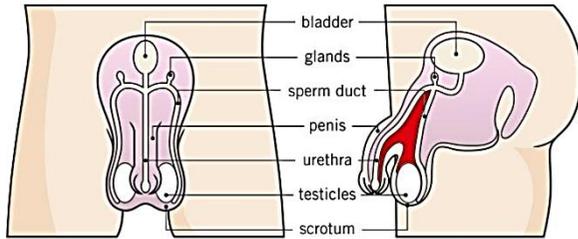


Knowledge organiser – 7.2 Human reproduction

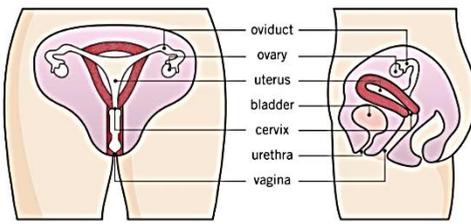
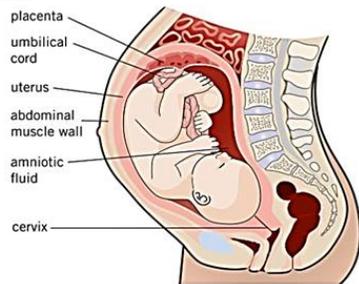
Changes during puberty		
Male	Both	Girls
Voice deepens	Body odour	Breast develop
Testicles and penis develop	Emotional changes	Ovaries start to release eggs
Sperm production starts	Pubic hair & underarm hair grows	Whole body gets curvier
Shoulders widen	Growth spurt	Periods start
Facial and chest hair grows	Sweat glands develop	Hips widen



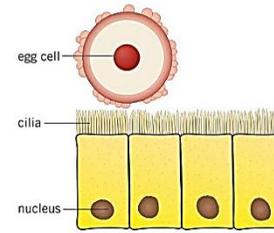
Part	Function
Glands	Produce nutrients for sperm (release semen).
Sperm duct	Tube that carries sperm from the testicles to the penis.
Penis	Carries sperm or urine out of the male's body. It swells with blood and stiffen (erection).
Urethra	Tube that carries urine or sperm out of the body.
Testicles / testes	Where sperm and testosterone are produced.
Scrotum	Skin that contains the testes.

Where does a baby grow?

The blood of the mother and fetus flow closely inside the placenta. Oxygen and nutrients diffuse from the mother to the fetus. Waste substances (carbon dioxide) diffuse from the fetus to the mother.



Part	Function
Oviduct	(fallopian tubes) carry an egg to the uterus.
Ovaries	Contains egg cells.
Uterus	(womb) where the baby develops.
Cervix	Ring of muscle at the entrance to the uterus. Keeps the baby in place.
Vagina	Receives sperm during sexual intercourse. Where the male's penis enters the female body.



▲ Cilia in the oviduct waft the egg towards the uterus.

How do sperm cells reach the egg cell?

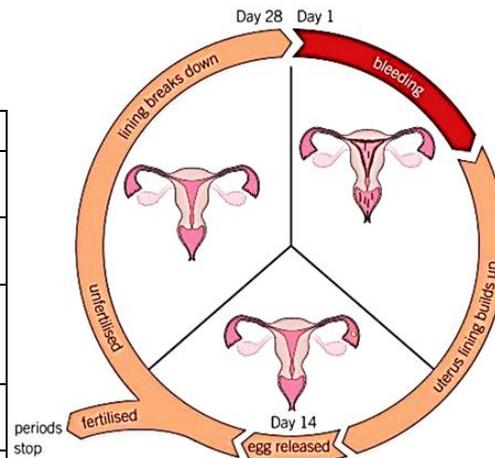
Sperm swims from vagina, through the cervix, into the uterus. Many will die. If it meets an egg, fertilisation can occur. The embryo is then implanted into the uterus lining.

Why do some couples have difficulty getting pregnant?

- Low sperm count / sperm cannot swim properly
- Egg cells are not released monthly / blocked oviduct.

MENSTRUAL CYCLE

- Each period lasts between 3-7 days.
- The cycle is 28 days and is controlled by hormones.
- Ovulation occurs on day 14.
- A woman does not have periods during pregnancy.



If the egg does not meet a sperm, the lining breaks down and the cycle starts again from day 1.

What happens during birth?

- At around 40 weeks, the cervix relaxes and uterus wall muscles contract. This pushes the baby out.
- The umbilical cord needs to be cut.
- The placenta is then pushed out.

CONTRACEPTION

- A condom is a thin layer of latex rubber that fits over an erect penis. It is very effective and protects against STIs.
- The 'pill' is a tablet take a female; it contains hormones. If taken correctly, it is very effective but doesn't protect against STIs.

KEYWORD	DEFINITION
Adolescence	The period of time when a child changes into an adult. It involves emotional and physical changes.
Amniotic fluid	Liquid that surrounds and protects the fetus (shock absorber).
Cilia	Tiny hair on the surface of cells.
Condoms	A barrier method of contraception that prevents semen being released into the vagina.
Contraception	A method of preventing pregnancy.
Contraceptive pill	A chemical method of contraception, which prevents ovulation.
Egg cells	The female sex cell.
Ejaculation	When semen is released from the penis.
Embryo	A ball of cells that forms when the fertilised egg divides.
Fertilisation	Joining of a nucleus from a male and female sex cell.
Fetus	The developing baby during pregnancy (from 8 weeks after fertilisation).
Gametes	(sex cells) The male gamete is a sperm and the female gamete is an egg. Join together to create a new organism.
Gestation	Process where the baby develops during pregnancy.
Menstrual cycle/period	The monthly cycle during which the uterus lining thickens and breaks down.
Menstruation	Loss of the lining of the uterus during the menstrual cycle.
Ovulation	Release of an egg cell during the menstrual cycle.
Placenta	The organ that allows transfer of nutrients and waste products between mother and fetus. It also acts as a barrier, stopping infections and harmful substances reaching the fetus.
Puberty	The physical changes that take place during adolescence.
Reproductive system	All the male and female organs involved in reproduction. The organ systems that produce sperm and egg, also where the fetus develops.
Sex hormones	Hormones that are involved in the reproductive system (e.g. testosterone and oestrogen)
Sexual intercourse	The process where the penis releases semen into the vagina.
Sperm cells	Male sex cell containing male genetic material.
Umbilical cord	Connects fetus to placenta.