

Name: _



LO: Identify on diagrams, the male reproductive system and give the functions of: testes, scrotum, sperm ducts, prostate gland, urethra and penis



Testes	Produces sperms and male sex hormone, testosterone
Scrotum	Keeps the testes outside the main body so that sperms can develop properly at lower temperature
Sperm duct (vas deferens)	Carry sperms from testes to the urethra
Prostate gland	Produces alkaline, milky fluid that contains <u>nutrients</u> and <u>enzymes</u> which <u>nourish and activates the sperms</u> and helps them to swim towards the egg.
Urethra	Passes the sperms out of the body
Penis	Erectile tissue, allowing it to enter and deposit sperms in the vagina





LO: Identify on diagrams, the female reproductive system and give the functions of: ovaries, oviducts, uterus, cervix and vagina



Ovary	Produce oval eggs and female sex hormones, estrogen and progesterone
Oviduct	 Transports eggs to the uterus by <u>peristalsis</u> of the <u>muscular</u> wall and <u>sweeping action of the cilia.</u> Site of fertilisation
Uterus (womb)	Site of <u>implantation of embryo</u> and fetus development during pregnancy
Cervix	Enlarges to allow passage of the fetus during birth
Vagina	Where semen is deposited during sexual intercourse; birth canal





LO: Briefly describe the menstrual cycle with reference to the alternation of menstruation and ovulation, the natural variation in its length, and the fertile and infertile phases of the cycle with reference to the effects of progesterone and estrogen only



- •___The average menstrual cycle is 28 days.
- The menstrual cycle can range from 21 to 33 days.

Fertile period

- An egg can survive for 2 days, whereas sperms can live for 3 days.
- Ovulation usually occurs on day 14.
- Chance of getting pregnant is highest between days 11 to 16.
- The rest of the days make up the infertile period.



<u>Day 1-5</u>

- Menstruation occurs
- The first day of menstruation is the first day of the menstrual cycle
- During menstruation, the <u>uterine lining breaks down</u> and flows out through the vagina
- Low levels of estrogen and progesterone

<u>Day 6-13</u>

- Follicle-stimulating hormone (FSH) released by anterior pituitary gland <u>stimulates</u> development of primary follicle in one of the ovaries
- The developing follicle secretes hormone, <u>estrogen</u> for the <u>repair and growth of</u> <u>the uterine lining</u>.
- Estrogen level increases.

<u>Day 14</u>

- Follicle matures to become Graafian follicle
- <u>Increase in estrogen production</u> stimulates the pituitary gland to release <u>luteinizing hormone (LH)</u>
- Ovulation occurs whereby <u>a mature egg/ovum is released</u> by the Graafian follicle



Name:



<u>Day 15-28</u>

- The remaining follicle forms the corpus luteum.
- <u>Progesterone and estrogen are produced</u> by <u>the corpus luteum</u> to <u>maintain the</u> <u>thickness of the uterine lining and supplying it with blood capillaries to prepare for</u> <u>implantation of embryo.</u>
- If fertilisation does not occur, <u>the corpus luteum will degenerate and production of progesterone drops.</u> Uterine lining can no longer be maintained.
- If fertilization occurs, progesterone levels remains high.
- Cycle goes back to day 1 and repeats.







LO: Describe fertilisation and early development of the zygote simply in terms of the formation of a ball of cells which becomes implanted in the wall of the uterus

- Semen is deposited into the vagina.
- Sperms travel up through the cervix and uterus and enters the oviduct.
- When the sperms reach the egg, <u>sperms release acrosome enzymes to break</u> down the egg membrane.
- <u>Only one sperm nucleus enters the egg.</u>
- When the <u>haploid nucleus of sperm</u> fuses with the <u>haploid nucleus of egg/ ovum</u> to form a <u>diploid zygote</u>, fertilisation occurs. Fertilisation takes place in the <u>oviduct</u>.
- The zygote moves from the oviduct to the uterus. It is <u>swept by cilia and</u> <u>peristalsis of the oviduct muscles</u>.
- The zygote undergoes <u>mitosis</u> to form a ball of cells called the <u>embryo</u>, which gets <u>implanted</u> in the <u>uterine lining</u> on the wall of the uterus.



LO: State the functions of the amniotic sac and the amniotic fluid





The amniotic sac contains amniotic fluid, which allows the fetus to move within.

Amniotic fluid has the following functions:

- <u>Supports and cushions</u> fetus before birth
- Absorbs shock (if mother has a fall)
- Protects fetus from physical injury
- <u>Lubricates</u> and <u>reduces friction</u> in the vagina during birth
- Allows <u>fetus to move freely</u> during growth
- Prevents temperature fluctuations



LO: Describe the function of the placenta and umbilical cord in relation to exchange of dissolved nutrients, gases and excretory products (structural details are not required)



• The placenta produces progesterone to maintain and thicken the uterine lining.



- Site of exchange of substances between mother and fetus:
 - 1. It also allows nutrients such as <u>glucose</u>, <u>amino acids</u> and <u>oxygen</u> to <u>diffuse</u> from the mother's blood to the fetus's blood.
 - 2. Metabolic waste products such as <u>urea</u> and <u>carbon dioxide</u> <u>diffuse</u> from the fetus's blood to the mother's blood.
 - 3. <u>Antibodies</u> from the mother's blood can <u>diffuse</u> into the fetus's blood to protect the fetus from diseases.
- <u>Umbilical arteries (two)</u> transport <u>deoxygenated blood and metabolic waste</u> <u>products</u> such as urea and carbon dioxide from the <u>fetus to the placenta</u>.
- The <u>umbilical vein</u> transports <u>oxygenated blood</u>, <u>antibodies and nutrients</u> such as <u>glucose and amino acids</u> from the <u>placenta to the fetus</u>.
- The blood system of the mother and fetus <u>cannot mix</u> due to <u>possible</u> <u>agglutination</u> and the <u>difference in blood pressure</u> of the mother and the fetus may kill the fetus.

LO: Discuss the spread of human immunodeficiency virus (HIV) and methods by which it may be controlled

Modes of transmission

- Having sexual intercourse with an infected person
- By sharing needles with an infected person
- Through blood transfusion with blood from an infected person
- During pregnancy when an infected mother passes the virus to her fetus

Prevention and control

- Keep to one sex partner
- Use a condom
- Sterilise needles before use (e.g. for ear piercing or tattooing)
- Do not share instruments likely to break the skin (e.g. razors and toothbrushes)

