

Answer Key

Name:

Genetics Review Sheet

Male, Female, Fertilization, Development

Reproduction

Define the terms:

Gamete-

Prostate Gland-

Gonads-

Penis-

Scrotum-

Semen-

Testes-

Ovary-

Epididymis-

Fallopian tube-

Vas deferens-

Uterus-

Cowper's gland-

Urethra-

Rectum-

Vagina-

Seminal Vesicle-

Cervix-

Use your notes!

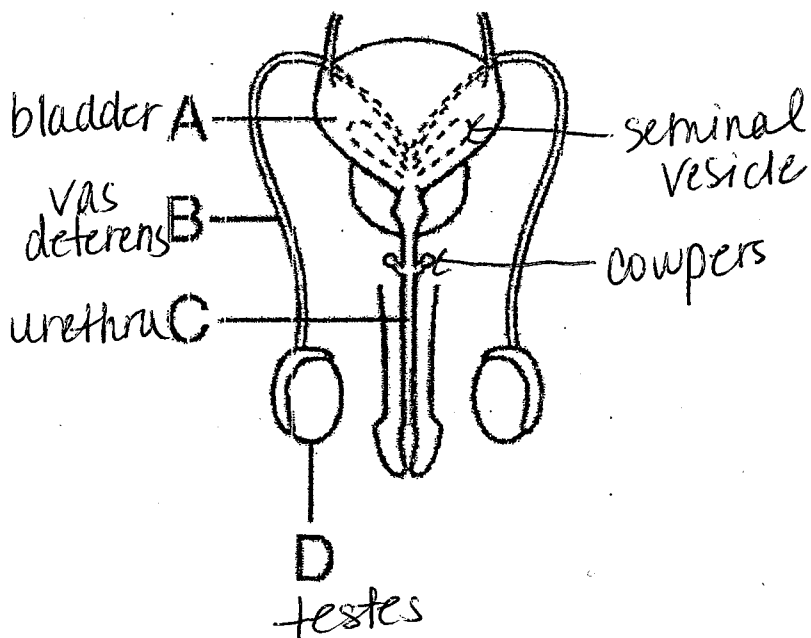
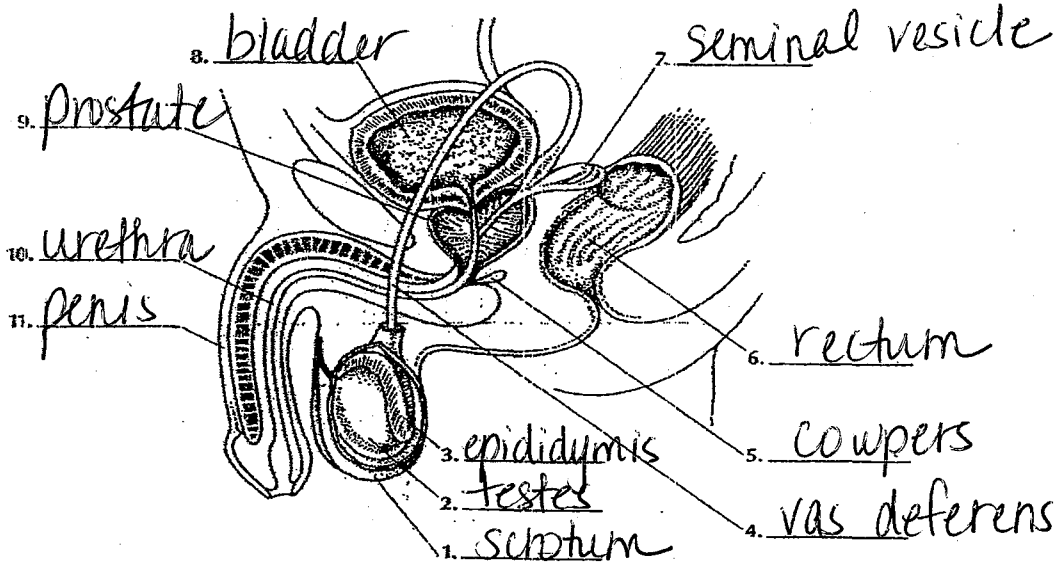
Follicle-

Ovulation-

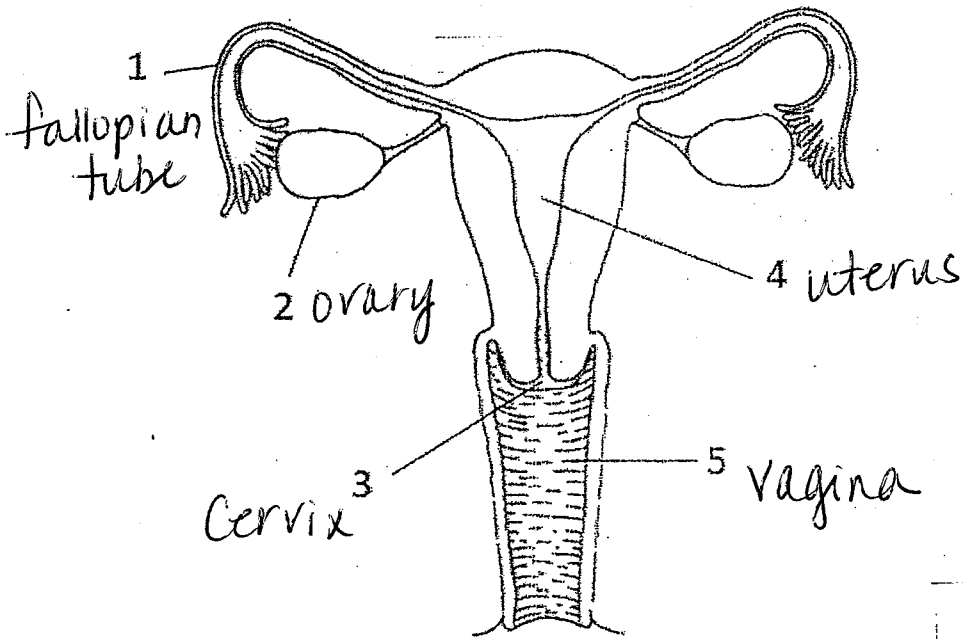
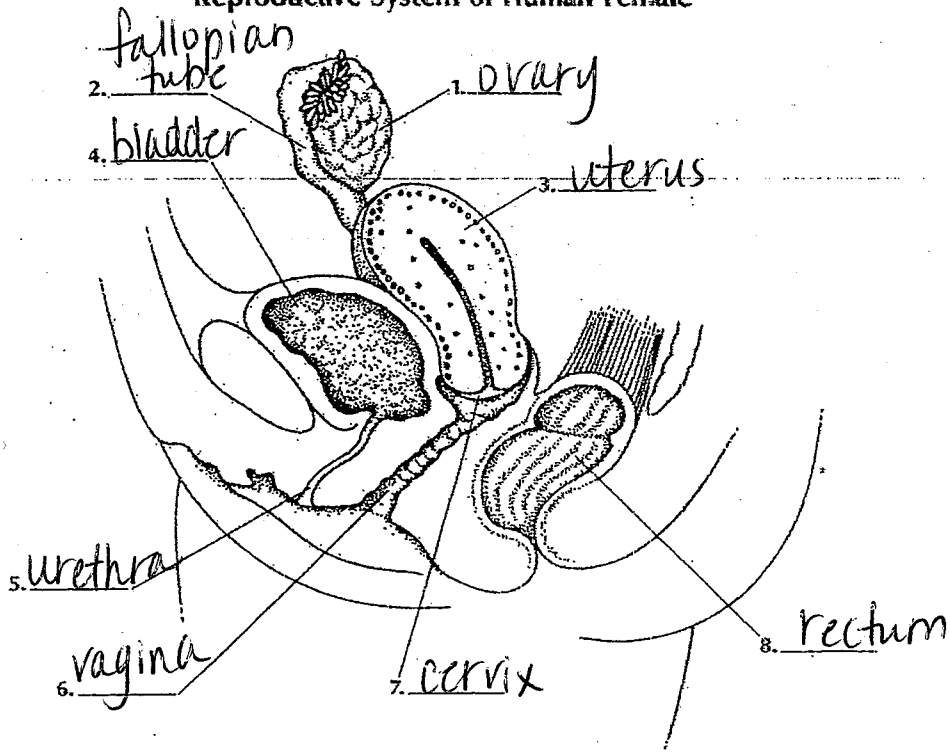
Zygote-

Label the following diagrams:

Reproductive System of Human Male



Reproductive System of Human Female



Answer the following:

Where does fertilization take place?

fallopian tube (oviduct)

How are fraternal twins formed?

2 sperm, 2 eggs

How are identical twins formed?

1 sperm, 1 egg → embryo splits

What is the role of the placenta?

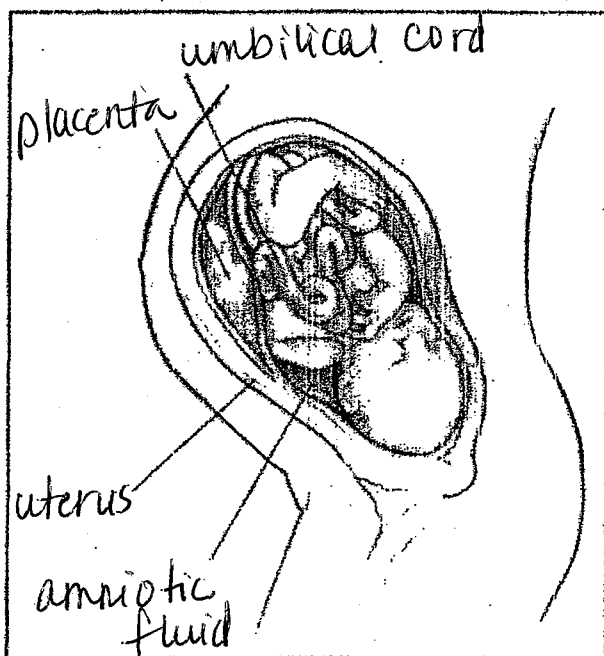
provide oxygen & nutrients to the fetus

What is the role of the amniotic sac?

cushion & protect the fetus

Where does the fetus develop? In the uterus

Label:



Chapter 17 Review

Multiple Choice

- The male reproductive system must be able to produce sperm cells and
 - fertilize egg cells before semen leaves the male's body
 - deposit the sperm cells safely inside the female's body
 - provide a safe home for the developing embryo
 - regulate the kidney and bladder functions
- The scrotum is located outside the body cavity, enabling healthy sperm to form because
 - blood does not flow to this region
 - the cells in the testes do not divide
 - its temperature is higher than that of the body
 - its temperature is lower than that of the body
- In the male, meiotic cell division (i.e., sperm cell formation) occurs within the
 - penis
 - bladder
 - testes
 - semen
- The shape of a sperm cell can best be described as
 - an oval with four limbs
 - a head with a long tail
 - a tree with branches
 - a long, twisted tunnel
- ATP is important to sperm cells because it
 - supplies the energy they need to move
 - enables the cells to replicate and divide
 - reduces their chromosome number
 - doubles their chromosome number
- How does the production of male gametes differ from that of female gametes?
 - A male is born with all of his potential gametes, whereas a mature female produces them every day.
 - A female is born with all of her potential gametes, whereas a mature male produces them every day.
 - Female gametes are produced during fertilization, whereas male gametes are produced in advance.
 - Males produce one gamete at a time, whereas females produce millions each month.
- The female reproductive system must be able to do all of the following *except*
 - produce mature egg cells
 - allow for internal fertilization
 - support internal development
 - produce new gametes every day
- The development of a female's egg cells occurs within the
 - ovaries
 - oviduct
 - cervix
 - uterus
- Fertilization of the egg cell normally occurs within the
 - ovaries
 - oviduct
 - cervix
 - uterus

11. What happens if an egg cell is not fertilized after it is released?

- 1 It attaches to the wall of the uterus anyway.
- 2 It returns to the ovary to be released the next month.
- 3 It breaks down and is passed from the body.
- 4 It remains in the oviduct until new sperm are introduced.

12. Testosterone is responsible for

- 1 maintaining the temperature of the testes
- 2 starting up the menstrual cycle
- 3 releasing an egg from the ovaries
- 4 developing the male sex organs

13. Estrogen and progesterone are examples of

- 1 organelles
- 2 tissues
- 3 hormones
- 4 enzymes

14. Secondary sex characteristics are traits that are

- 1 caused by sex hormones but are not directly related to reproduction
- 2 caused by the female sex hormones only
- 3 caused by the male sex hormones only
- 4 involved in reproduction, but only for the second child

15. Why does the lining of the uterus thicken during the first half of the menstrual cycle?

- 1 to provide a place for sperm cells to attach
- 2 to produce a mature egg cell
- 3 to prepare to nurture an embryo
- 4 to rid the body of unfertilized egg cells

16. Why does menstruation occur?

- 1 to produce an egg in one of the ovaries
- 2 to release an egg from one of the ovaries
- 3 to allow an egg to be fertilized in the uterus
- 4 to remove an unfertilized egg from the uterus

18. After the onset of menopause, women normally

- 1 release more eggs than they did before
- 2 are no longer capable of reproducing
- 3 menstruate for longer periods of time
- 4 produce more estrogen and progesterone

Thinking and Analyzing

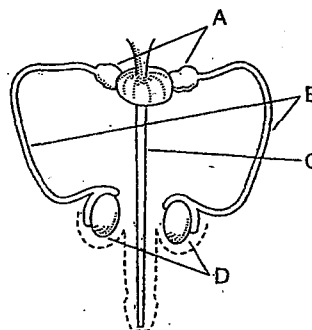
19. Describe the three functions of the human male reproductive system.

make sperm
make testosterone
deposit sperm in female

21. Explain how the structure of a mature sperm cell is related to its function. Your answer should mention the following features:

- the head of a sperm - contains nucleus
- the tail of a sperm - allows it to swim (DNA)
- the mitochondria of a sperm - make ATP

The diagram below represents the male reproductive system in humans. Refer to it to answer questions 22 and 23.



22. The male sex hormone is produced within the structure labeled

- 1 A
- 2 B
- 3 C
- 4 D

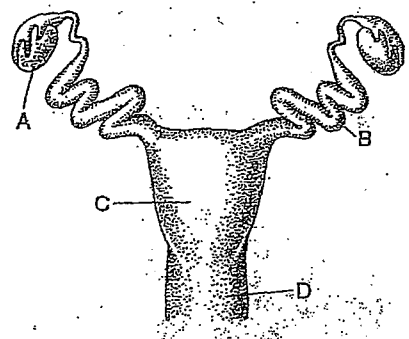
23. The male gametes are produced within the structure labeled

- 1 A
- 2 B
- 3 C
- 4 D

24. List the three main functions of the female reproductive system. Include the specific structures involved in each of these functions.

- produce eggs
- produce estrogen
- carry developing embryo

The diagram below represents the female reproductive system in humans. Refer to it to answer questions 26 and 27.



26. The mature egg cells are produced within the structure labeled

- 1 A
- 2 B
- 3 C
- 4 D

27. The fertilized egg cell normally develops within the structure labeled

- 1 A
- 2 B
- 3 C
- 4 D

28. What is the main purpose of the menstrual cycle? Why does menstruation occur?

• Prepare the body for pregnancy.
 • Menstruation occurs if the egg is not fertilized.