

Topic Overview

Reproduction and Fertilisation



KNOW IT

- [I know the organs that make up the human reproductive system](#)
- [I know that the menstrual cycle lasts approximately 28 days](#)
- [I know that the menstrual cycle prepares the body for pregnancy and stops if the body becomes pregnant](#)
- [I know what hormones are involved in the menstrual cycle](#)
- [I can identify key events on a diagram of the menstrual cycle](#)
- [I can explain how hormones control the menstrual cycle](#)
- [I can explain why fertilisation is more or less likely to occur at different stages of the menstrual cycle](#)
- [I can describe how eggs are fertilised](#)
- [I know that if an egg is fertilised it implants into the uterus lining](#)
- [I can use a diagram to show the stages in development of a foetus from the production of the sex cells to the birth](#)
- [I can describe causes of low fertility in male and female reproductive systems](#)
- [I can make deductions about how contraception and fertility treatments work](#)
- [I can describe how substances are passed from the mother to the foetus and I can predict the effect of cigarettes, alcohol or drugs on the developing foetus](#)



LINK IT

- You will have learnt how to use scientific language to write scientific explanations
- You will have learnt that animals have offspring and some of the life cycle processes including reproduction
- You will have learnt about some aspects of menstruation in PSHE



PROVE IT

- Analysed and annotated graphs
- Written a description of fertilisation
- End of cycle test



SAY IT

VOCABULARY	DEFINITION
Gamete	The male sex cell is a sperm, the female an egg
Fertilisation	Joining of a nucleus from a male and female sex cell
Uterus/womb	Where a baby develops in a pregnant woman
Ovary	Organ which contains eggs
Testicle	Organ where sperm are produced
Oviduct	Carries an egg from the ovary to the uterus and is where fertilisation occurs
Ovulation	Release of an egg cell during the menstrual cycle,
Menstruation	Loss of the lining of the uterus during the cycle (period)
Penis	Organ which carries sperm out of the male's body
Vagina	Where the penis enters the body and sperm is received
Foetus	The developing baby during pregnancy
Placenta	Organ that provides the foetus with oxygen and nutrients and removes waste substances
Umbilical cord	Connects the foetus to the placenta
Amniotic fluid	Liquid that surrounds and protects the foetus

17. Human Reproduction



Bitesize



Gamete: The male gamete (sex cell) in animals is a sperm, the female an egg.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Ovary: Organ which contains eggs.

Testicle: Organ where sperm are produced.

Oviduct, or fallopian tube: Carries an egg from the ovary to the uterus and is where fertilisation occurs.

Uterus, or womb: Where a baby develops in a pregnant woman.

Ovulation: Release of an egg cell during the menstrual cycle, which may be met by a sperm.

Menstruation: Loss of the lining of the uterus during the menstrual cycle.

Reproductive system: All the male and female organs involved in reproduction.

Penis: Organ which carries sperm out of the male's body.

Vagina: Where the penis enters the female's body and sperm is received.

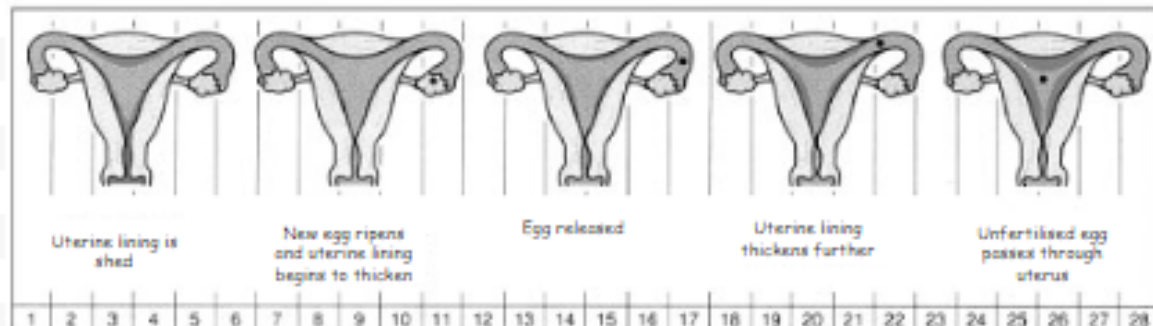
Foetus: The developing baby during pregnancy.

Gestation: Process where the baby develops during pregnancy.

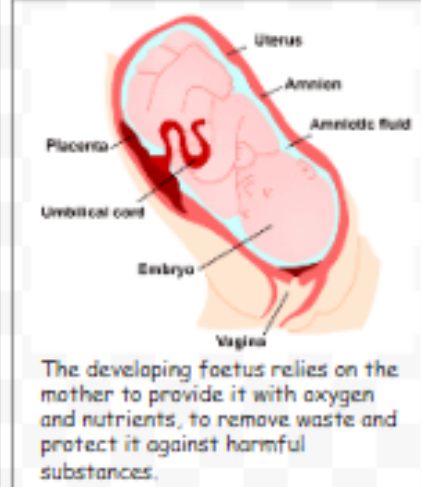
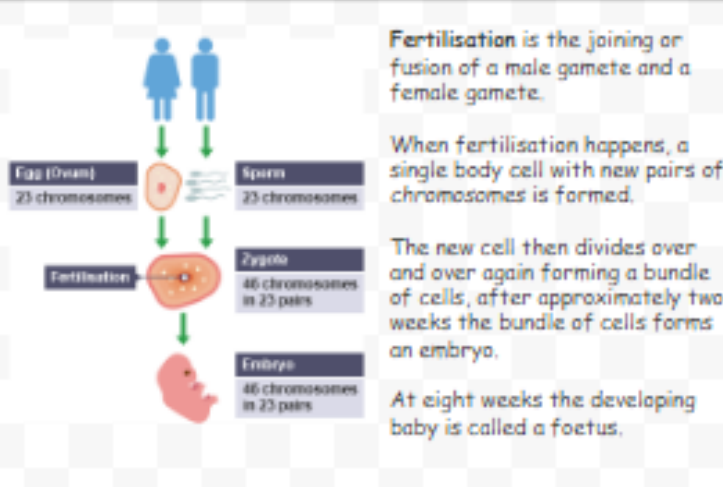
Placenta: Organ that provides the foetus with oxygen and nutrients and removes waste substances.

Amniotic fluid: Liquid that surrounds and protects the foetus.

Umbilical cord: Connects the foetus to the placenta.



The menstrual cycle lasts 28 days and prepares the female for pregnancy, it stops if the egg is fertilised by a sperm. If an egg is fertilised it settles into the uterus lining.



Securing

To be securing in this topic you need to be able to:

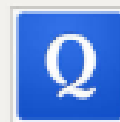
- Explain if substance are passed from the mother to foetus or not.
- Use a diagram to show stages in development from sex cells to birth.
- Describe causes of low fertility.
- Identify key events of the menstrual cycle

Mastering

To be mastering in this topic you need to be able to:

- Explain why pregnancy is more or less likely at certain stages of the menstrual cycle.
- Suggest how contraception and fertility treatment works.
- Predict the effect of cigarettes, alcohol or drugs on the developing foetus.

4. Plant Reproduction



Bitesize



YouTube



Pollen: Contains the plant's male sex cells, found on the stamens.

Ovules: Female sex cells in plants found in the ovary.

Pollination: Transfer of pollen from the male part of the flower to the female part of the flower on the same or another plant.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Seed: Structure that contains the embryo of a new plant.

Fruit: Structure that the ovary becomes after fertilisation, which contains seeds.

Carpel: The female part of the flower, made up of the stigma where the pollen lands, style and ovary.

Securing

To be securing in this topic you need to be able to:

- Describe the main steps that take place when a plant reproduces successfully.
- Identify parts of the flower and link their structure to their function.
- Suggest how a plant carried out seed dispersal based on the features of its fruit or seed.
- Explain why seed dispersal is important to survival of the parent plant and its offspring.

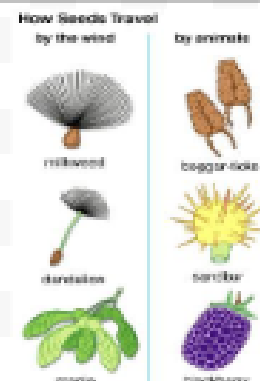
Mastering

To be mastering in this topic you need to be able to:

- Describe similarities and differences between the structures of wind pollinated and insect pollinated plants.
- Suggest how plant breeders use knowledge of pollination to carry out selective breeding.
- Develop an argument why a particular plant structure increases the likelihood of successful production of offspring.

		Structure	Function
		Sepals	Protect the unopened flower
		Petals	May be brightly coloured to attract insects
		Stamens	The male parts of the flower (each consists of an anther held up on a filament)
		Anthers	Produce male sex cells (pollen grains)
		Stigma	The top of the female part of the flower which collects pollen grains
		Ovary	Produces the female sex cells (contained in the ovules)
		Nectary	Produce a sugary solution called nectar, which attracts insects

		Insect-pollinated	Wind-pollinated
Feature			
Petals		Large and brightly coloured – to attract insects	Small, often dull green or brown – no need to attract insects
Scent and nectar		Usually scented and with nectar – to attract insects	No scent or nectar – no need to attract insects
Number of pollen grains		Moderate – insects transfer pollen grains efficiently	Large amounts – most pollen grains are not transferred to another flower
Pollen grains		Sticky or spiky – sticks to insects well	Smooth and light – easily carried by the wind without clumping together
Anthers		Inside flower, stiff and firmly attached – to brush against insects	Outside flower, loose on long filaments – to release pollen grains easily
Stigma		Inside flower, sticky – pollen grains stick to it when an insect brushes past	Outside flower, feathery – form a network to catch drifting pollen grains



Some seeds are adapted to allow them to easily travel in the wind. Other seeds use animals for their dispersal, some have hooks to stick to fur, others are eaten as part of the fruit and then passed out of the animal.