

Section 1 - Adolescence

Changes that occur during adolescence are caused by sex hormones. These can be physical or emotional. E.g.:

- Public hair and underarm hair grows
- Body smell becomes stronger
- Emotional changes & Growth spurts

Physical changes are known as **puberty**.

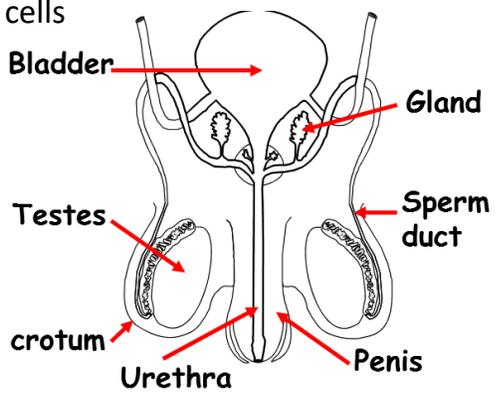
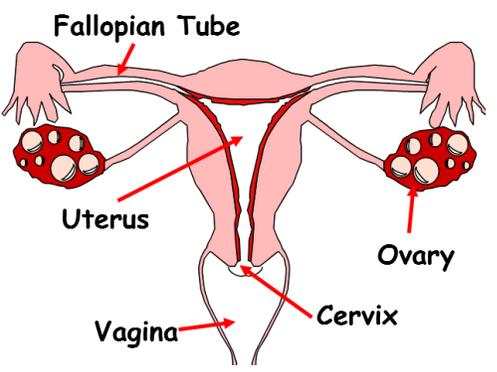
**Boys**

- Testes and penis get bigger
- Testes start to produce sperm
- Hair grows on face and chest.
- Shoulders widen

**Girls**

- Breasts develop
- Ovaries start to release egg cells
- Periods start
- Hips widen

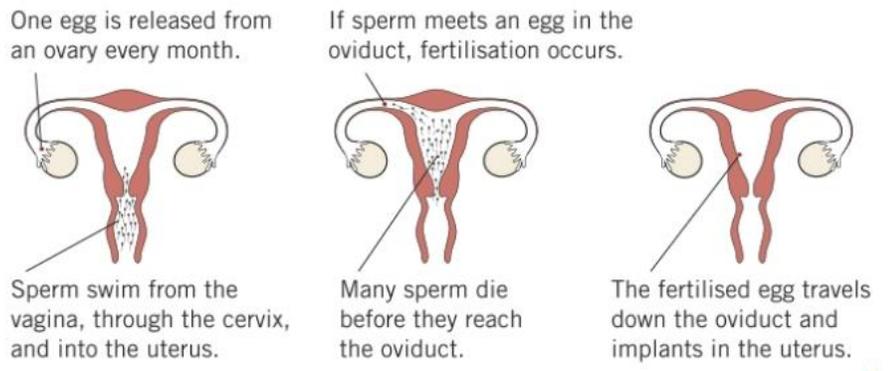
Section 2 - Reproductive systems



Section 3 - Fertilisation

**Fertilisation** is when the male and female **gametes** combine. In humans this is the **sperm** and **egg**.

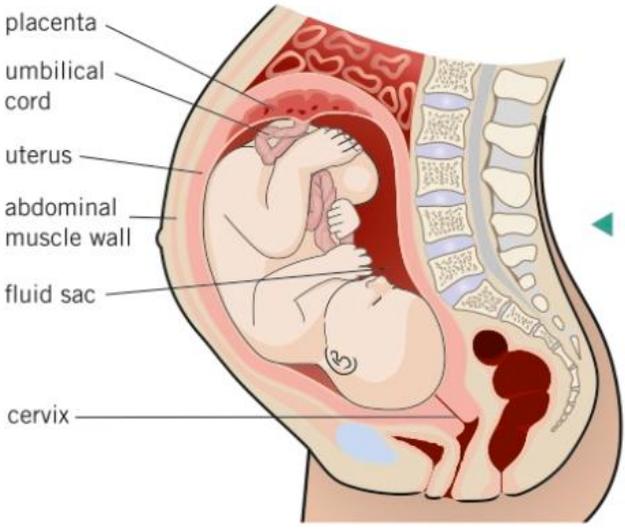
When a male becomes sexually aroused his penis becomes erect. A women's vagina will become moist. This allows the penis to enter the vagina. The male **ejaculates** and the sperm travels up the vagina. If a sperm successfully reaches the egg fertilisation takes place.



Section 4 - Development of the foetus

After fertilisation the egg divides to become a ball of cells called an **embryo**. The embryo implants into the uterus lining; this is called **implantation**.

In humans **gestation** lasts 9 months. During gestation the foetus grows within a **fluid sac** in the uterus. It is attached to the mothers **placenta** by an **umbilical cord** and receives oxygen and nutrients through this.



Section 5 - Birth

At the end of gestation the baby is born by passing through the vagina. The fluid sac breaks, the uterus contracts, the cervix relaxes and the vagina dilates allowing the baby to pass through. The baby is still attached to the placenta by the umbilical cord. This is cut and the mother then pushes the placenta out.

Section 6 - The menstrual cycle

The menstrual cycle takes place every 28 days and only occurs in women. An egg is released on the 14<sup>th</sup> day this is called **ovulation**. If the egg is fertilised the uterus lining continues to thicken and remains throughout gestation. If the egg is not fertilised the uterus lining breaks down and passes through the vagina; this is called a **period**. The cycle then restarts.

