

Weller Health Education Center

Life Begins
Growth and Development
Grades 5-6

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Program Objectives

Program Description:

A sensitive presentation of how life begins, including an explanation of the reproductive systems, fetal development and birth with an emphasis on personal responsibility.

Standards:

PA 1.1.5.F; 1.6.5.A; 3.3.7.C; 10.1.6.B

NJ 5.5.2.C.1; 5.5.4.B.2; 5.5.6.C.1; 3.4.5.A.1; 3.4.6.A.1; 3.4.6.A.3; 2.1.6.B.1; 2.1.6.B.3; 2.4.6.B.1; 2.4.6.C.1

Objectives:

Upon completion of the program, students will:

1. Indicate one function of the pituitary gland.
2. Identify three female reproductive organs and functions.
3. Identify two male reproductive organs and functions.
4. Name two responsibilities in taking care of a baby.

Terms:

amniotic sac - a tissue which encases the embryo and fills with fluid at two weeks. This “bag of waters” surrounds the unborn baby and is a natural shock absorber protecting the baby.

anus – digestive system external opening

birth canal – the passageway through which the unborn baby passes during birth

breast – tissue on the ribs that produce milk in the female after she gives birth

chromosomes – patterns of DNA which provide information to build living things. Each cell in the human body contains 46 chromosomes except the male sperm cell and the female egg cell with 23 each, which when joined together contain information to build a complete individual.

conception - union of the sperm and the egg.

contractions – muscular movement of the uterus during labor

DNA – chemical containing the code to build life, arranged into chromosomes

delivery – birth of a baby

egg cell - female sex cell; it contains one-half of the patterns for a human life (23 chromosomes)



fallopian tubes - a pair of tube-like structures that pick up an egg cell after ovulation and conduct it toward the uterus. It is the area in which conception is most likely to occur.

fertilization – union of sperm and egg

hormones - chemical messengers that influence changes in the body.

labor – time of changes occurring in the pregnant female that prepare her body for childbirth

menstruation - the shedding of the soft, nest-like tissue lining of the uterus caused by the lack of implantation of a fertilized egg. This is a regular monthly occurrence for most females.

nocturnal emission – also called a “wet dream”; involuntary release of semen during the night.

ovaries - two almond shaped glands of the female reproductive system. The ovaries produce hormones which influence a female’s good health and well-being; they also contain the egg cells.

ovulation – release of an egg from the ovary

penis - the male sex organ located on the outside of his body through which the male eliminates liquid wastes and releases sperm and semen.

pituitary gland - a tiny gland located in the brain. The pituitary releases hormones to regulate body functions.

placenta - an organ of pregnancy that grows in the uterus to sustain the life of the developing baby. The baby is attached to the placenta by the umbilical cord.

pregnancy - time during which the fertilized egg cell matures from an embryo to a fetus, developing within the uterus until the time of birth. Pregnancy typically lasts 40 weeks.

puberty - period of time often occurring during the early part of the second ten years of life, marked by increased hormonal activity.

reproductive system - the system of the body, which enables us to produce offspring

semen - milky white fluid which nourish the sperm on their journey to the egg.

sperm cell - male sex cell; contains one-half the patterns for a human life (23 chromosomes).

testicles - two male sex glands, carried in the scrotum, which produce the male sperm cells.



umbilical cord – cord-like “lifeline” which grows from the baby to the placenta. The umbilical cord contains blood vessels through which the food and oxygen travel from the mother to the baby and by which the baby’s wastes are returned to the mother.

urethra - the opening through which liquid wastes are passed from the body

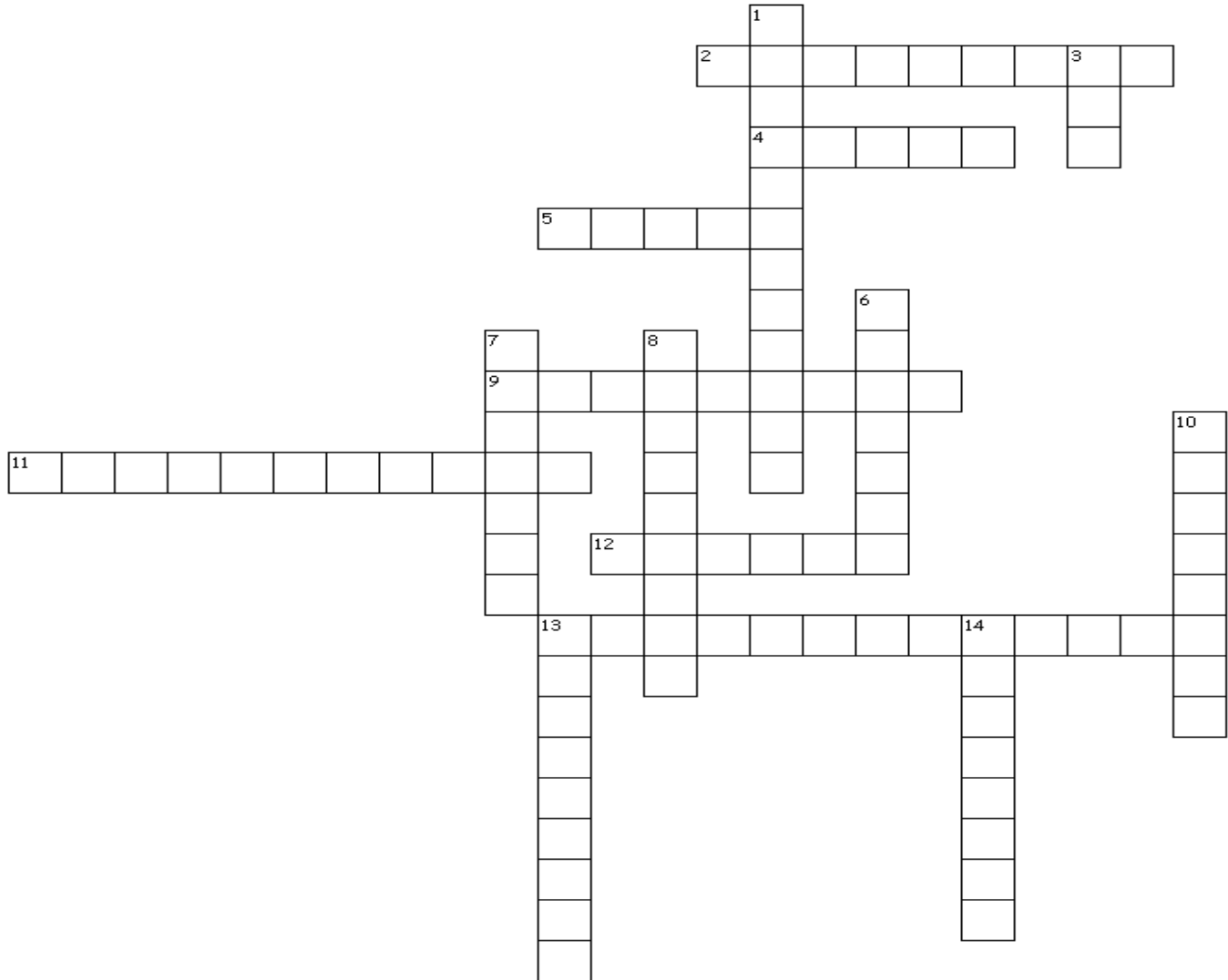
uterus - a strong stretchy muscle in the female reproductive system which expands to allow for the growth of a baby; located in the pelvic region of the female

vagina - external opening of the female reproductive system which stretches to allow for the birth of a baby. It is also the opening by which menstrual flow leaves the body and the organ of reception of the male penis during sexual intercourse.

vas deferens - two tubes that allow sperm to pass from the testicles to the urethra

Crossword Puzzle

Complete the crossword puzzle using the word bank and the clues below.



Word Bank: amniotic, chromosomes, egg, fallopian, fertilization, labor, menstruation, ovaries, pituitary, placenta, puberty, sperm, testicles, umbilical, uterus



Across

2. male reproductive organ where sperm is made
4. male sex cell
5. period of time when the uterus contracts and the baby is pushed into the birth canal
9. this cord connects the baby to the mother
11. holds directions for a new life
12. female reproductive organ in which the baby grows
13. time when egg and sperm meet and a new life begins

Down

1. shedding of the uterine lining
3. female sex cell
6. store and release the female egg cells
7. period of change from child to adult
8. gland that starts puberty
10. organ that attaches the umbilical cord to the uterus
13. tube that carries the egg from the ovary to the uterus
14. sac that protects the baby during the pregnancy



Life Begins Math Activity



There's lots of math to do in the human body! Get your pencils and calculators ready to do the math for the Life Begins enrichment sheet.

Directions:

1. Print the clue sheets and distribute one to each member of a team of four students.
2. Provide paper, pencil, scrap paper and calculators for math calculations if necessary.
3. Students work to complete the math problems that lead them to the statement at the end of the enrichment sheet.
4. Each answer corresponds to a letter. (Be careful, some numbers correspond to several letters – you'll have to see which will make the most sense and do some unscrambling.)
5. Complete the problem and write the letter that corresponds with the answer in the space provided.
6. First group to identify the statement wins.



Math Worksheet

Name _____ Date: _____



1. The number of kinds of reproductive cells. (one male, one female)
2. A pregnancy lasts, on average, 280 days. Using the information of 31 days in a month, how many months would a pregnancy last?
3. The number of sperm cells that usually enter the egg cell during fertilization.
4. The uterus of a non-pregnant female is about this many inches wide. (Divide 1,626,789 by 542,263)
5. Number of fallopian tubes in the female reproductive system. (Divide 90 by 45)
6. Average length in inches of a fallopian tube (Divide 2104 by 526)
7. Between 75 -900 of this amount is the number of sperm that may leave the male body and be deposited in the female during sexual intercourse. (Multiply 100 times 1000)
8. Not even this much of an ounce of fluid, called semen, leaves the male body during a nocturnal emission. (Divide 1 by 4)
9. A fertilized egg has 46 chromosomes, the genetic information that will be used to build the new life. Half comes from each reproductive cell.
10. Babies are born unable to see color. It takes about this many months until a baby can see color. (Multiply 12 by this number to arrive at 72)
11. The average umbilical cord length is 25.6 inches. Approximately how many feet are these equal to?
12. The changes in puberty may take this many years to complete. (Multiply $\frac{1}{2}$ by 20)
13. The pituitary gland is in the middle of the head. What is the middle or mean value of these numbers? 2,8,10,6,12,11,7
14. The female reproductive system cycles through changes including ovulation and menstruation on a monthly basis, the equivalent of perhaps this many days. (Multiply six times five)
15. Parents often take care of their children for two decades, feeding them, providing a home and teaching them. Two decades is how many years? (Multiply ten times two)



Use the letters below to identify the letter that the problem solutions match. Some numbers can be found at several letters so check through all of them then unscramble to see which letter works best!

A = 5	H = 30	O = 1	V = 8
B = 2	I = 9, ¼, 2	P = 17	W = 14
C = 6	J = 11	Q = 21	X = 15
D = 7, 3	K = 13	R = 2	Y = 23
E = 3, 4, 20	L = 2	S = 6, 10	Z = 19
F = 1	M = 10	T = 8	
G = 1,000,000	N = 23, 10	U = 2	

Write the letters that correspond to the answer for each problem. Then, unscramble to decide which letter belongs in the numbered space. It is a very important statement about the Life Begins problem.

- | | |
|----------|-----------|
| 1. _____ | 9. _____ |
| 2. _____ | 10. _____ |
| 3. _____ | 11. _____ |
| 4. _____ | 12. _____ |
| 5. _____ | 13. _____ |
| 6. _____ | 14. _____ |
| 7. _____ | 15. _____ |
| 8. _____ | |

Solve the sentence below by writing the letters that match the problem solution. The numbers under the lines show the number of the problem for that space.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 6 2 1 3 4 5 6 13 11 8 15



Slam Dunk!

Materials:

- list of questions (sample below; teachers can create additional questions from Terminology list in Enrichment Packet)
- chalkboard, chalk, eraser
- trash can
- three small foam balls

Directions:

1. Set trash can approximately 10-15 feet from the balls.
2. Divide class into two teams.
3. Ask one member of Team A a question from the question sheet (rotating so everyone gets a turn.)
4. If answer is correct Team A gets one point, plus the person who answered gets one shot at the basket. If the shot goes in, the team gets an additional point.
5. Play then proceeds to Team B.
6. Continue until time is up or you've run out of questions. Team with the most points wins.

Sample Questions:

1. What is another name for the vagina? (birth canal)
2. Name the process by which the uterus sheds its lining. (menstruation)
3. Where are sperm cells produced? (testes)
4. Name the organs that release egg cells. (ovaries)
5. Name the tube that carries a mature egg cell from the ovary to the uterus. (fallopian tube)
6. In what organ does the baby develop during pregnancy? (uterus)
7. Name the tube that carries both urine and semen out of the body in males and only urine in females. (urethra)
8. The pituitary gland is located in this organ of the Nervous System. (brain)
9. Name the organ that nourishes the baby during pregnancy. (placenta)
10. Name the sac of water that protects and cushions the baby during pregnancy. (amniotic sac)
11. Identify the body system that enables us to reproduce, (Reproductive System)
12. Which gland is responsible for releasing the chemicals that start puberty? (pituitary)
13. Which cell is smaller, a sperm cell or an egg cell? (sperm)
14. What female reproductive organ does the placenta develop in? (uterus)
15. What is another name for an ovum? (egg or egg cell)
16. Name the two cells that must join together in order for life to begin. (sperm and egg)
17. The word for a sperm joining an egg is? (fertilization or conception)
18. Identify the chemical that contains the information necessary to build life. (DNA)
19. Is the Vas Deferens a male or female reproductive structure? (male)
20. Is the rectum part of the Reproductive System or the Digestive System? (Digestive System)
21. During which time is a nocturnal emission most likely to occur, 2:00 A.M. or 2:00 P.M.? (2:00 A.M.)



22. Why does a sperm cell need a tail like structure? (move toward the egg)
23. If an egg with an X chromosome meets a sperm with an X chromosome, will the plan be to build a male or a female? (female)
24. How many sperm cells fertilize an egg cell? (one)
25. Implantation marks the beginning of this forty week process. (pregnancy)
26. Which looks more like your baby picture, a blastocyte or a fetus? (fetus)
27. This connects the baby to the placenta. (umbilical cord)
28. Squeezing of the uterus muscles in preparation for childbirth is called? (contractions)
29. The hard work that is done by the female body to prepare for childbirth is called? (labor)
30. What is another word for delivery? (birth)
31. What is formed where the umbilical cord used to be attached? (bellybutton)
32. Where are a baby's soft spots found? (its' head)

Note to teacher- the following letter is intended for your students to take home as a follow-up for the days program. Please copy and distribute as you see fit in order to enable caregivers of students to reinforce the lesson of this program effectively.



Weller Health Education Center

Dear Caregiver,

Your child has participated in a program called “Life Begins” presented by the Weller Health Education Center. This program is a sensitive, grade appropriate presentation and is the most requested and attended program in the twenty-five year history of the Weller Health Education Center. “Life Begins” is the introduction in Weller’s reproductive health programming series. The program discussed male and female anatomy and physiology, reproductive cells, fertilization and fetal development (from conception through birth). The program focuses on importance of maturity, responsibility and respect of others and getting accurate information from parents and trusted adults.

Today, kids are exposed to so much information about sex and relationships on TV and the Internet that, by the time they approach puberty, they may already be familiar with some of the changes. However, talking about the issues of puberty remains an important job for parents because not all of a child's information comes from reliable sources and not all their questions may be answered at school. Puberty can be a very confusing time, with lots of physical and emotional changes. As these changes occur, students might wonder if they're "normal" and begin comparing themselves with friends. Kids need to know what to expect in the months and years ahead, even if they're too shy to ask.

Below you will find some sample suggestions to guide you in taking steps to improve your family’s health. These activities can help to continue the message started today in our program. For additional resources you are welcome to utilize the parent, teacher and student resource links found on our website at www.wellercenter.org

Sample Suggestions:

1. Let your child know that you're available any time to talk, but it's also important that you make time to talk.
 - a. Be aware of expected events of puberty (changes, male-female differences.)
2. Help students prepare for coming physiological changes and hygiene needs that follow.
3. Prepare ahead: make pads/tampons, deodorant, acne face washes available for use in the bathroom when needed.
 - a. Identify what to do if a hygiene need presents itself in school or a public place.
4. It's best to have reproductive discussions as a series of talks, not as one “big” talk, ideally beginning when your child is young and starting to ask questions about body parts.
5. Research answers to questions you are unsure about. For additional resources visit our website at www.wellercenter.org under TeenHealth, or www.kidshealth.org.

Yours in good health,
Weller Health Education Center

Weller Health Education Center



325 Northampton Street
Easton, PA 18042
610.258.8500
fax 610.258.9914
www.wellercenter.org

Dear Parent or Guardian,

In the near future your child will attend the "Life Begins" program at his/her school presented by the Weller Health Education Center. During the program students will see a sensitive age-appropriate presentation of how life begins, from an explanation of conception through the birth process. The female and male reproductive systems will be reviewed along with information on menstruation, nocturnal emissions and the different stages of fetal development, labor and delivery.

We encourage you to talk to your child about this subject matter before and after the upcoming program. Please feel free to contact the Weller Center at (610) 258-8500 ext. 22 with any questions.

If you do not want your child to attend the "Life Begins" program, please complete and return this portion of the form to the main office by: _____ . Thank you!

Student Name: _____

Parent/Guardian Signature: _____

Date: _____

To learn more about the Weller Health Education Center, visit www.wellercenter.org

The Weller Health Education Center encourages donors to be confident in their charitable giving. A copy of our official and financial information may be obtained from the Pennsylvania Department of State by calling toll free 1-800-732-0999. Registration does not imply endorsement.