanwhile, Olive, an \_\_\_\_\_ (female sex cell), who had been released during the \_\_\_\_\_ (adjective) process of \_\_\_\_\_ (the process in which an egg is released) by the \_\_\_\_\_ (female gland where eggs are stored), began \_\_\_\_\_ (verb ending in -ing) in the \_\_\_\_\_ (small tubes connected to the uterus). Scooter's



## FERTILIZATION: A FILL-IN-THE-BLANKS STORY

*(Continued)*

\_\_\_\_\_ (adjective) sperm tail kicked into overdrive when he saw Olive, the most \_\_\_\_\_ (adjective) egg in the \_\_\_\_\_ (a place). Scooter swam \_\_\_\_\_ (adverb) toward Olive. As soon as they joined, their cells began to combine, causing fertilization. The now-fertilized Olive implanted in the lining of the uterus, creating a pregnancy.

Use the following words to complete the story.

	cervix	fallopian tubes	prostate gland
	sperm	vas deferens	ovary
<b>Body Parts</b>	penis	vagina	testes
	uterus	ovum/egg	seminal vesicles
<hr style="border-top: 1px dashed black;"/>			
	chilly	fancy	mysterious
	silly	amazing	vast
<b>Adjectives</b>	massive	mushy	sparkling
	victorious	happy	great
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	awkwardly	triumphantly	oddly
	courageously	smoothly	nervously
<b>Adverbs</b>	dreamily	intensely	lovingly
	majestically	gracefully	carefully
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<b>Verbs ending in "-ing"</b>	moving	working	laughing
	chilling	waiting	swimming
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<b>Places</b>	neighborhood	universe	world
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<b>Numbers</b>	300–500	400 thousand	300–500 million

### Fertilization: a Fill-in-the-Blanks Story—Answer Key for Teachers

Scooter, a(n) \_\_\_\_\_(adjective) **SPERM** (male sex cell), was \_\_\_\_\_(verb ending in -ing) around in the **TESTES** (part of the man's body that produces testosterone) when he received a(n) \_\_\_\_\_(adjective) message from the brain: "Arousal alert! Arousal alert! We have an erection!" The message blared \_\_\_\_\_(adverb). Scooter, along with **300–500 MILLION** (the number of sperm in the average ejaculation) sperm, prepared \_\_\_\_\_(adverb) and moved into the **EPIDIDYMIS** (part of the man's body where sperm are held before an ejaculation). Scooter's tail flipped \_\_\_\_\_(adverb) as he made his way up the **VAS DEFERENS** (the tube sperm travel after leaving the testes) and past the **SEMINAL VESICLES** (glands that make fluids that combine with sperm and become semen). From there he passed through the **PROSTATE GLAND** (the part that makes it impossible for a man to urinate and ejaculate simultaneously), down the **URETHRA** (the tube that runs through the penis), and out the tip of the **PENIS** (the part that's made up of spongy tissue, blood vessels, and nerves). Suddenly he was in a(n) \_\_\_\_\_(adjective) world he'd never seen before. "OMG!" he exclaimed as he and the other sperm made their way through the **VAGINA** (the opening of the female reproductive system out of which a woman would give birth), through the **CERVIX** (the part of the uterus that contains the opening to the vagina), and into the **UTERUS** (the muscle where a fetus would develop during a pregnancy).

Meanwhile, Olive, an **OVUM/EGG** (female sex cell), who had been released during the \_\_\_\_\_(adjective) process of **OVULATION** (the process in which an egg is released) by the **OVARY** (female gland where eggs are stored), began \_\_\_\_\_(verb ending in -ing) in the **FALLOPIAN TUBES** (small tubes connected to the uterus). Scooter's \_\_\_\_\_(adjective) sperm tail kicked into overdrive when he saw Olive, the most \_\_\_\_\_(adjective) egg in the \_\_\_\_\_(a place). Scooter swam \_\_\_\_\_(adverb) toward Olive. As soon as they joined, their cells began to combine, causing fertilization. The now-fertilized Olive implanted in the lining of the uterus, creating a pregnancy.

**Reflective Journaling Activity**

Lined area for journaling with horizontal lines.

**Teacher's Notes:**