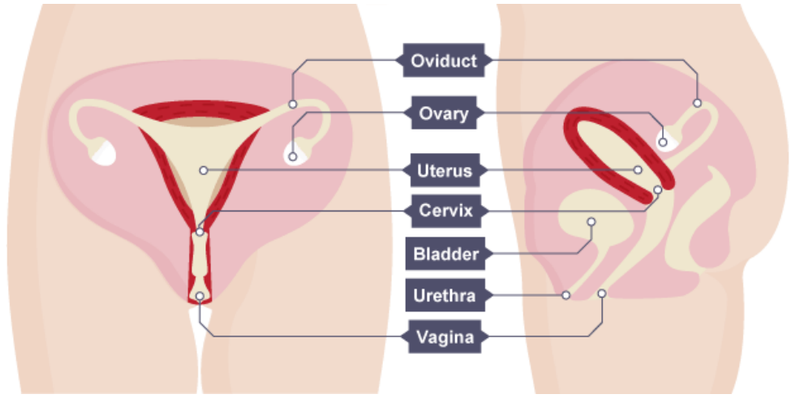
Knowledge Organiser: Year 8: - Reproduction

Section 1: Key Words

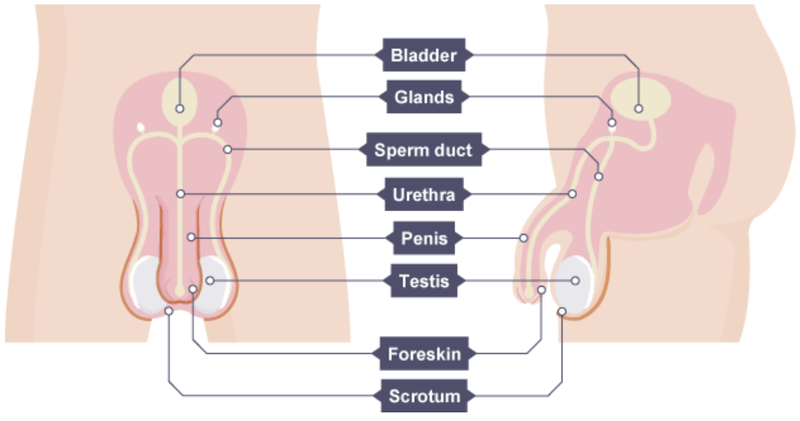
Key Word	Definition
Penis	The organ in the male reproductive system that carries urine and semen to the outside of the body.
Vagina	A muscular tube that leads from the cervix to the outside of a woman's body.
Reproductive system	The organs and tissues involved in producing offspring.
Testicle	The male reproductive organ the produces sperm in animals
Ovary	A pair of organs in the female reproductive system where ova (eggs) and hormones are produced.
Ova	The female gametes produced by ovaries in animals (singular: ovum)
Sperm	The male sex cell or gamete
Foetus	An unborn baby. Usually eight weeks from conception.
Gamete	The sex cell of an organism, in humans they are sperm (male) and ovum (female)
Uterus	Also known as a womb. This is where the fertilised egg (ovum) develops.
Oviduct	Also called a Fallopian tube or egg tube, this tube leads from an ovary to the uterus.
Ovulation	The process of releasing an egg from an ovary.
Umbilical cord	The cord that connects the foetus to the placenta. It contains blood vessels.
Placenta	The organ in the uterus of pregnant mammals that allows the transfer of nutrients and waste products between the mother and the foetus through the umbilical cord.
Fertilisation	the joining of the nucleus of two gametes
Embryo	An organism in the early stages of development
Gestation	The time during which a fertilised egg develops into a baby ready to be born.
Amniotic fluid	Liquid that protects the foetus in the uterus.
Menstruation	The loss of blood and tissue from the lining of the uterus through the vagina during the menstrual cycle.
Implantation	When embryo embeds itself in the uterus wall
Zygote	Cell formed when two gametes combine

Section 2: Labelling Male and Female Reproductive System

Female Reproductive System



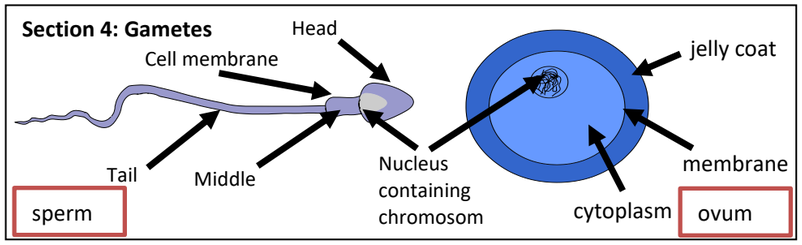
Male Reproductive System



Section 3: Roles of the parts of the male and female reproductive system

Part	Role	Male or Female
Ovary	To produce eggs	Female
Vagina	Receives the penis during sexual intercourse and allows menstrual flow to leave the woman	Female
Uterus	Place where fertilised ovum (egg) develops into an embryo (unborn baby)	Female
Cervix	Helps in controlling the flow of menstrual blood and directs the sperm into the uterus	Female
Oviduct/Fallopian tube	To carry the eggs from the ovary to the uterus	Female
Penis	Allows semen (containing sperm) to be ejaculated into the woman (also serve as an excretory organ for men)	Male
Scrotum	To protect the testes	Male
Urethra	To carry sperm out of the male body (also carries urine out in men and women)	Male and female
Testis	To produce sperm	Male
Sperm duct	To carry sperm from the testes to the penis	Male
Glands	To add fluid to the sperm	male

Section 4: Gametes



Section 5: Adaptations of Gametes

Sperm	Ovum
Has a cell membrane	Has a cell membrane
Contains genetic information in the nucleus	Contains genetic information in the nucleus
Specially strengthened head	Unable to move
Small and streamline	Large
Millions produced	Contains large food store
Contains enzymes to digest the membrane of the cell	Only a few produced
Swims with a tail	

Section 6: Menstrual Cycle

Day	Event
1-4	Lining breaks down and menstruation (bleeding) occurs
4-14	Lining of the uterus builds up
14	Ovulation (egg released)
14-28	Lining maintained

Hormone	Role
Progesterone	Maintains the lining of uterus during days 14-28
Oestrogen	Controls release of the egg

Section 7: Ovulation and Fertilisation

In the female one of the ovaries produces an egg every 28 days. This is called ovulation. During sexual intercourse sperm is ejaculated into the vagina. The sperm have to pass through the cervix and into the uterus. The uterus is acidic to help kill microbes and prevent infection. The journey is very far – the sperm will eventually reach the fallopian tube where they will meet the egg. If the sperm and egg meet the chemicals in the sperm will digest the outside of the egg and two nuclei will join. This is called fertilisation. Only one sperm will successfully fertilise an egg

Section 9: The placenta

Substance	Exchange Direction
Oxygen	Mother to foetus
Glucose	Mother to foetus
Carbon dioxide	Foetus to mother
Urea	Foetus to mother

Section 8: Pregnancy

Day	Development
0	Fertilization: sperm has joined with ovum in the oviduct
1	Fertilised egg divides into two cells
3	Four cells divide into eight cells
5-6	The embryo has developed a fluid filled space
Day 28	The embryo is 3mm long. As small heart pumps blood along an umbilical cord to the placenta
8 weeks	The embryo develops into a foetus. It has eyelids and small fingers and toes

Section 10: Birth

Stage 1	The cervix dilates (widens) to 10cm. it is now fully dilated and the baby's head can come out
Stage 2	The baby is pushed out
Stage 3	The placenta is pushed out

Section 11: Causes of infertility

Problems with hormone regulation	Failure to produce eggs, failure to regulate menstrual cycle
Scarred ovaries	Prevents the release of ovum
Premature menstruation	Production of ovum stops
Untreated STI	Damage to reproductive system preventing ovum and sperm meeting
Exposure to radiation/chemicals	Deformed sperm and/or low sperm count
Malformed sperm	Sperm cannot swim properly
~~Low sperm count~~	