

SUBJECT: Science

UNIT: Y7 Human Reproduction



While you were away.

Lesson 1: Adolescence

1. What is adolescence?
2. What is puberty?
3. Name the hormones involved in puberty.
4. Describe some changes that occur during puberty.

Lesson 2: Reproductive system

1. What is the role of the reproductive system?
2. Name the male and female sex cells
3. Name two parts of the male reproductive system
4. Name two parts of the female reproductive system

Lesson 3: Menstrual cycle

1. How long does the menstrual cycle last?
2. What happens between day 1-5?
3. When does ovulation occur?
4. What happens if an egg is not fertilised?

Lesson 4: Fertilisation and implantation

1. What happens during sexual intercourse?
2. Where does the sperm cell meet the egg cell?
3. What is fertilisation?
4. What is an embryo?

Lesson 5: Developing foetus

1. How many weeks is a human pregnancy?
2. How many weeks is the foetus fully formed?

Lesson 6: Contraception

1. What is contraception?
2. Give one example of a hormonal contraceptive.
3. Give one example of a non-hormonal contraceptive.

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Key Vocabulary

Embryo

An unborn offspring in the early stages of development

Hormone

A chemical that is produced naturally within the body and is released into the bloodstream to send message to other parts of the body

Egg cell

The female sex cell, produced by the ovaries

Sperm cell

The male sex cell, produced by the testes

Menstruation

The process of releasing blood and tissue from the lining of the uterus as part of the menstrual cycle

The menstrual cycle

The menstrual cycle is a process that occurs in the female reproductive system. The average length of the menstrual cycle is 28 days.

Day 1 -5: The uterus lining breaks down and passes out of the vagina. This is known as menstruation or 'having a period'.

Day 5 – 14: The uterus lining starts to build up again. An egg cell starts to mature in the ovary.

Day 14: An egg cell is released from the ovary. This is called ovulation.

Day 14 – 28: the uterus lining remains thick.

During this time, the egg may be fertilised by a sperm cell.

Human Reproductive System.

Male and female reproductive systems allow human reproduction. Fertilisation occurs when the male and female sex cells - sperm and egg, join to form an embryo. An embryo develops into an unborn baby in the uterus during pregnancy.

Adolescence & Puberty

Puberty is a period of time in a person's life when they become sexually mature. Puberty is the physical changes that affect males and females differently. Adolescence is the physical and emotional changes that occur. These changes happen due to the hormones oestrogen and testosterone.

Changes that affect both males and females: growth of pubic hair, growth of underarm hair, growth spurts, acne or occasional pimples, body odour becomes stronger, and mood

Fertilisation

1. During sexual intercourse, semen containing sperm is ejaculated from the penis into the vagina
2. Sperm cells travel through the female reproductive system to meet an egg cell in the oviduct
3. One sperm cell penetrates the egg cell membrane. The nucleus of the sperm cell fuses with the nucleus of the egg cell. This is called fertilisation
4. The resultant zygote divides several times to form a ball of cells called an embryo which implants in the uterus lining

Developing foetus

4-6 The embryo is about 6mm long. The heart and other organs begin to form

8-9 Arms begin to grow and toes and eyelids begin to form

12 The foetus is now fully formed and all the organs, muscles and bones are in place. It is now around 60mm long and starts to move around

20 – 24 The foetus is around 250mm long. It has begun to kick and can hear sounds outside the uterus.

28 The baby has hair and can open its eyes

37 – 40 The baby is fully developed and ready to be born. It is now around 520mm long. It rotates so its head is pointing downwards

Ambitious Vocabulary

Egg, Sperm, Fertilisation

Male reproductive system

Penis – allows urines and semen to pass out of the male's body

Testis – Produces sperm cells and releases the male sex hormone testosterone

Urethra – A tube that carries urine and semen. It has a ring of muscle to keep these fluids separate

Scrotum – A bag of skin that contains the testes

Gland – produces fluids that mix with the sperm to make semen

Sperm duct – Carries sperm cells from the tests to the urethra

Female reproductive system

Vagina – a muscular ring that leads from the cervix to the outside of the body

Cervix – A ring of muscle at the lower end of the uterus. This keeps the baby in place during pregnancy

Ovary – Contains hundreds of undeveloped egg cells. Every month, an egg matures and is released

Uterus – where the baby develops during pregnancy

Oviduct – carries egg cells from the ovaries to the uterus

Uterus lining – a blood-rich layer of tissue in which an embryo implants.

This tissue is lost each month during menstruation

Contraception

Contraception is a method or technique used to prevent pregnancy as a result of sexual intercourse. Hormonal contraceptives contain hormones that are similar to those normally produced as part of the menstrual cycle. Examples of hormonal contraceptives include the contraceptive pill, implant and injection. Non-hormonal contraceptives do not involve the use of hormones. These include barrier methods, such as condoms and diaphragms, or surgical methods like sterilisation.