FOURTH GRADE
LESSON VII
PUBERTY

Objectives
Students will
• Discuss the effects of hormones
• Discuss emotional and physical changes that occur during puberty
• Identify male and female reproductive organs
• Describe menstruation and nocturnal emissions

Concepts
1. Puberty is the stage of life between childhood and adulthood when a person’s body undergoes special changes that result in physical growth and emotional changes. These changes occur gradually. Each person’s body clock is different. Generally boys go through puberty between the ages of 10 to 18, and girls go through puberty between the ages of 8 and 16.

2. The pituitary gland (and endocrine gland in the head) secretes hormones that signal the sex glands to trigger this stage of growth called puberty. The female sex glands are called ovaries. The male sex glands are called testes. In turn the sex gland produce hormones (estrogen in females, testosterone in male) that cause certain body changes.

3. The hormone estrogen stimulates the ovary to begin producing an ovum (egg cell) each month. When it matures, it travels through the fallopian tubes to the uterus. This release is called ovulation. The uterus is also called the womb and is the organ that would expand to hold the developing baby. If the ovum has not been fertilized, it dissolves and the lining is not needed. The lining then breaks down and is passed out of the body through the vagina or birth canal. The process is called menstruation. During menstruation the menstrual flow consists of blood, mucus and fragments of tissue lining the uterus. The flow comes out the uterus through the vagina gradually over a period of 3-7 days. Shortly afterward, more egg follicles begin to develop, a new lining begins to form and the cycle starts all over again.

Additional information for discussion.
• The menstrual cycle is about 28 days
• This cycle can vary in length
• Menstruation may also be called a period
• Some females have irregular cycles, especially at first
• Some females feel cramps or backaches during menstruation.
• Menstruation usually last for 3–7 days
• There are many myths surrounding menstruation (example: You should not wash your hair while menstruating).

4. The penis and the testes are the male reproductive organs. They are located outside the body. Male reproductive cells, called sperm, are produced in the testes or testicles located in the scrotum. The scrotum is located in a pouch of loose skin behind the penis. The sperm move from the testicles through a tube called the vas
defer to the prostate gland where they combine with fluids called semen. This thin white fluid containing sperm then makes its way to the urethra in the penis. The urethra is the passage way for urine and sperm out of the body. When semen is ready to leave the body, a muscle closes off the urethra from the bladder, making it impossible for semen and urine to get into the urethra at the same time.

5. Sperm leave the body through the penis in a process called ejaculation. Before ejaculation, the penis is usually soft and limp. At certain times, however, the spongy tissue in the penis fills with blood causing it to become hardened and to stand out from the body. This is called an erection. Ejaculation occurs when muscle contractions in the erect penis push the semen through the urethra and out of the body. About 300 million sperm are released at this time in about a teaspoon of semen. This release happens during sexual intercourse and can also happen during sleep. This occurrence is called a nocturnal emission or “wet dream” when it happens during sleep. These occurrences may or may not be due to sexual dreams. They may occur due to an overproduction of sperm at this time. They are a common occurrence and a normal part of growing up.

Materials
- Overhead transparencies and/or individual copies of male/female body changes
- Question box
- Overhead transparencies of reproductive organs
- “Journey of the Egg” worksheet
- “Anatomy Drawing” worksheet
- Video (Girls) It’s a Change Thing (15 minutes)

Activity Choices
1. Explain the concept of puberty. Have students brainstorm changes that occur during puberty. List them on the board in two columns, one for physical changes and one for emotional changes. After the list is made, mark each item that is uniquely male or female. Note that males and females share common experiences during puberty.

2. Physical Changes
   A. underarm hair   G. pubic hair
   B. facial hair     H. deepened voice
   C. larger breasts  I. elongated penis
   D. broader shoulders J. growth spurt
   E. wider hips      K. sweat glands become more active
   F. acne

3. Emotional Changes
   A. mood changes    D. feelings toward the opposite sex changes
   B. interest changes E. some feelings of awkwardness
   C. feelings of independence increase

4. Use diagrams to explain the process of menstruation
5. Discuss nocturnal emissions. Use diagrams to locate terms as needed.
6. Show video It’s a Change Thing. This video may be shown in third grade by the nurse to help those girls who begin their cycle earlier than 4th grade.
7. Exceptional Education Inclusion Activities:
A. Have students bring in pictures of themselves as they have grown. Discuss bodily changes that occur during growth.
B. Cut out pictures from magazines of children, teens, and adults. Discuss the body differences.
C. Write the diagram labels on an overhead for students to copy.
JOURNEY OF THE EGG (FRONT VIEW)

1. 
2. 
3. 
4. 
5. 
6. 

Fill in the boxes with the correct term for the parts of the female reproductive system.

uterus  ovary  oviduct  vagina  cervix  egg

Draw a dotted line (---) showing how the menstrual blood leaves the body.

Draw a solid line (——) showing how the egg travels from the ovary through the vagina.
JOURNEY OF THE EGG (FRONT VIEW)

1. uterus
2. cervix
3. vagina
4. ovary
5. egg
6. oviduct

Fill in the boxes with the correct term for the parts of the female reproductive system.

uterus  ovary  oviduct  vagina  cervix  egg

Draw a dotted line (---) showing how the menstrual blood leaves the body.

Draw a solid line (-----) showing how the egg travels from the ovary through the vagina.
Label the parts of the male anatomy.

urethra  urinary bladder  penis  scrotum  vas deferens  
prostate gland  testes (testicle)
Label the parts of the male anatomy.

urethra  urinary bladder  penis  scrotum  vas deferens  prostate gland  testes (testicle)