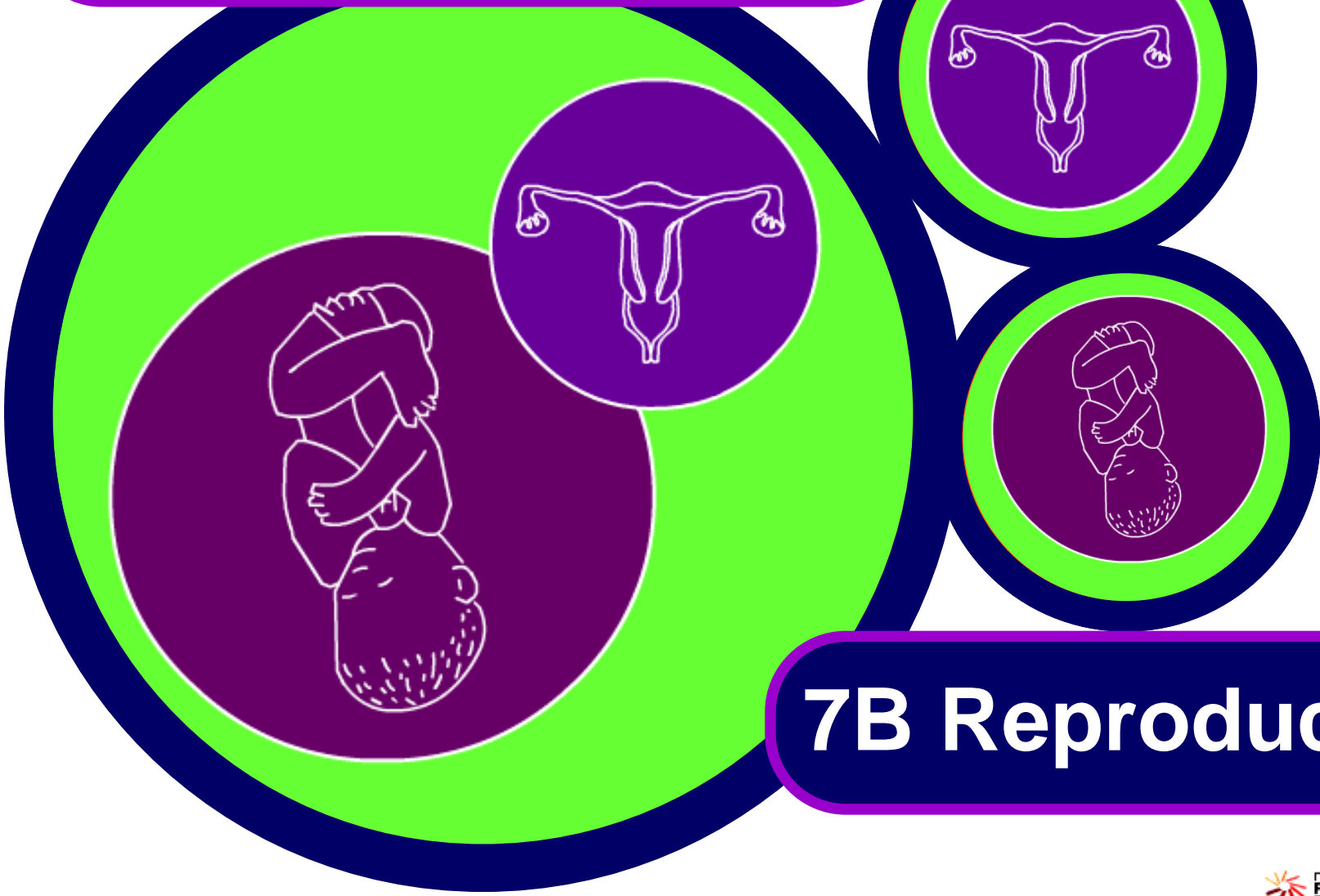


KS3 Biology



7B Reproduction





7B Reproduction

- Human sex cells and systems
- Ovulation, fertilization and implantation
- Embryo development and birth
- Puberty
- Summary activities

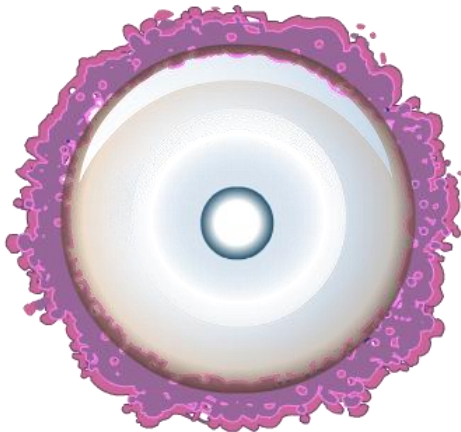




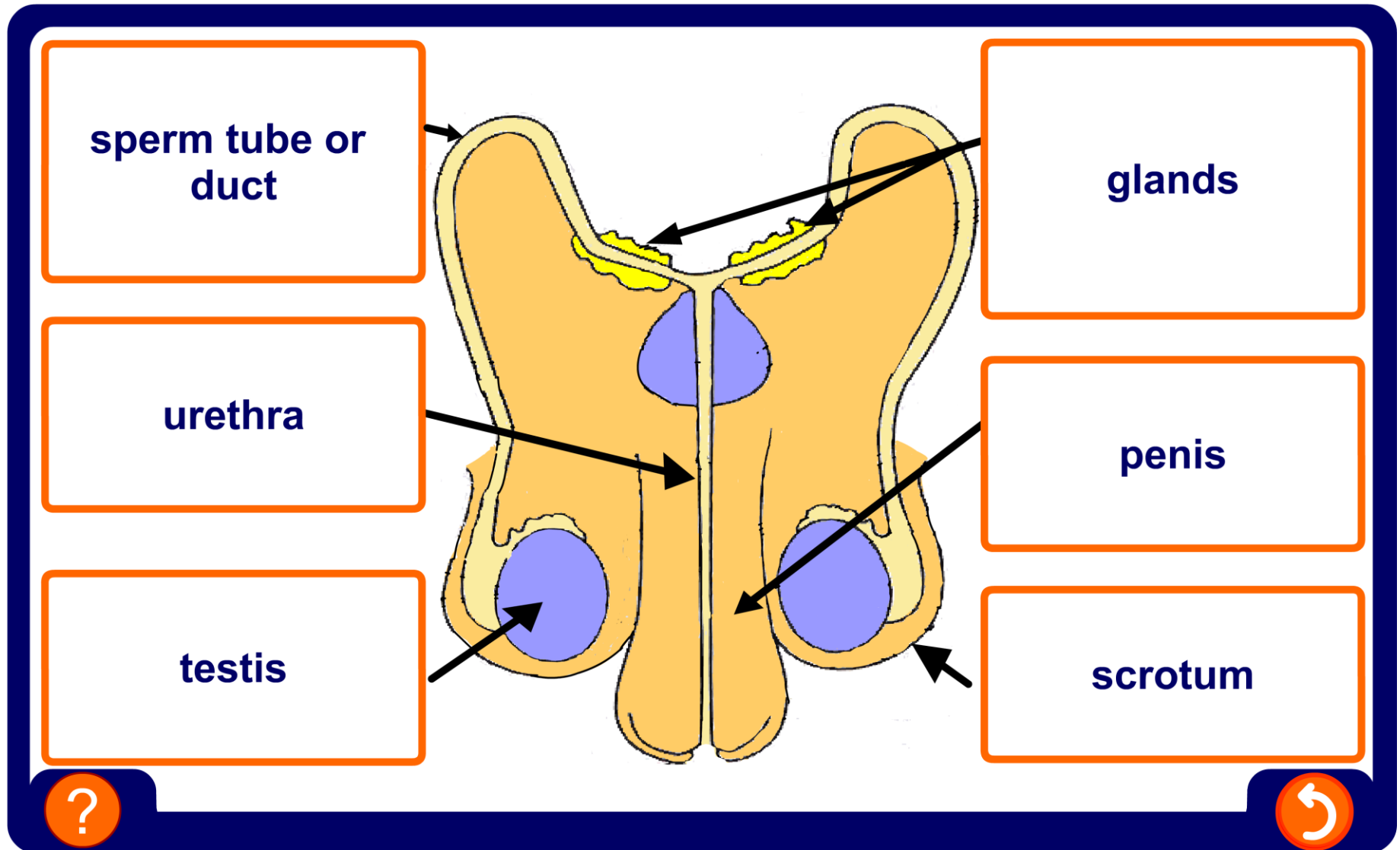
Reproduction is one of the seven life processes.
All living things reproduce.

Humans use sexual reproduction to produce their young.

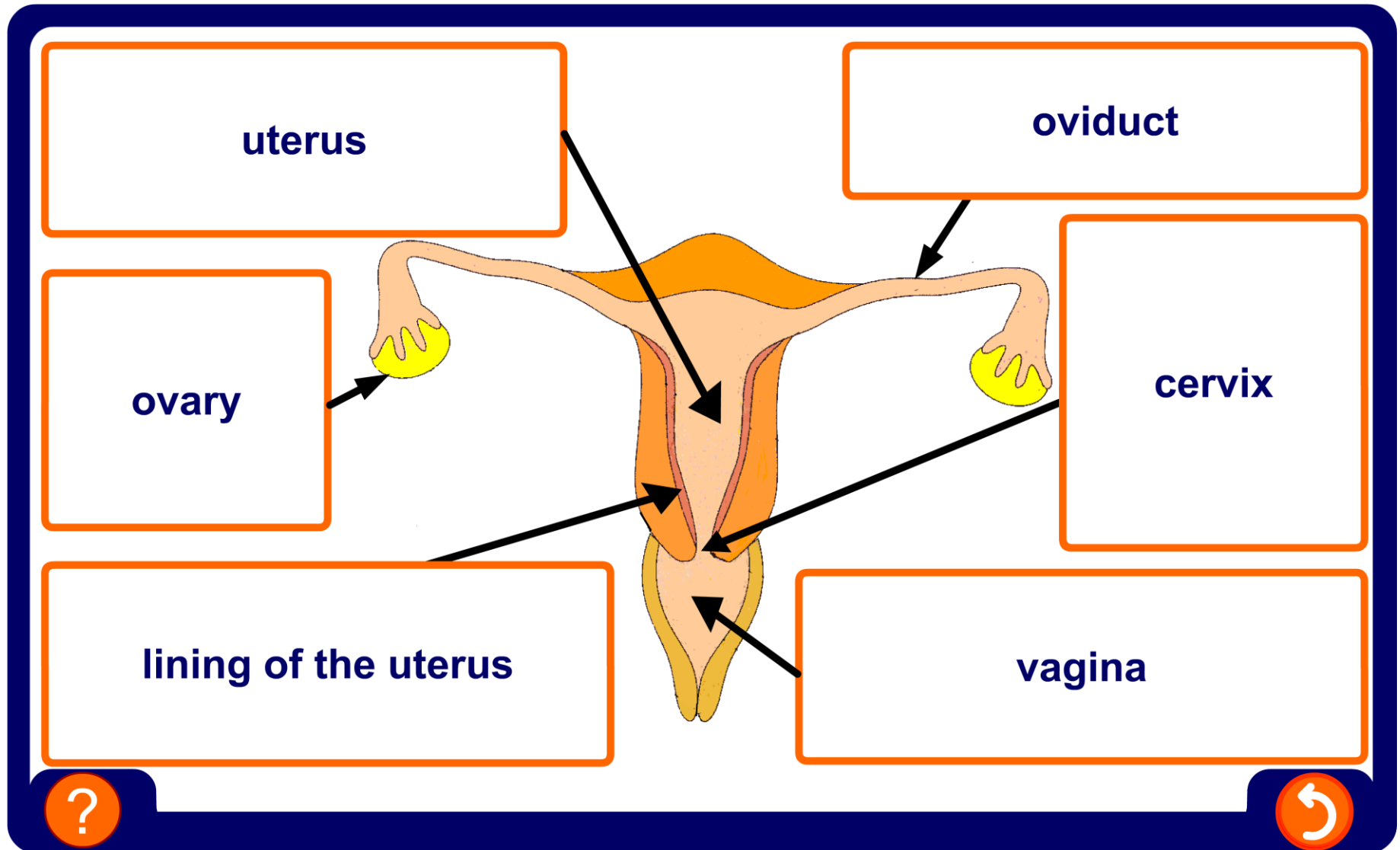
In order to do this, the two parents (male and female) have different reproductive systems and organs that produce different sex cells.



The male reproductive system



The female reproductive system





Male or female?



board
works

Are these parts of the human reproductive system male or female?

Male

Female

?

?

?

?

?

?

?

?

oviduct

scrotum

testis

cervix

uterus

sperm duct

prostate gland

ovary

?

C

solve

↺





What do the different parts of the human reproductive systems do?

ovary	=	?	produce sperm
testes	=	?	carry sperm out of the body
urethra	=	?	add fluid to sperm
oviduct	=	?	carry eggs to the uterus
sperm duct	=	?	produce eggs
glands	=	?	carry sperm from the testes
scrotum	=	?	protect the testes



solve

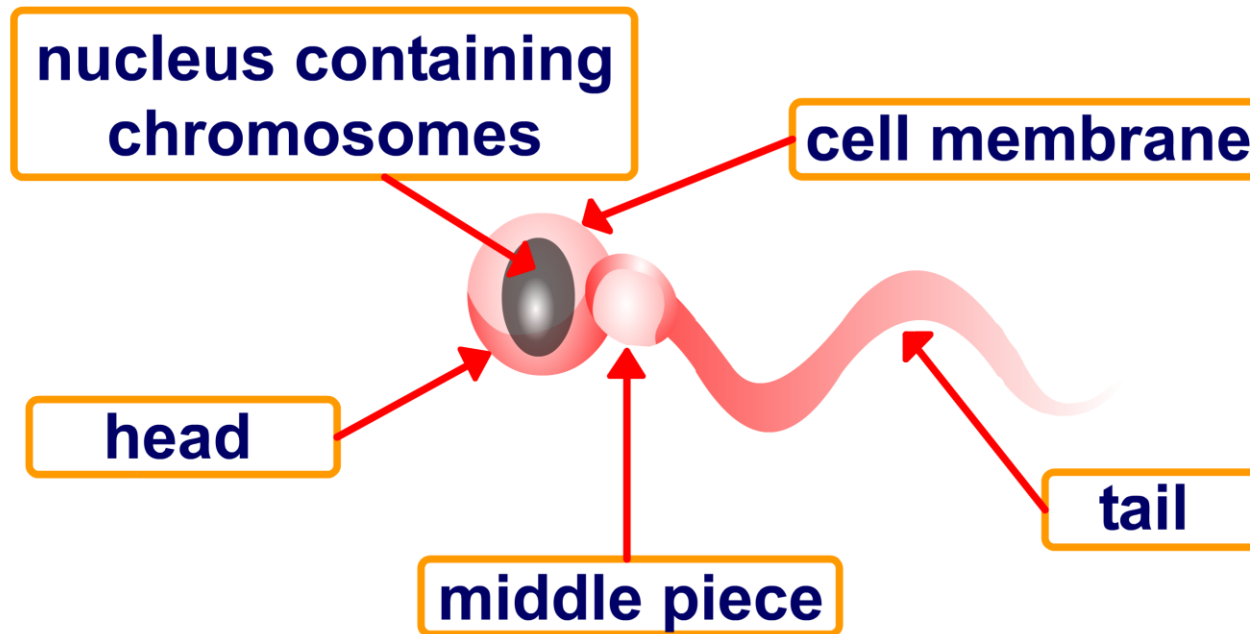




Sex cells – sperm

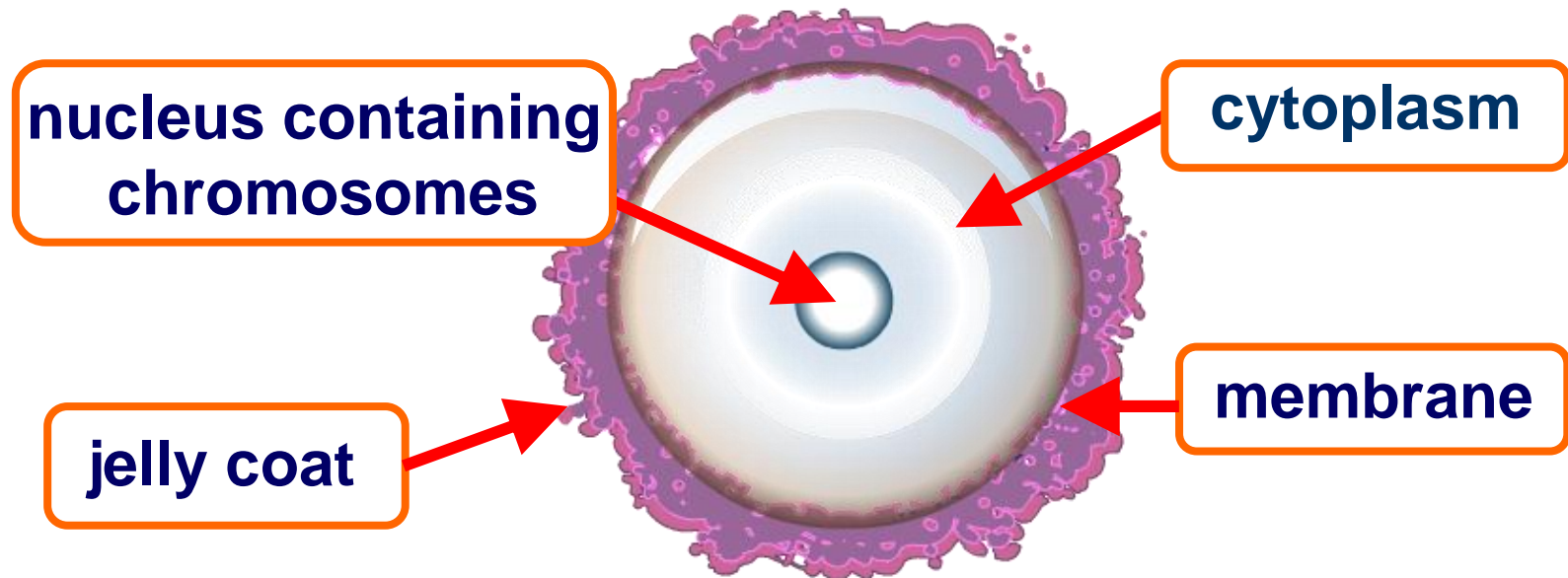
In males, the sex cells are called **sperm**.

Sperm are produced in sex organs called **testes**.



In females, the sex cells are called **eggs**.

Eggs are produced in sex organs called **ovaries**.



An egg is so big that this is how small a sperm looks next to it.





Which adaptations do sperm cells and egg cells have?

**specially
strengthened head**

**only a few
produced**

unable to move

**small and
streamlined**

**contains chemicals
to break through
things**

millions produced

large

swims with a tail

**contains large food
stores**





7B Reproduction

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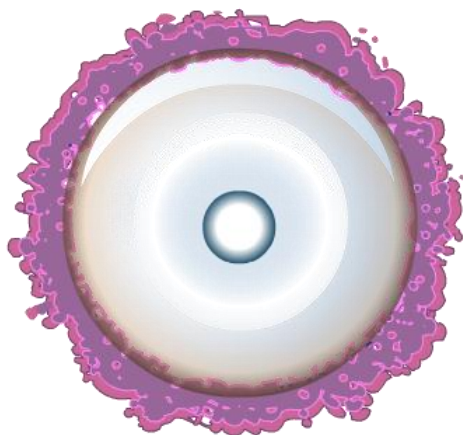


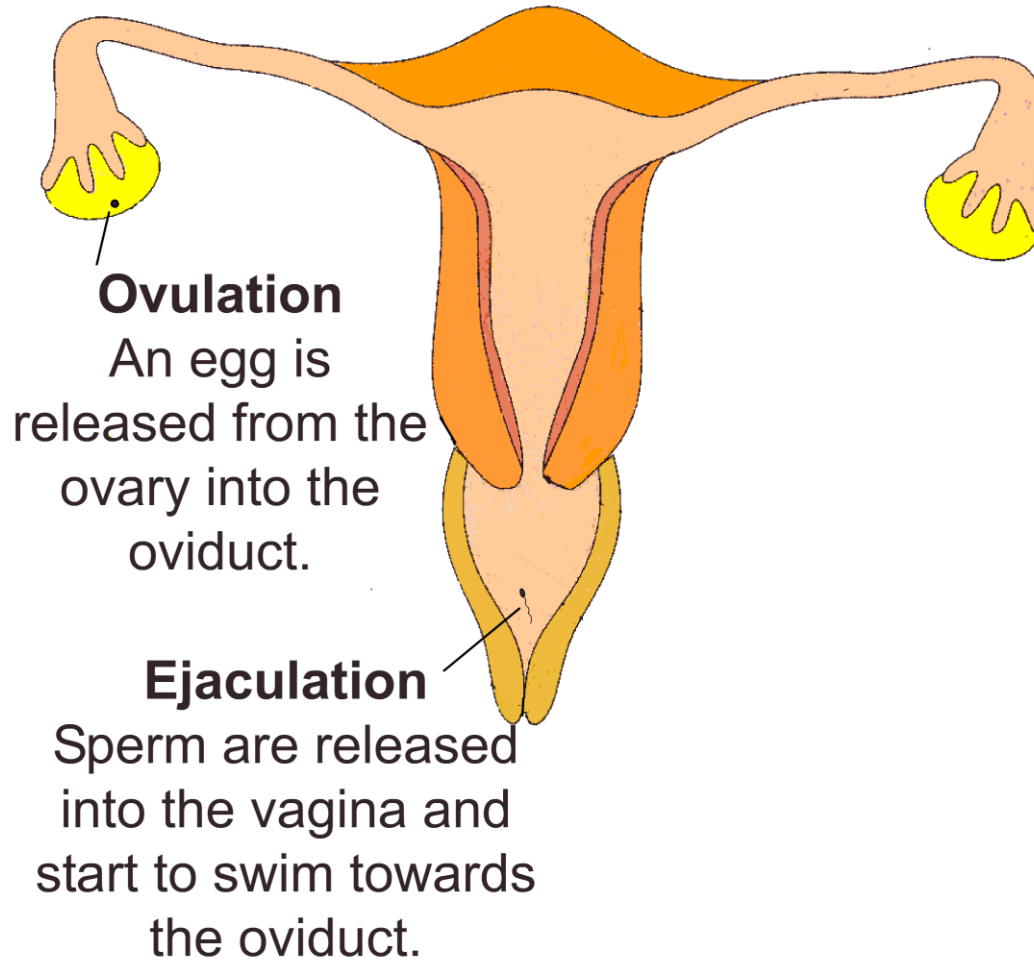
In the female, one of the ovaries produces an egg every 28 days. This is called **ovulation**.

During sexual intercourse millions of sperm are **ejaculated** into the vagina.

If a sperm meets the egg, the sperm's nucleus can join with the egg's nucleus.

This fusing of the nuclei is called **fertilization**.







What are the definitions of the processes involved in reproduction?

ejaculation

The release of an egg from the ovary.

ovulation

When the egg and the sperm nuclei fuse.

fertilization

The ejection of sperm through the penis.

implantation

The embryo sinks into the uterus lining.





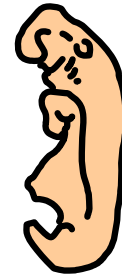
7B Reproduction

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How does an embryo get food and oxygen and how does it get rid of waste?



An embryo forms a plate-like structure called the **placenta**.

The umbilical cord joins the fetus to the placenta.

In the placenta, food and oxygen diffuse from the mother's blood into the blood of the fetus.

Carbon dioxide and waste products diffuse from the blood of the fetus to the mother's blood.

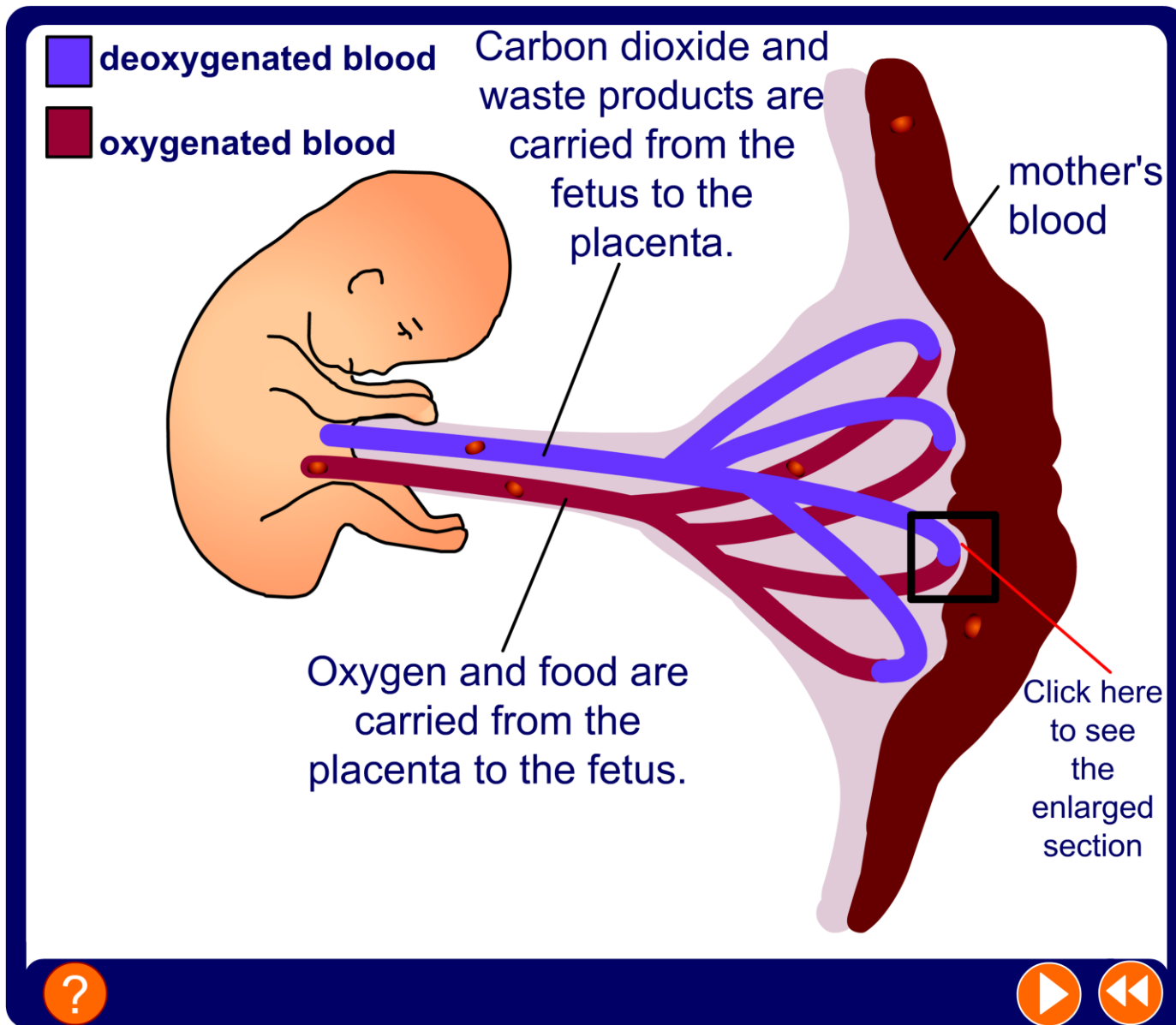




The placenta



board
works





From embryo to fetus

In the earliest stages of development, a human baby is called an **embryo**.



After the first eight weeks of pregnancy, a human embryo is then called a **fetus**.



At this stage the fetus has all the main human features.

The fetus continues to develop and grow inside its mothers' uterus for a total of **40 weeks**.



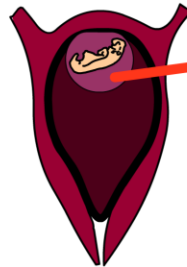
What happens next?



The development of the embryo

at 4 weeks

The embryo is just **2 mm** long. Its heart is as big as a poppy seed and has begun beating.



The **embryo** is surrounded by a membrane called the **amnion**. This sac contains a liquid which protects and cushions the embryo.

next



What is the correct order for these stages of pregnancy?



4 weeks The embryo is 2 mm long and its heart is beating.

8 weeks The embryo is called a fetus and has human features.

3 months The fetus is 7 cm long and all body parts are in place.

5 months The fetus is growing hair, nails and eyelashes.

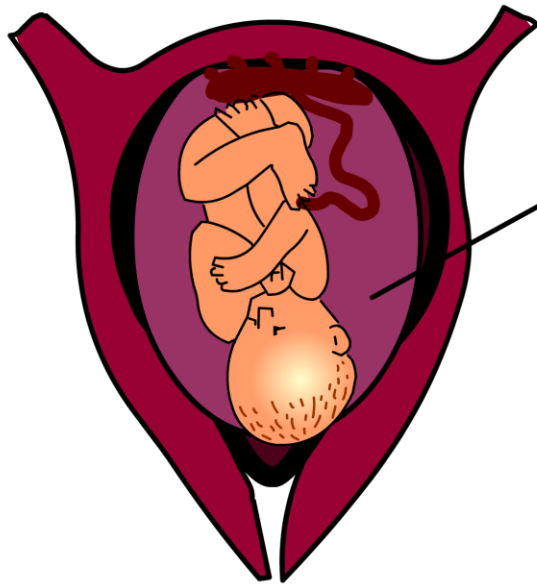
7 months The fetus is 30 cm long and its brain is very active.

40 weeks The fetus is fully developed and ready to be born.



solve





Eventually these become stronger and happen more often. The amnion breaks and the fluid escapes.

The muscles of the uterus wall contract very strongly and start to push the baby out.





7B Reproduction

- Human sex cells and systems
- Ovulation, fertilization and implantation
- Embryo development and birth
- **Puberty**
- **Summary activities**





What is puberty?

Human children are born with a complete set of sex organs. However, they do not become active until between the ages of 10 and 18.

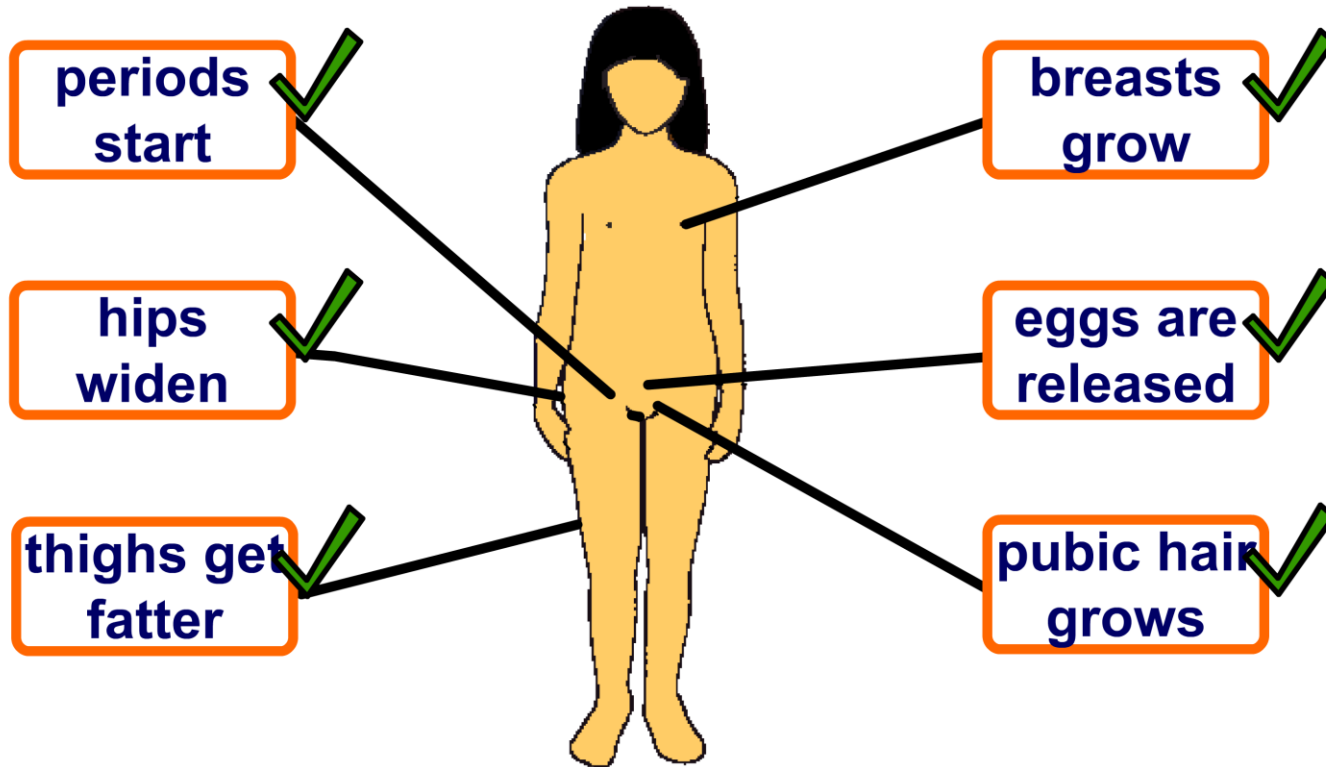
In males, the testes start to make sperm in boys and in females, the ovaries start to release eggs.

This stage of development is called **puberty**.

During this important period, many changes take place in the bodies of young men and women.



What changes happen to girls during puberty?



solve





What changes happen to boys during puberty?

facial hair
grows ✓

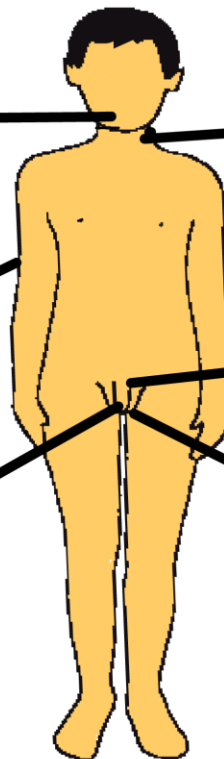
voice
deepens ✓

gets more
muscular ✓

pubic hair
grows ✓

penis gets
larger ✓

sperm are
produced ✓



solve





- Male puberty happens due to the hormone **Testosterone**
- Female puberty happens due to the hormone **Oestrogen**.





An important part of puberty for girls is the beginning of their monthly cycle. This is known as the **menstrual cycle**.

The menstrual cycle involves the preparation of the uterus lining so that it is able to receive a fertilized egg.

If an egg is fertilized, it can implant itself in the prepared uterus lining.

If it is not fertilized, the lining of the uterus breaks down and is lost from the body. This is called **menstruation** or a period.





The menstrual cycle



board
works

Stage 1

Bleeding starts as the lining of the uterus breaks down and passes out of the vagina.



Day 1

Press to go to
Stage 2

Press to go to
Stage 3

Press to go to
Stage 4

Press to go to
next cycle

Press to go back to
Stage 1





- Puberty is when the body begins to change.
- These changes are caused by Hormones.
- The male hormone is Testosterone.
- Female Oestrogen causes menstruation to start.
- Menstruation happens every 28 days.

Puberty 28 Menstruation Testosterone Hormones





7B Reproduction

- **Human sex cells and systems**
- **Ovulation, fertilization and implantation**
- **Embryo development and birth**
- **Puberty**
- **Summary activities**





- **egg** - The female sex cell.
- **embryo** - The first two months of development of a baby.
- **fertilization** - When the egg and sperm nuclei fuse.
- **menstruation** - The monthly cycle in females.
- **ovary** - The part of the female reproductive system that produces eggs.
- **ovulation** - The release of an eggs from the ovary.
- **placenta** - The structure made by an embryo to obtain food and oxygen from its mother.
- **puberty** - The time when sex organs begin to work.
- **sperm** - The male sex cell.
- **testis** - The part of the male reproductive system that produces sperm.



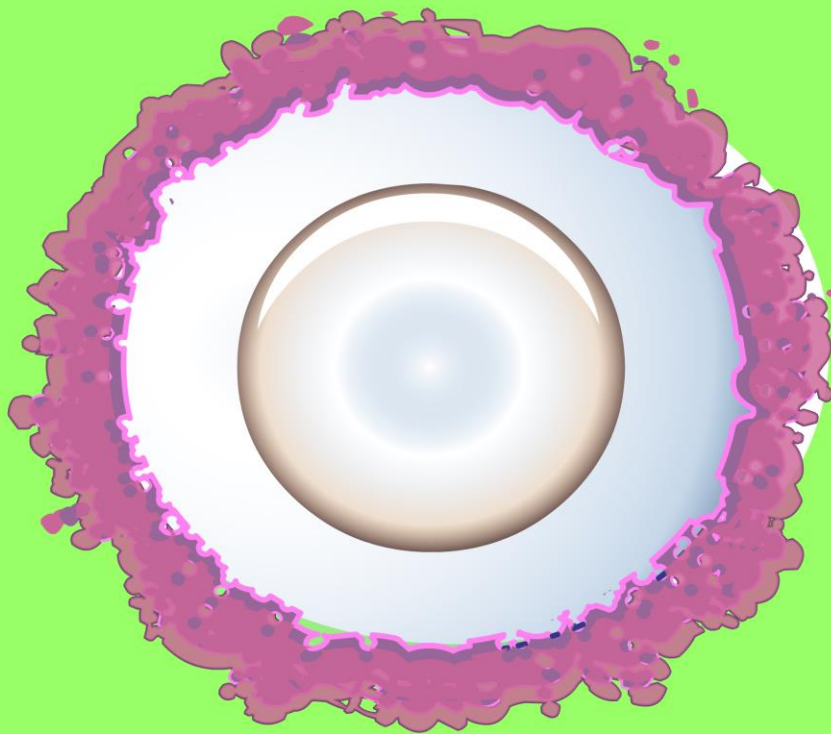
How quickly can you unscramble
anagrams of words about

r e p r o d u c t i o n ?

Click start for the first of ten anagrams.

start





Click start to try this
egg-cellent quiz
about reproduction.

start

