

Puberty is the stage in life when a child's body develops into an adult's body. The changes take place gradually, usually between the ages of 10 and 16.

Changes occur at puberty because of hormones:

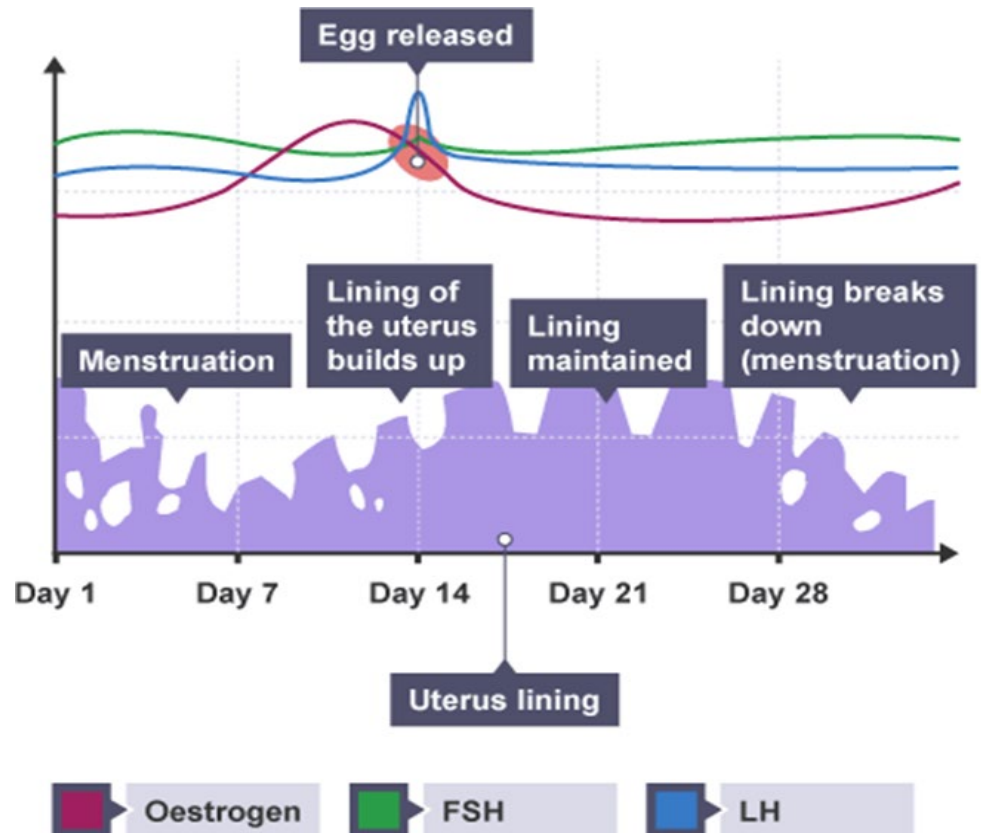
- **testosterone** - produced by the testes - controls the development of male secondary sexual characteristics (sperm start to produce sperm, facial hair, voice gets deeper).
- **oestrogen** - produced by the ovaries - controls the development of female secondary sexual characteristics (ovaries start to release eggs, breasts develop, hips get wider).

The Menstrual Cycle

The menstrual cycle is a recurring process which takes around 28 days.

During the process, the lining of the uterus is prepared for pregnancy. If implantation of the fertilised egg into the uterus lining does not happen, the lining is then shed. This is known as **menstruation**.

Day (approx)	Event
1	Bleeding from the vagina begins. This is caused by the loss of the lining of the uterus. This is called menstruation or having a period.
5	Blood loss stops. The lining of the uterus begins to re-grow and an ovum starts to mature in one of the ovaries.
14	Ovulation occurs. The ovum(egg) is released from the ovary and travels through the oviduct towards the uterus.
28	If the ovum does not join with a sperm cell in the oviduct, the lining of the uterus begins to break down again and the cycle repeats.




Year 9 Knowledge organiser – Hormones and Fertility

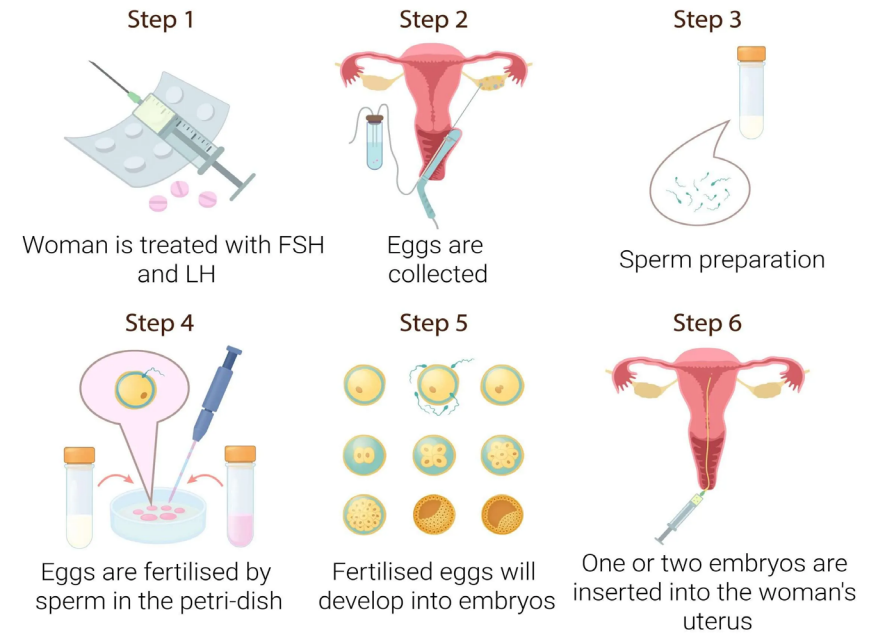
Fertilisation happens if the ovum meets and joins with a sperm cell in the oviduct. The fertilised ovum attaches to the lining of the uterus. During pregnancy, the lining of the uterus does not break down and menstruation does not happen.

Hormones involved in the menstrual cycle:

- follicle stimulating hormone (FSH) causes the maturation of an egg in the ovary
- luteinising hormone (LH) stimulates the release of the egg
- oestrogen is involved in repairing and thickening the uterus lining, progesterone maintains it.

STI	Organism	Symptoms	Long term effect
Chlamydia	bacteria	Discharge	Infertility Ectopic pregnancy
Gonorrhoea		Pain when Urinating Swollen testicles Pelvic Pain	
HIV	Virus	flu like illness a few weeks after infection, secondary infections	Can be life shortening if not treated
Genital herpes	virus	Stinging, itching in infected area, and small blisters forming	No long-term effect
Genital warts	virus	Bumps or warts in genital area	No long-term effect
Pubic lice 	Parasite	Itching, bluish spots, lice and eggs	No long-term effect

Stages of IVF



Human fertility is controlled by hormones, so fertility can be controlled using hormonal forms of contraception.

The oral contraceptive, which is known as the pill, contains oestrogen or progesterone. These hormones inhibit the production of FSH, so eggs cannot mature. Contraceptive injections, implants or skin patches contain slow-release progesterone to inhibit the maturation and release of eggs.

Fertility can also be controlled without hormones. These methods include