

## Reproduction

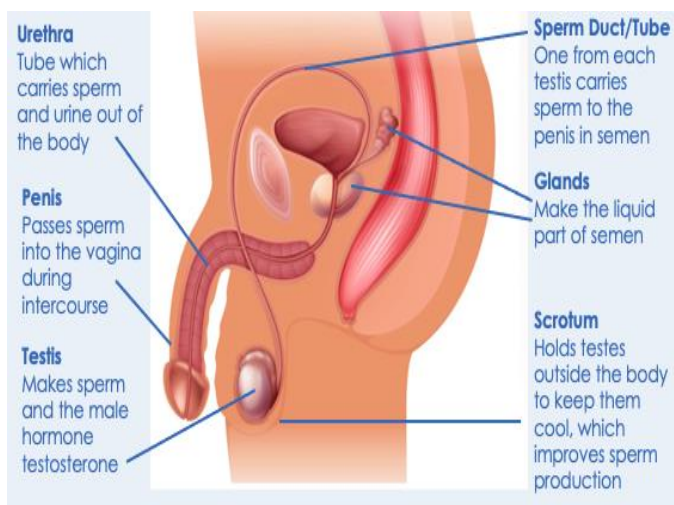
1. Cells and organisms reproduce to make new cells or organisms.
2. Reproduction can be sexual or asexual.
3. **Asexual reproduction** is when an organism makes an exact copy of itself to make a new individual.
4. Examples of organisms that reproduce asexually include: unicellular organisms, bacteria, fungi and plants.
5. **Sexual reproduction** is when sex cells (**gametes**) from two individuals fuse to form a new individual.
6. Animals and plants reproduce sexually.
7. The male gametes in animals are **sperm** cells.
8. The female gametes in animals are **egg** cells.

## Puberty

9. The body goes through changes during **puberty** or adolescence (e.g. body and pubic hair grow).
10. This prepares the body for sexual maturity and the production of gametes.
11. These changes are controlled by sex **hormones**.
12. A hormone is a chemical messenger transported in the blood

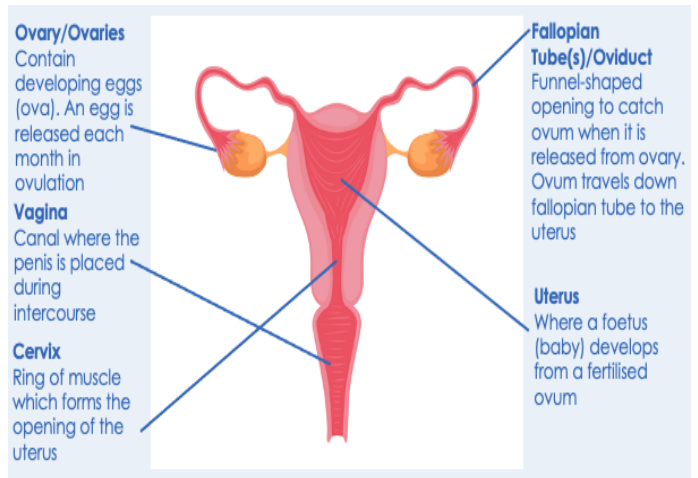
## Male Reproductive System

13. The male reproductive system develops during puberty.



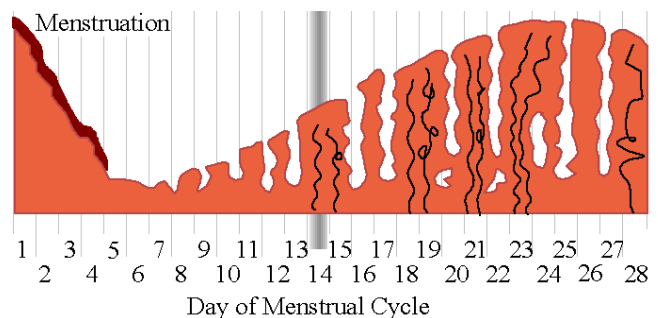
## Female Reproductive System

14. The female reproductive system develops during puberty



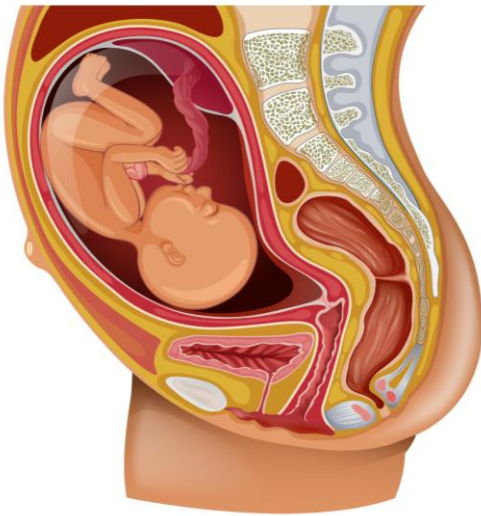
## Menstrual Cycle

15. The female reproductive cycle is called the **menstrual cycle**.
16. The menstrual cycle prepares a woman's body for pregnancy.
17. The menstrual cycle is controlled by sex hormones.
18. On average, one menstrual cycle lasts 28 days.
19. **Ovulation** is when the egg is released.
20. Ovulation occurs on day 14.
21. The uterus lining builds up to allow the embryo to develop.
22. If fertilisation does not take place then the uterus lining is shed between days 1-5. This is called **menstruation**



### Fertilisation and Gestation

23. **Fertilisation** is when the gametes meet and the nuclei fuse to make a new cell.
24. After fertilisation, the cell multiplies to make an **embryo**.
25. **Implantation** is when the embryo embeds into the uterus wall.
26. After implantation, the embryo grows and develops into a **foetus** until it is ready to be born. This is called **gestation**.
27. The **amniotic sac** contains fluid which protects the foetus from knocks and bumps.
28. The **placenta** is where the exchange of substances between the mother and embryo occurs.
29. The **umbilical cord** connects the foetus to the placenta.



33. **Pollination** is the transfer of pollen from the anther of one plant to the stigma of another plant.
34. Pollination can be carried out by insects, animals or the wind.
35. Fertilisation is when the pollen and egg join and their nuclei fuse. Fertilisation happens in the **ovule**.
36. After fertilisation, the ovary develops into the fruit and the ovule develops into the seed.
37. The seed contains the embryo which will grow into a new plant. The process of a plant growing from a seed is called **germination**.
38. Germination requires water, oxygen and warmth.
39. **Seed dispersal** is needed so that the new plant grows far away from the parent plant so they don't compete for water and light.
40. Seeds are dispersed by:
  - Animals externally (stuck to fur)
  - Animals internally (eaten)
  - Wind and explosion
  - Water

### Sexual Reproduction in Plants

30. The male gamete is the **pollen** grain.
31. Pollen is produced by the **anther**.
32. The female gamete is the **egg** found in the **ovule**. The ovule is in the ovary.

