

Section 3.1 Reproductive Systems - Answer Key

- 1) What do male and female gonads produce? **They produce gametes.**
- 2) What do hormones do? **Hormones act like messengers in the body.**
- 3) When do most humans first experience the effects of reproductive hormones? **They experience them in their mid-teens.**
- 4) Define puberty. **Puberty is when hormonal signals change the body so that it can reproduce.**
- 5) When puberty begins, what does the pituitary gland start to produce? **The pituitary gland starts to produce follicle stimulating hormone (FSH).**
- 6) Where is the pituitary gland? **The pituitary gland is at the base of the brain.**
- 7) Where does FSH go after it is produced in the brain? **FSH travels through the bloodstream to the gonads (ovaries -female, testes-male).**
- 8) What does FSH signal the testes to do? **FSH signals the testes to produce sperm.**
- 9) What does FSH signal the ovaries to do? **FSH signals the ovaries to produce eggs.**
- 10) What do other cells in the testes start to produce? **They start to produce testosterone.**
- 11) What does testosterone do? **Testosterone directs the development of secondary sexual characteristics, such as deepening of the voice, the production of facial, underarm, and pubic hair, and a broadening of the shoulders.**
- 12) What happens when FSH reaches the ovaries? **When FSH reaches the ovaries, they begin maturing and releasing eggs.**

13) How many eggs are usually released each month? **Usually only one egg is released each month.**

14) What does FSH also do? **FSH also stimulates the ovaries to produce estrogen.**

15) What is estrogen responsible for? **Estrogen is responsible for the appearance of female secondary sexual characteristics, including deposits of fat in the breasts and hips and the growth of pubic and underarm hair.**

16) What is the male reproductive system designed to do? **It is designed to produce as many health sperm as possible.**

17) Where are testes located? **Testes are located outside the body in a sac of tissue called the scrotum.**

18) What is required for the development of health sperm? **A cooler temperature is required.**

19) Where are sperm cells produced? **Sperm cells are produce in small tubes in the testes called seminiferous tubules.**

20) Where are the sperm cells stored? **Sperm cells are stored beside the testes in long, coiled tubes called the epididymis.**

21) Where do sperm go after they leave the epididymis? **They travel through tubes called the vas deferens.**

22) Which two glands help sperm move? **The prostate gland and seminal vesicle help sperm move.**

23) What is the mixture of sperm cells and the thick, milky fluid called? **This mixture is called semen.**

24) What is the fluid produced by the prostate gland and seminal vesicle rich in? **The fluid is rich in sugars.**

25) What is the function of the urethra? **The urethra's function is to carry urine or semen to the outside of the body.**

26) Draw and label a diagram of a sperm cell. **See diagram on page 83**

27) How long does the entire production process of sperm take? **The entire process takes about 9-10 weeks.**

28) Where is the nucleus located in a sperm cell? **The nucleus is located in the head of the sperm.**

29) What is the purpose of the tail-like structure on a sperm cell? **It acts like a propeller to move the sperm towards the egg.**

30) Based on what you know about cells, which organelles might be found in large amounts of sperm? **Mitochondria.**

31) What is the size and shape of a woman's ovaries? **They are about 3cm in length and almond-shaped.**

32) How often do the ovaries release an egg? **One egg is released approximately every 28 days.**

33) What is the process called when an ovary releases an egg? **This process is called ovulation.**

34) The **two** ovaries usually **alternate**, or take turns, **releasing** an egg.

35) What might happen to a woman's body temperature near the time of ovulation? **The woman's body temperature might drop a little, then rise between 0.5° and 1° C.**

36) Where does the fertilized egg develop into a fetus? **It develops in the uterus.**

37) Why is the vagina sometimes referred to as the birth canal? **It is sometimes referred to as the birth canal because this is where the baby passes through, on its way to the outside world.**

38) Unlike the **male**, the female has a **separate** urethra through which **urine** leaves the body.

39) Define menstrual cycle **is the cycle in which a female mammal's body is prepared for the possible fertilization of an egg and resulting pregnancy.**

40) What do the pituitary hormones do? **They "tell" the ovaries what to do.**

41) What do the ovarian hormones do? **They "tell" the uterus what to do.**

42) What can very strenuous physical activity affect the menstrual cycle? **It can delay the onset of the menstrual cycle in puberty or in adult women, can cause the menstrual cycle to stop.**

43) What is needed to help produce estrogen? **Body fat deposits are needed to help produce estrogen.**

44) What is the name of a doctor that specializes in the human female reproductive system? **The name of a doctor that specializes in the human female reproductive system is called a gynecologist.**