

## Section 4 • Reproduction

Student textbook, page 209

### The Stages of Life (pages 196 and 197)

1. Fill in the missing stages of life: Fetus to *baby* to child to *adolescent* to adult to *elderly person*
2. Define the term “puberty.” *Puberty is the period in life in which a set of anatomical, physiological and psychological changes takes place in children on the verge of adolescence.*
3. What is a hormone? *A hormone is a chemical substance, produced by a gland and secreted into the blood, that transmits messages throughout the body.*

### The Male Reproductive System (pages 197 to 202)

4. Who am I? Who are we?
  - a) I convey semen and urine out of the body. *Urethra*
  - b) We produce spermatozoa. *Testicles*
  - c) We assist in semen formation by producing a lubricating fluid that neutralizes the acidity of the urethra. *Cowper’s glands*
  - d) We are responsible for forming 50 percent of the semen’s volume. *Seminal vesicles*
  - e) We are the penis’s erectile tissues where blood accumulates. *Corpora cavernosa and spongiosa*
  - f) I am an action in which semen is expelled from the penis in spasms. *Ejaculation*
  - g) I am the culmination of sexual pleasure. *Orgasm*
  - h) We are hormonal glands that trigger puberty in men. *Pituitary gland and testicles*

- i) I am a hormone produced by the testicles. *Testosterone, inhibin*
  - j) We are hormones produced by the pituitary gland. *FSH, LH and growth hormone*
  - k) I cause male secondary sex characteristics to appear. *Testosterone*
5. What are the two functions of erection? *Erection allows the penis to penetrate the vagina and deposit the spermatozoa near the cervix of the uterus.*
  6. Name three changes that occur in a male at puberty. *Development of the genital organs (e.g. enlargement of the testicles), production of spermatozoa, appearance of hair, development of bones and muscles, change in voice, increase in libido, mood changes*
  7. How long after puberty begins does it take for an adolescent to actually become fertile? *It takes approximately two years before the semen of an adolescent contains a significant quantity of spermatozoa. This is only an average, and the time required can vary considerably depending on the individual.*
  8. Name three factors that can influence puberty’s progression. *Heredity, ethnic group, diet, geographical location, sociocultural milieu and stress level can influence the progression of puberty.*
  9. What is spermatogenesis? *Spermatogenesis is the process by which the testicles produce spermatozoa.*

10. Who am I? Who are we?

- a) I am a cell that generates spermatozoa. *Spermatogonia*
- b) I am a part of the testis in which spermatogenesis occurs. *Seminal duct*
- c) I make the spermatozoon mobile. *Tail*
- d) I contain enzymes that allow the spermatozoon to pierce the envelope of the ovum and fertilize it. *Acrosome*
- e) I relax or contract to keep the testicles at a temperature slightly below that of the body. *Scrotum*
- f) We are hormones that stimulate spermatogenesis. *Testosterone and FSH*
- g) I am a hormone that slows spermatogenesis. *Inhibin*

11. How long does it take to produce a mature spermatozoon?  
*64 to 72 days*

12. How long, on average, can a spermatozoon live in a woman's genital passages? *72 hours*

### **The Female Reproductive System (pages 202 to 209)**

13. Who am I? Who are we?

- a) I am a duct that allows the ovum to travel from the ovary to the uterus. *Fallopian tube*
- b) We produce ova (secondary oocytes). *Ovaries*
- c) I am a sensitive part made of erectile tissues. *Clitoris*
- d) I am a cylindrical organ the penis enters during sex. *Vagina*

- e) I am a structure that captures the ovum after ovulation. *The infundibulum of the Fallopian tube*
- f) We protect the entrance of the female reproductive apparatus. *Labia majora and labia minora*
- g) I am the place where the embryo and then the fetus develop. *Uterus*
- h) We produce a fluid that lubricates the vagina. *Bartholin's glands*
- i) We are hormonal glands that trigger puberty in women. *Pituitary gland and the ovaries*
- j) We are hormones produced by the ovaries. *Estrogens and progesterone*

14. Name three changes that occur in a female at puberty. *Development of the genital organs (including the ovaries and the uterus), regulation of the menstrual cycle, growth of bone and muscle (e.g. the pelvis enlarges), development of breasts, increase in libido, mood changes*

15. What hormones cause female secondary sex characteristics to appear? *Estrogens*

16. Name the functions of progesterone. *Progesterone regulates the menstrual cycle, maintains pregnancy and plays a role in lactation.*

17. Define oogenesis. *Oogenesis is the production of ova by the ovaries.*

18. Each of the following statements concerns oogenesis. One is false; which one?
- a) Oogenesis involves two types of cell division.
  - b) Oogenesis produces four reproductive cells.
  - c) At birth, a baby girl already has all her ova (secondary oocytes).
  - d) At the moment of fertilization, the oocyte finally transforms into an ovum.

*Statement b) is false. Statement c) might also be considered false because the oocytes are in their primary phase at birth.*

19. Each of the following statements concerns the ovarian and menstrual cycles. State whether they are true or false. If they are false, explain why.
- a) Menstrual flow occurs in the postovulatory phase. *False. It begins on the first day of the*

*preovulatory phase.*

- b) FSH causes follicles to mature. *True*
- c) After ovulation, the follicle becomes the corpus cavernosum. *False. It becomes the corpus luteum.*
- d) In a 30-day cycle, the postovulatory phase lasts 16 days. *False. Regardless of the length of the cycle, the postovulatory phase lasts 14 days.*
- e) Follicles produce progesterone. *False. They produce estrogens.*
- f) Progesterone and estrogens stimulate the thickening of the endometrium. *True*

20. How long after ovulation can the secondary oocyte be fertilized?  
*Approximately 24 hours*

21. Name the hormone produced by the fertilized ovum. (This hormone can be detected with a pregnancy test.) *HCG (human chorionic gonadotropin)*

