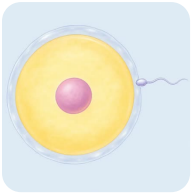
KS3 SCIENCE · BIOLOGY

Human reproduction revision sheet

Name _____

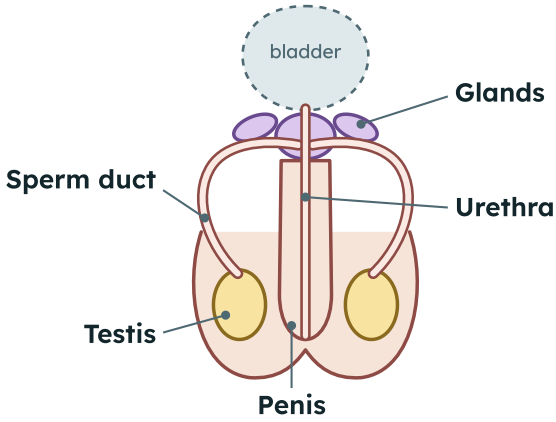


1. Egg and sperm cells

Gametes are sex cells. The male gamete is the **sperm cell**. The female gamete is the **egg cell**. Each has a **nucleus**, which carries genetic information from one parent.

SPERM CELL	EGG CELL
Tiny: about 0.05 mm long. A tail and a streamlined head let it swim. Its many mitochondria release the energy it needs.	Much bigger: about 0.1 mm across. Its cytoplasm holds a store of food for the first few days after fertilisation. It cannot move by itself.

2. The male reproductive system



Testes: make sperm cells. They are held in a bag of skin called the scrotum.

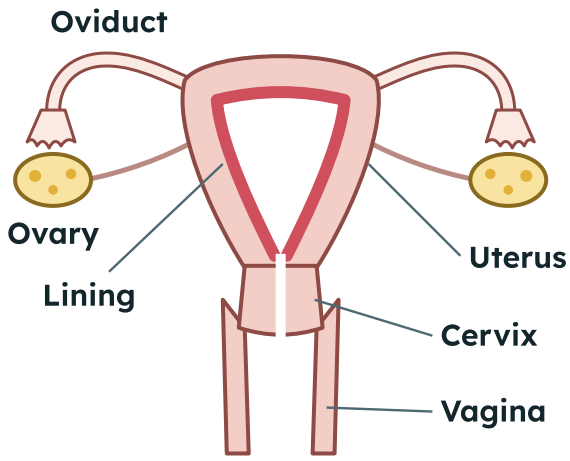
Sperm ducts: tubes that carry sperm away from the testes, towards the penis.

Glands: add fluid to the sperm. The mixture of sperm and fluid is called semen.

Urethra: the tube inside the penis. It carries semen out of the body. At other times it carries urine from the bladder.

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

3. The female reproductive system



Ovaries: contain egg cells. About once a month, one ovary releases an egg.

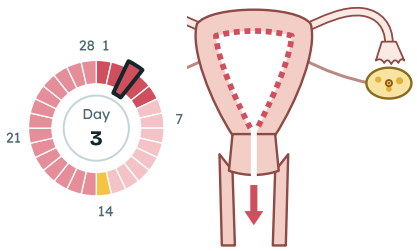
Oviducts (fallopian tubes): carry an egg from an ovary to the uterus. Fertilisation happens here.

Uterus (womb): a bag of muscle with a soft lining, where a baby develops.

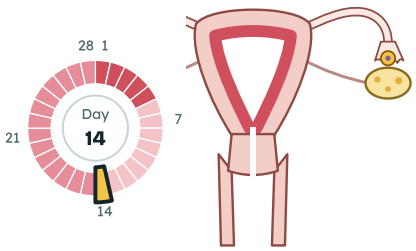
Cervix: the narrow lower end of the uterus. It stays closed during pregnancy and widens at birth.

Vagina: where the penis enters and sperm are received. A baby passes out through it at birth.

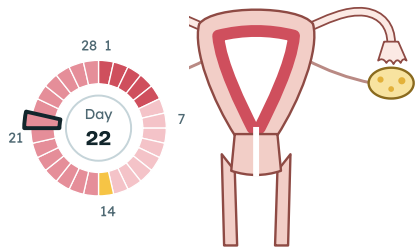
4. The menstrual cycle



Days 1 to 5: menstruation. The lining of the uterus breaks down and leaves through the vagina (a period).



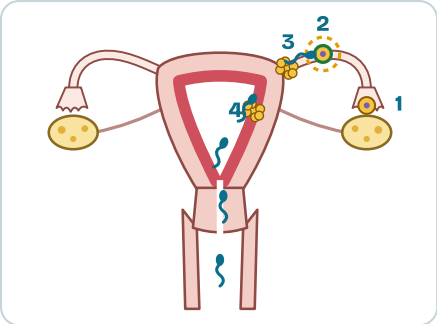
About day 14: ovulation. The lining has grown thick again. An ovary releases an egg.



Days 15 to 28. The lining stays thick. If the egg is not fertilised, it breaks down, and the cycle starts again.

- The **menstrual cycle** gets the uterus ready for pregnancy. One cycle lasts about **28 days**, but it can be shorter or longer.
- If the egg is fertilised and the embryo settles in the lining, the cycle **stops** during the pregnancy.
- Pregnancy is most likely around ovulation. An egg can be fertilised for only about a day after it is released.

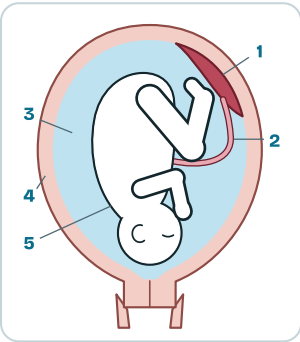
5. Fertilisation



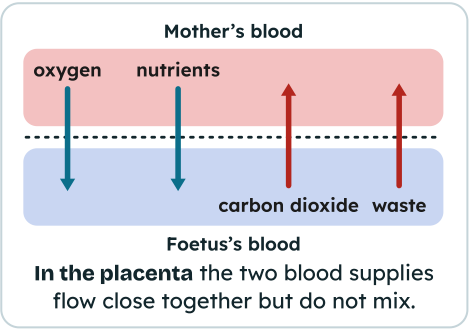
1. **Ovulation.** An ovary releases an egg, which moves into the oviduct.
2. **Fertilisation.** Sperm swim from the vagina, through the cervix and the uterus, into the oviducts. The nucleus of one sperm joins with the nucleus of the egg.
3. **An embryo forms.** The fertilised egg divides again and again to make a ball of cells.
4. **Implantation.** The embryo settles into the lining of the uterus.

- The fertilised egg has a **new combination of DNA**: half of its genetic information comes from each parent.
- **Low fertility** means that pregnancy is less likely. Causes include too few sperm, no egg being released, and blocked oviducts.

6. Growing in the uterus



1. **Placenta:** oxygen and nutrients pass from the mother's blood to the foetus's blood here. Carbon dioxide and other waste pass the other way.
2. **Umbilical cord:** joins the foetus to the placenta.
3. **Amniotic fluid:** cushions the foetus and protects it from bumps.
4. **Uterus wall:** muscle that stretches as the foetus grows.
5. **Foetus:** the developing baby.



In the placenta the two blood supplies flow close together but do not mix.

7. Birth

Gestation is the time the baby spends developing in the uterus. It lasts about nine months.



1. The muscles in the wall of the uterus **contract**. The cervix slowly widens, and the amniotic fluid drains away.
2. Stronger contractions **push the baby out** through the vagina, usually head first.
3. The umbilical cord is cut. Then the placenta comes away from the wall of the uterus and is pushed out. It is called the afterbirth.

8. A healthy pregnancy

Substances in the mother's blood can pass across the placenta. Some help the foetus and some harm it.

Diet	The foetus gets all its nutrients from its mother. A balanced diet helps it to grow well.
Smoking	Carbon monoxide from the smoke means that the mother's blood carries less oxygen. The baby is more likely to be born early and small.
Alcohol	Crosses the placenta. It can damage the brain of the foetus as it develops.
Drugs	Many drugs cross the placenta, and that includes some medicines. A pregnant woman checks with a doctor or a pharmacist first.

Key words

Gamete: a sex cell: a sperm or an egg

Ovary: an organ that contains eggs and releases them

Vagina: receives sperm, and is the way out for a baby at birth

Menstruation: the loss of the lining of the uterus, also called a period

Implantation: the embryo settling into the lining of the uterus

Placenta: organ where substances pass between mother and foetus

Testes: the organs where sperm are made

Oviduct: the tube from an ovary to the uterus, where fertilisation happens

Menstrual cycle: a 28-day cycle that prepares the uterus for pregnancy

Fertilisation: the nucleus of a sperm joining with the nucleus of an egg

Foetus: the developing baby, from about eight weeks until birth

Umbilical cord: joins the foetus to the placenta

Penis: carries sperm out of the male's body

Uterus: the organ where a baby develops, also called the womb

Ovulation: the release of an egg from an ovary

Embryo: the ball of cells that grows from a fertilised egg

Gestation: the nine months when the baby develops in the uterus

Amniotic fluid: the liquid around the foetus that protects it

The pictures are illustrations made for this sheet, not real photographs.