

Subject: Biology
Year: 8
Term: 3
Topic: B5 Reproduction

Lesson Sequence

1. Sexual and Asexual Reproduction
2. Sexual Reproduction in Plants
3. Pollination
4. Seed Dispersal
5. The Human Reproductive System
6. Gametes and Fertilisation
7. Menstruation and Puberty
8. Gestation
9. Foetal Development
10. Birth

Key Assessments

EA Exam 2

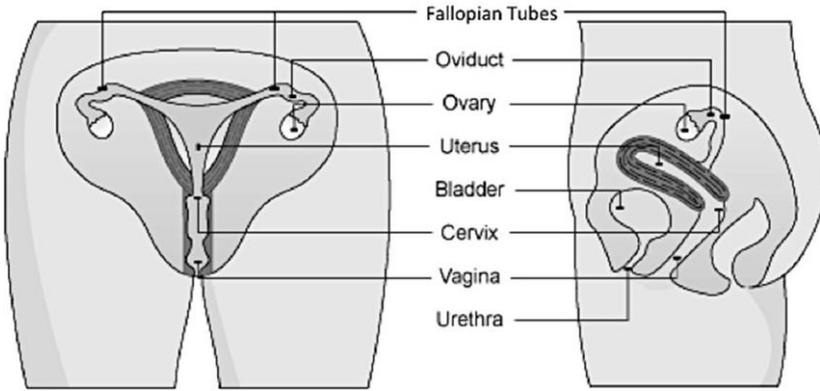
Core Texts

Smart Science Textbook
BBC Bitesize KS3 Science

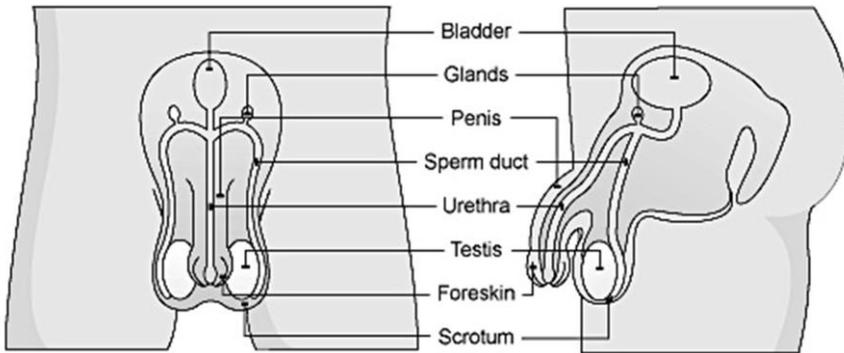
Key Words

Reproduction	The process of making new individuals (offspring). Can be sexual or asexual.	Implantation	When a fertilised egg attaches (implants) to the lining of the uterus.
Sexual Reproduction	Gametes from two parents fuse during fertilisation to form a zygote. This will develop into an embryo that will be genetically different to both parents.	Follicle	The structure that forms an egg inside an ovary.
Asexual Reproduction	One parent cell divides by binary fission to produce an identical copy of itself.	Ovulation	The process where an ovary releases an egg.
Offspring	A scientific name for the new individuals created during reproduction (E.g. children, seeds, bacteria).	Menstruation	A monthly process in which the lining of the uterus is lost if a woman is not pregnant.
Gametes	Specialised sex cells from males (sperm in humans, pollen in plants) and females (egg cells in humans, ovum in plants).	Umbilical Cord	A tube connecting a foetus to the placenta.
Zygote	A fertilised egg cell, formed after fertilisation when two zygotes fuse together.	Placenta	A structure that passes food, waste and gases between mother and foetus.
Fertilisation	The fusing of a male and a female gamete to form a zygote. May refer to animal or plant reproduction.	Amnion	A water filled bag that protects the foetus inside the mother.
Sexual Intercourse	The process where a male and a female join together, so that sperm is passed into the female for fertilisation.	Embryo	An early stage of pregnancy, when a zygote has divided and is larger than 32 cells.
Fertile	An individual that is able to produce offspring.	Foetus	A developing baby, a stage reached after the 8th week of pregnancy (previously known as an embryo).
Infertile	An individual that is unable to produce offspring. May occur in men or women (or plants) for many different reasons.	Contraction	When muscles in the uterus squeeze and relax during childbirth (labour).
Germination	A seed starting to grow into a new plant.	Menstrual Cycle	A monthly cycle involving the female reproductive organs.
Meristem	Part of a growing plant where cell division and growth occurs. May be root or shoot meristems.	Hormones	Chemical messengers that are made in one part of the body and travel through the blood to other body parts, which they affect.
Auxin	A plant hormone that builds up in plant cells in shaded areas of the plant. It causes cells to get longer and swell.	Contraception	The prevention of pregnancy by interfering with the process of ovulation.
Mitosis	The type of cell division that occurs at the meristem of a plant to produce identical cells.	Puberty	Hormonal changes in the human body. When the body develops in a way that allows reproduction.
Dendrochronology	The study of tree rings, it can be used to determine the age of a tree.	Oestrogen	Female hormone produced during puberty. It causes the uterus lining to grow and the development of breasts, body fat and body hair.
		Testosterone	Male hormone produced during puberty. It causes body hair, increased muscle strength and the voice to deepen.

The Human Reproductive system (Female)

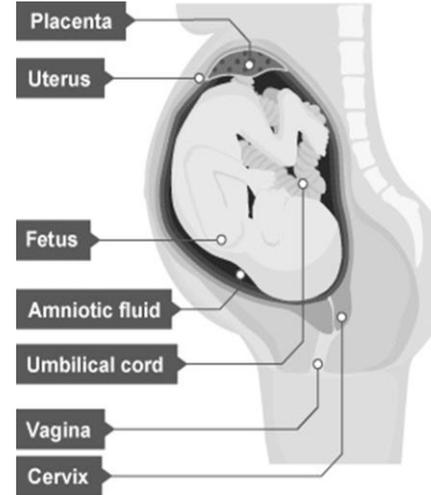


The Human Reproductive system (Male)



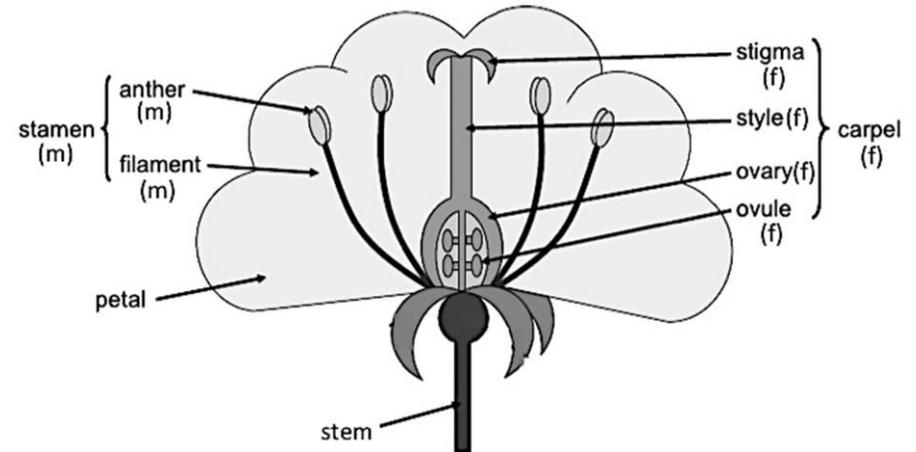
- The male gamete is called sperm, it is produced in the testes (Testes is plural, testis is singular).
- The penis enters the vagina during sexual intercourse and delivers millions of sperm cells into the woman's body. Sperm cells swim through the cervix and into the uterus.
- The female gamete is an egg; it is produced in the ovaries in a monthly process called ovulation. Ovaries contain thousands of egg follicles.
- Each month, one egg cell follicle matures and is released from one of the ovaries. This egg cell travels down the fallopian tube towards the uterus.
- If a sperm and an egg cell meet, fertilisation is said to have occurred and a zygote is formed. Fertilisation occurs in the fallopian tubes.
- The zygote divides several times to form an embryo. The embryo travels further down the fallopian tube and implants into the lining of the uterus. This is where the embryo will develop into a foetus.
- An egg cell is released from an ovary each month, if fertilisation does not occur then lining of the uterus breaks down and passes out of the vagina in a process called menstruation.

Pregnancy



- The length of a pregnancy is different for each animal species. A human pregnancy lasts approximately 9 months.
- Gametes → Fertilisation → Zygote → Embryo → Implantation → Blastula → Foetus → Birth (labour) → Baby
- The umbilical cord connects a developing foetus to its mother via the placenta. After birth the umbilical cord is cut, forming a 'belly button' or navel.
- Blood passes through the placenta and umbilical cord to the foetus. The mother passes sugar, amino acids and oxygen to the foetus and urea (waste) and carbon dioxide are passed back from the foetus to the mother.
- The foetus is in a fluid filled bag, called the amnion. It protects the foetus from being damaged by knocks and bumps whilst in the womb (uterus).

Plant Reproduction



- A single flower contains both male sex organs (stamen) and female sex organs (carpels).
- Male plant gametes (pollen) are located on the anther. They cannot move on their own and must be transported by insects or the wind.
- The stigma, the top part of the female sex organ, is sticky and designed to catch pollen grains.
- When a male pollen grain reaches the stigma pollination is said to have occurred.
- The pollen grain germinates and digs a tube (pollen tube) through the style down to the ovule (the female gamete).
- The male gamete (pollen) joins with the female gamete (ovule) in the ovary and fertilisation occurs.