Reproduction: Menstrual Cycle & Fertilisation

WC 24th September 2012

Lesson 1

Menstrual Cycle & Fertilisation

- **WALT: Describe the menstrual cycle and the role of hormones and explain the process of fertilisation**

- I must be able to describe the changes that occur during the menstrual cycle and what fertilisation is
- I should be able to explain how fertilisation occurs
- I should also relate the role of hormones to the menstrual cycle (prep)

Prep

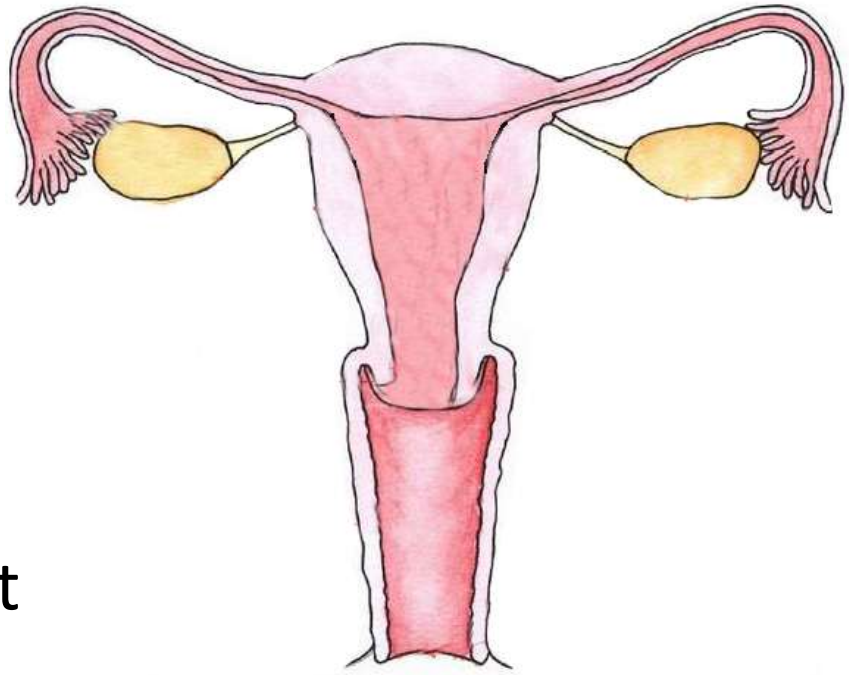
- Describe the role of hormones, both in puberty and also in the menstrual cycle (p. 36 of the red books will help you).

When a girl goes through puberty one of the changes that occurs is that she will begin to have **periods**.

This is the female body's way of preparing to reproduce

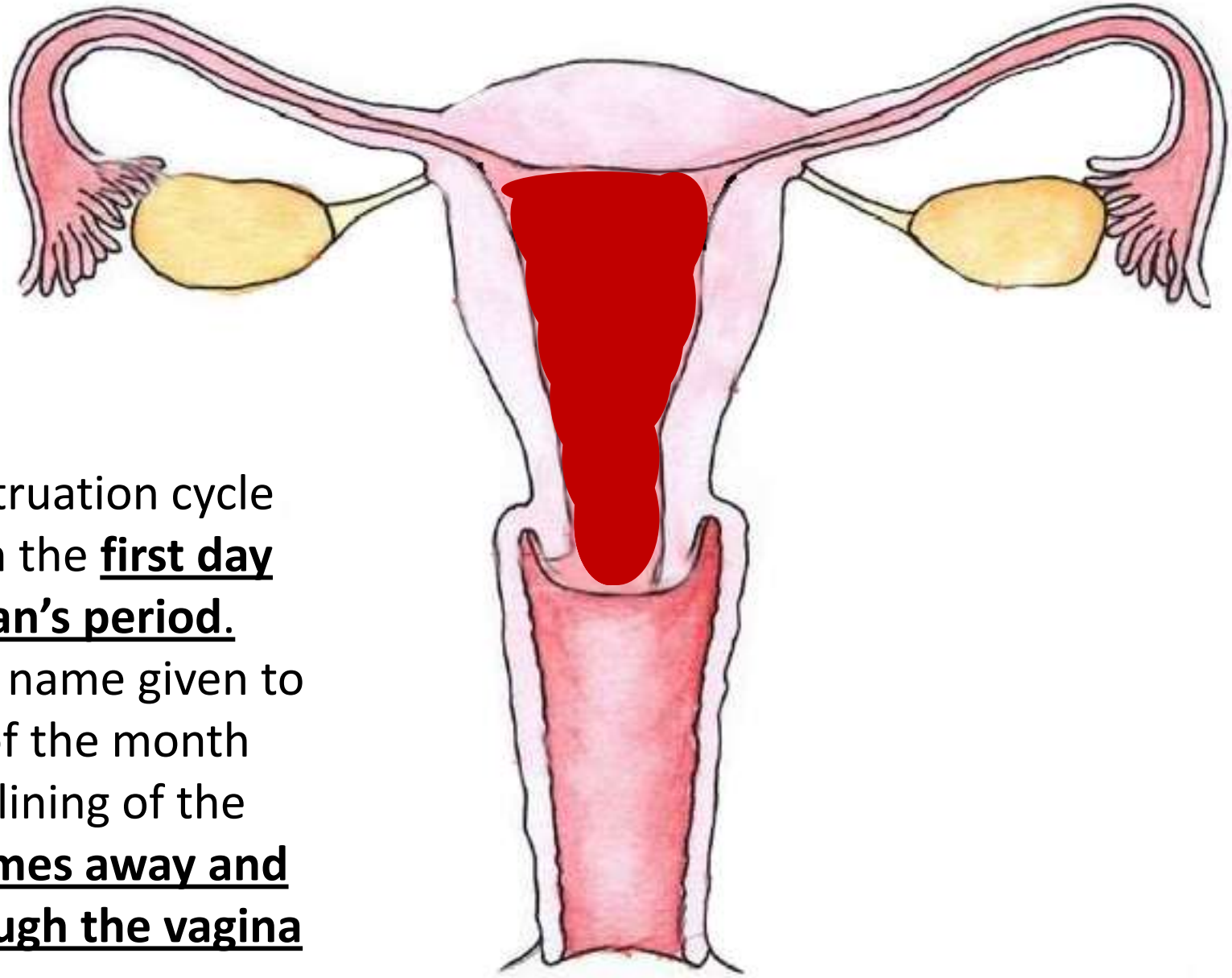
A woman's reproductive system works on a **28 day cycle**

This cycle is known as the **menstrual cycle**



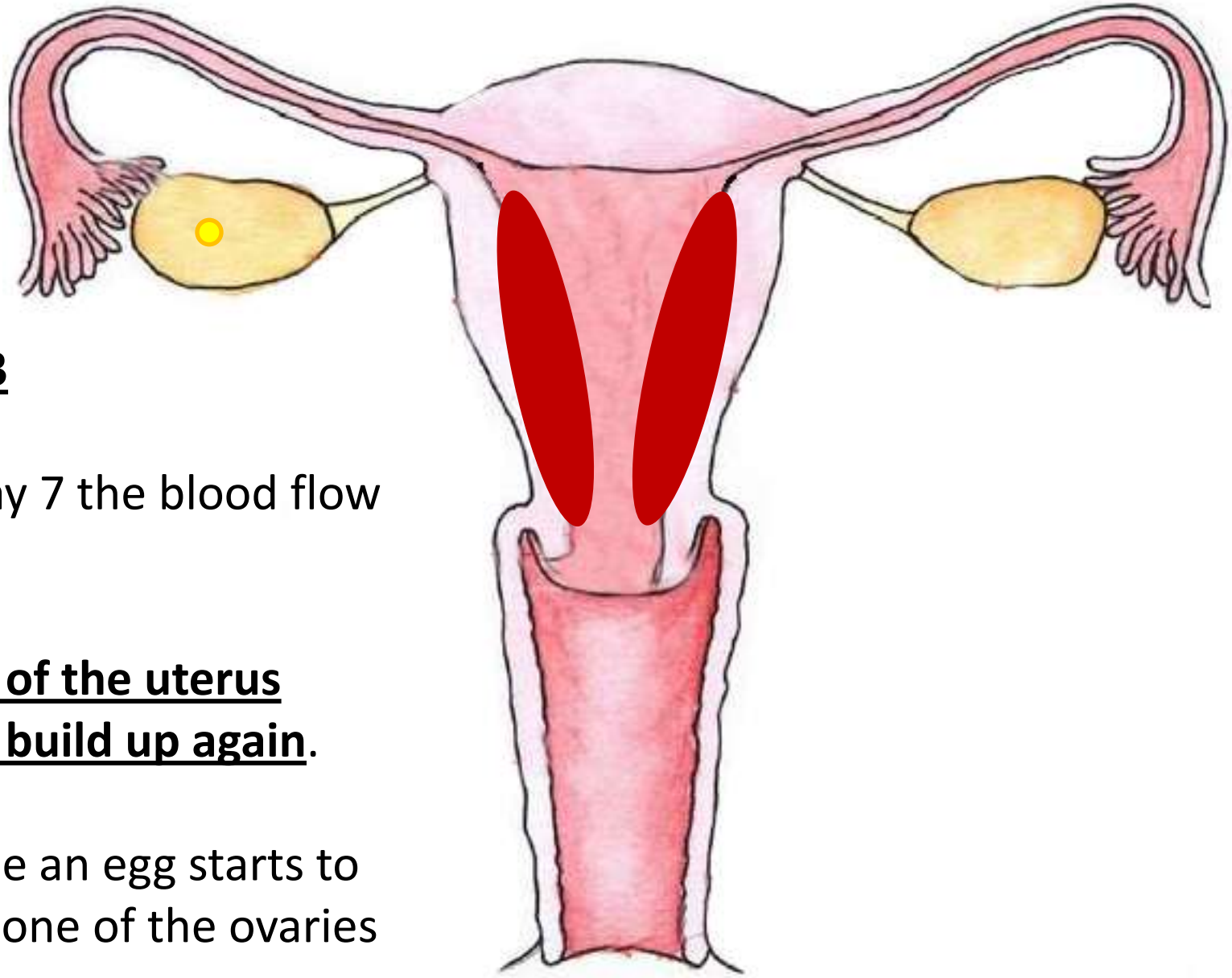
The menstrual cycle consists of A number of stages

In this lesson we will learn what those stages are.....



Day 1 – 7

The menstruation cycle starts with the **first day of a woman's period**. This is the name given to the time of the month when the lining of the **uterus comes away and exits through the vagina as blood.**

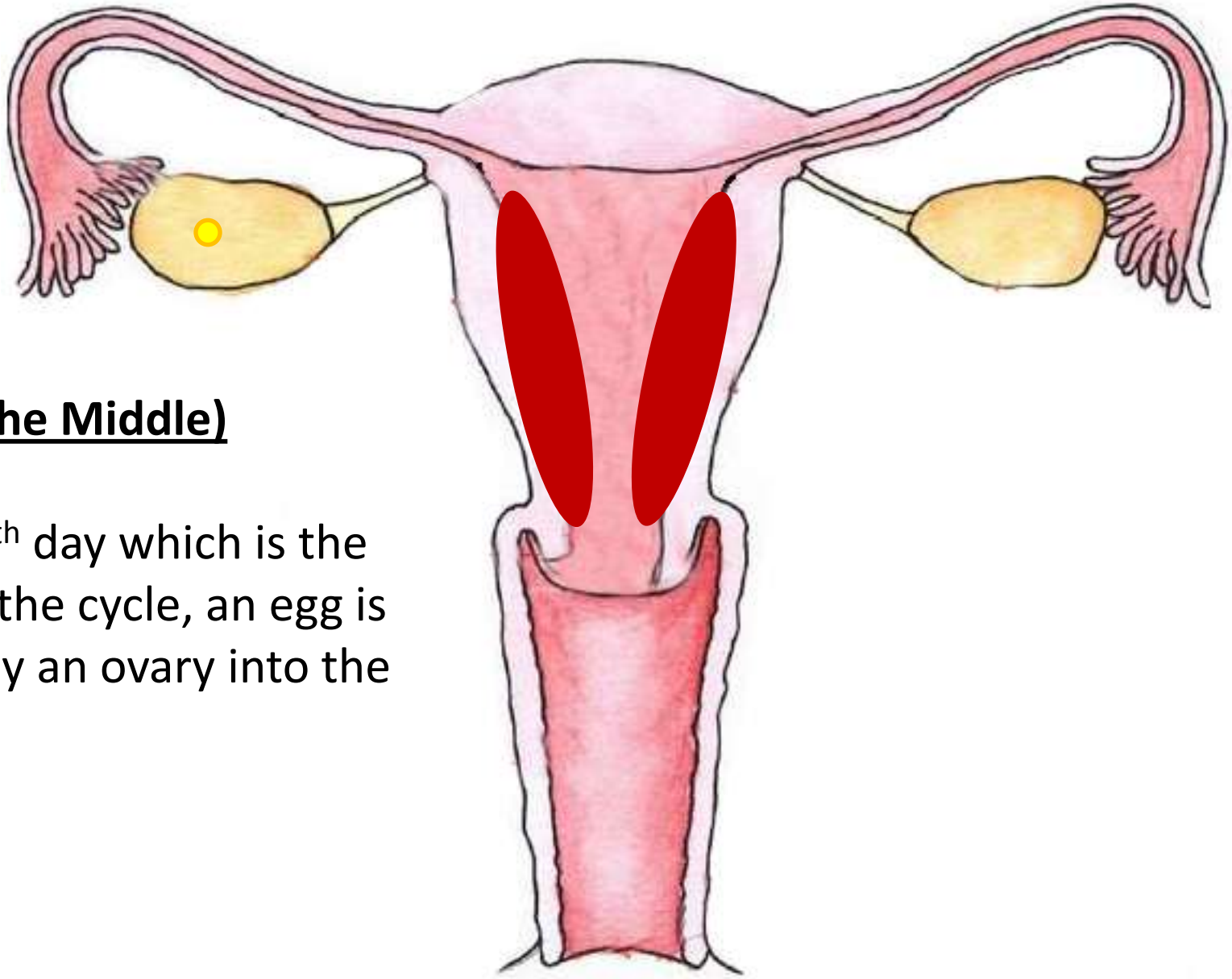


<u>Day 7 - 13</u>

Around day 7 the blood flow stops.

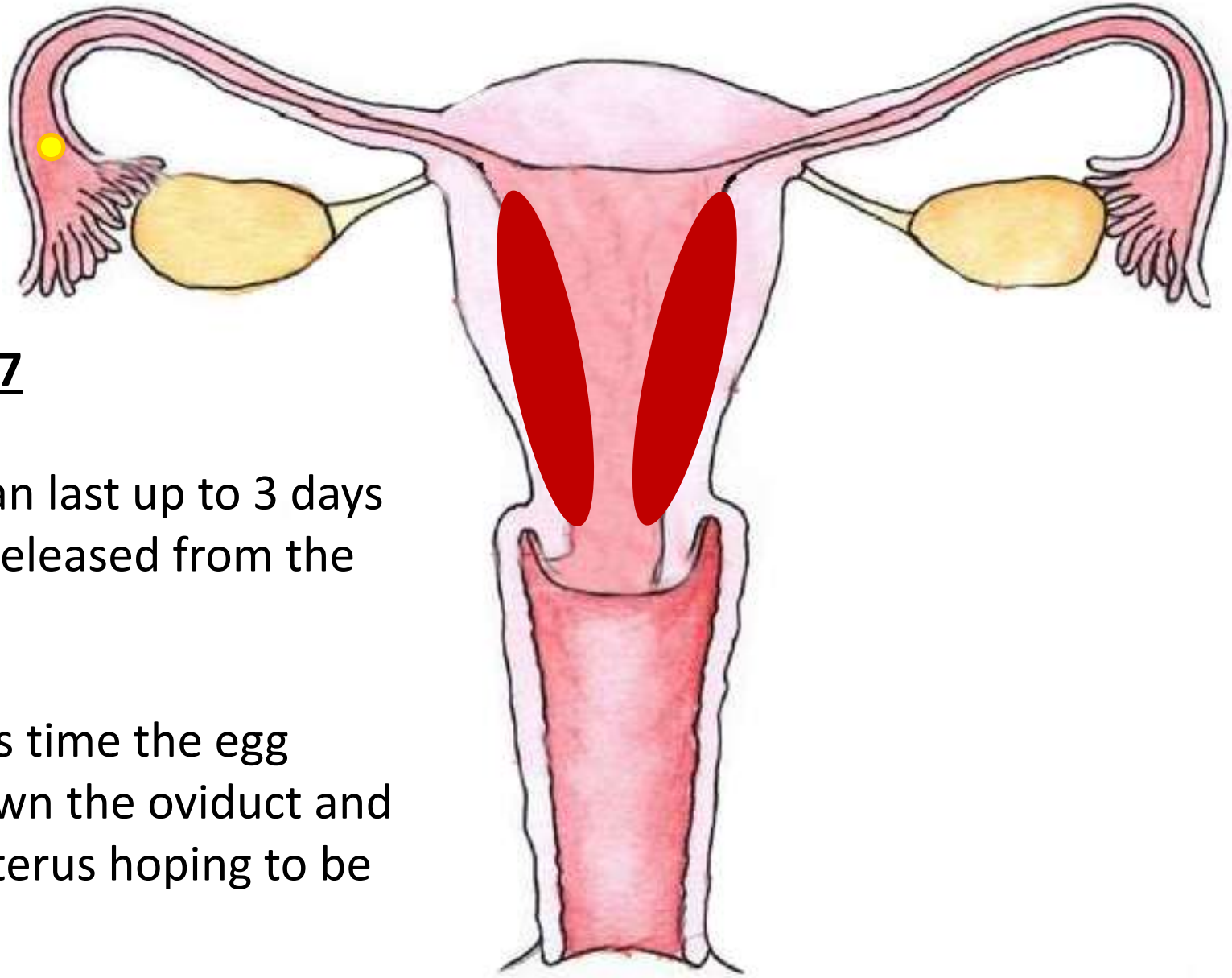
The **<u>lining of the uterus begins to build up again</u>**.

At this time an egg starts to mature in one of the ovaries



Day 14 (The Middle)

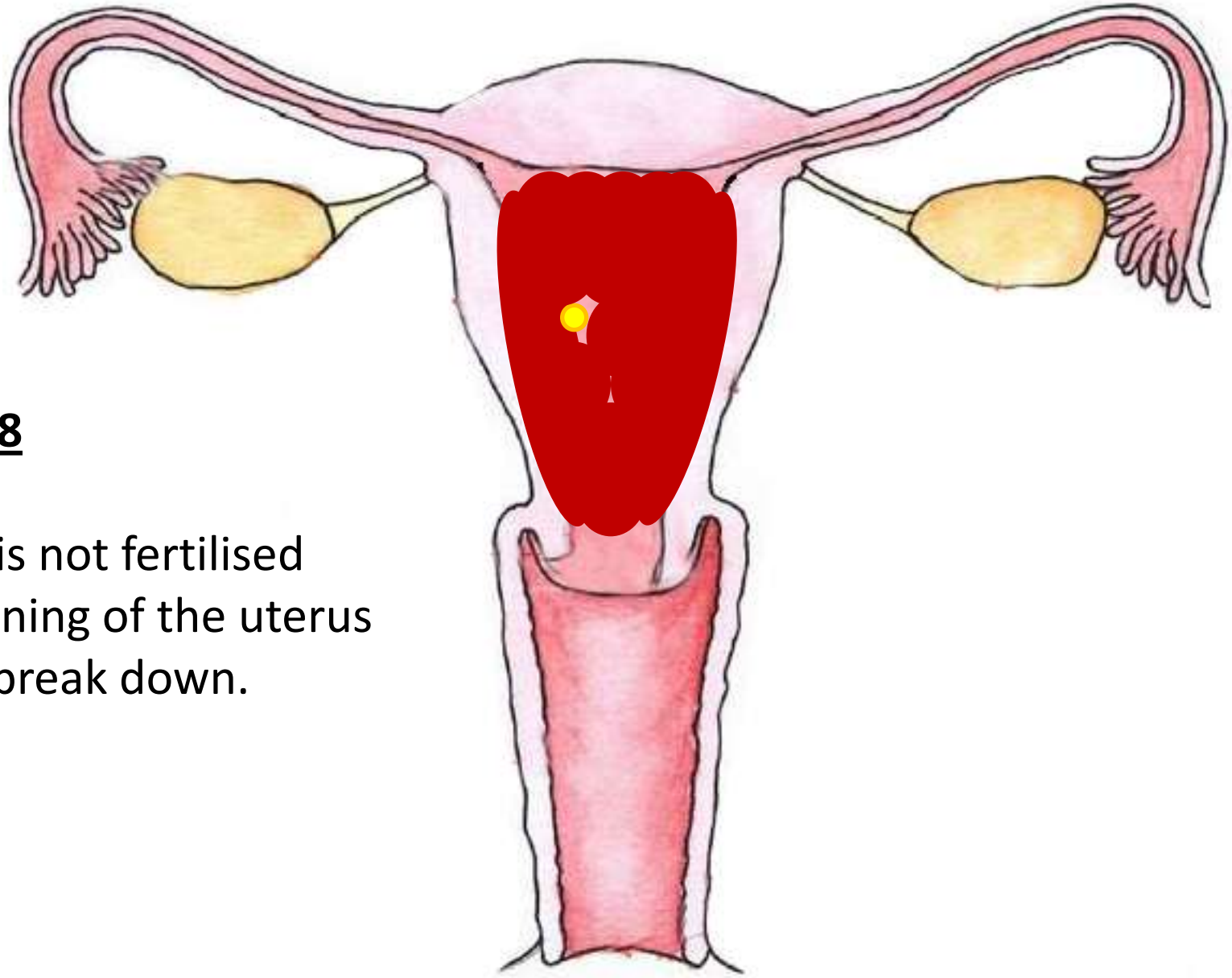
On the 14th day which is the middle of the cycle, an egg is released by an ovary into the oviduct.



Day 14 - 17

The egg can last up to 3 days after it is released from the ovary.

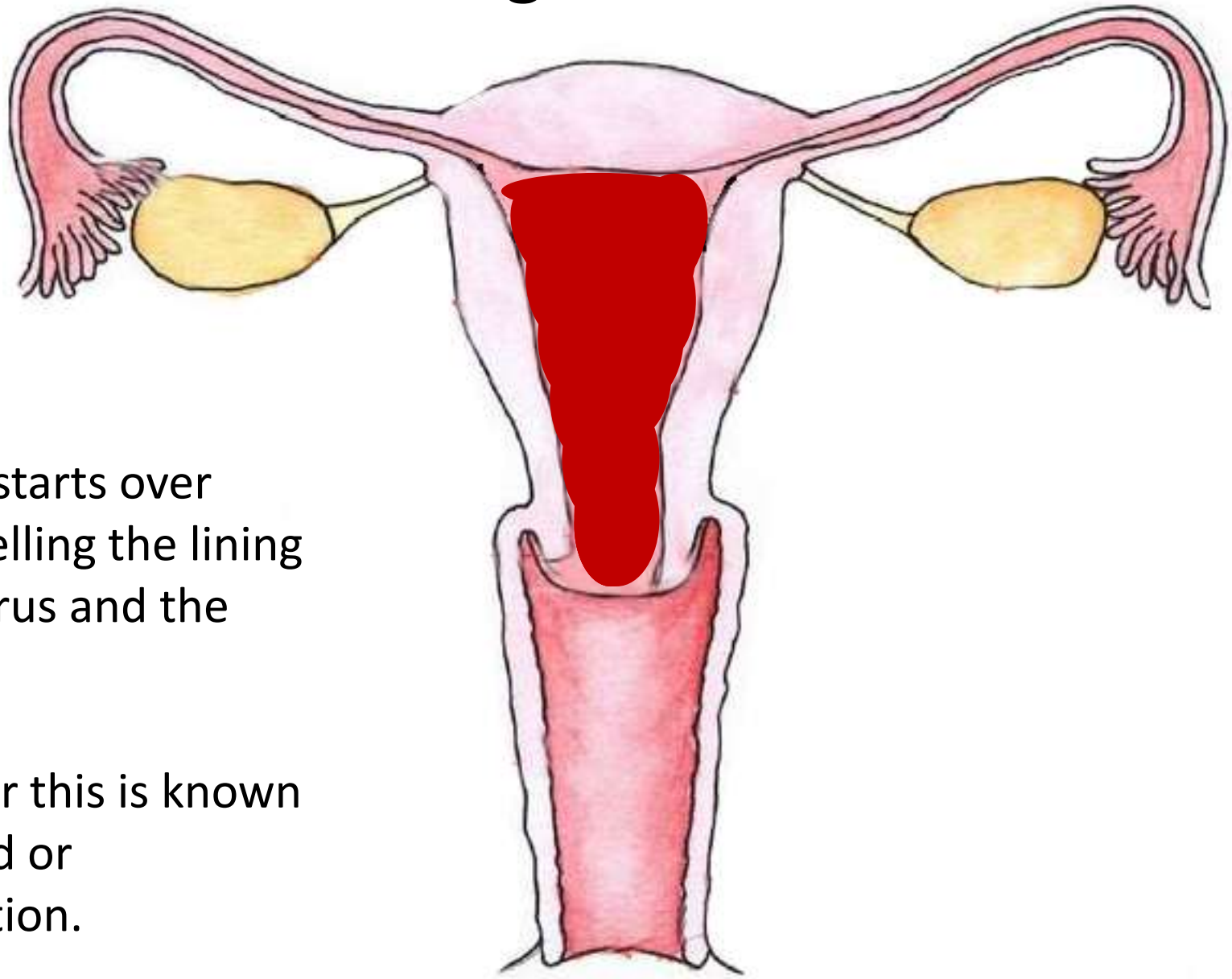
During this time the egg travels down the oviduct and into the uterus hoping to be fertilised.



Day 18 - 28

If the egg is not fertilised then the lining of the uterus begins to break down.

The cycle starts over again...

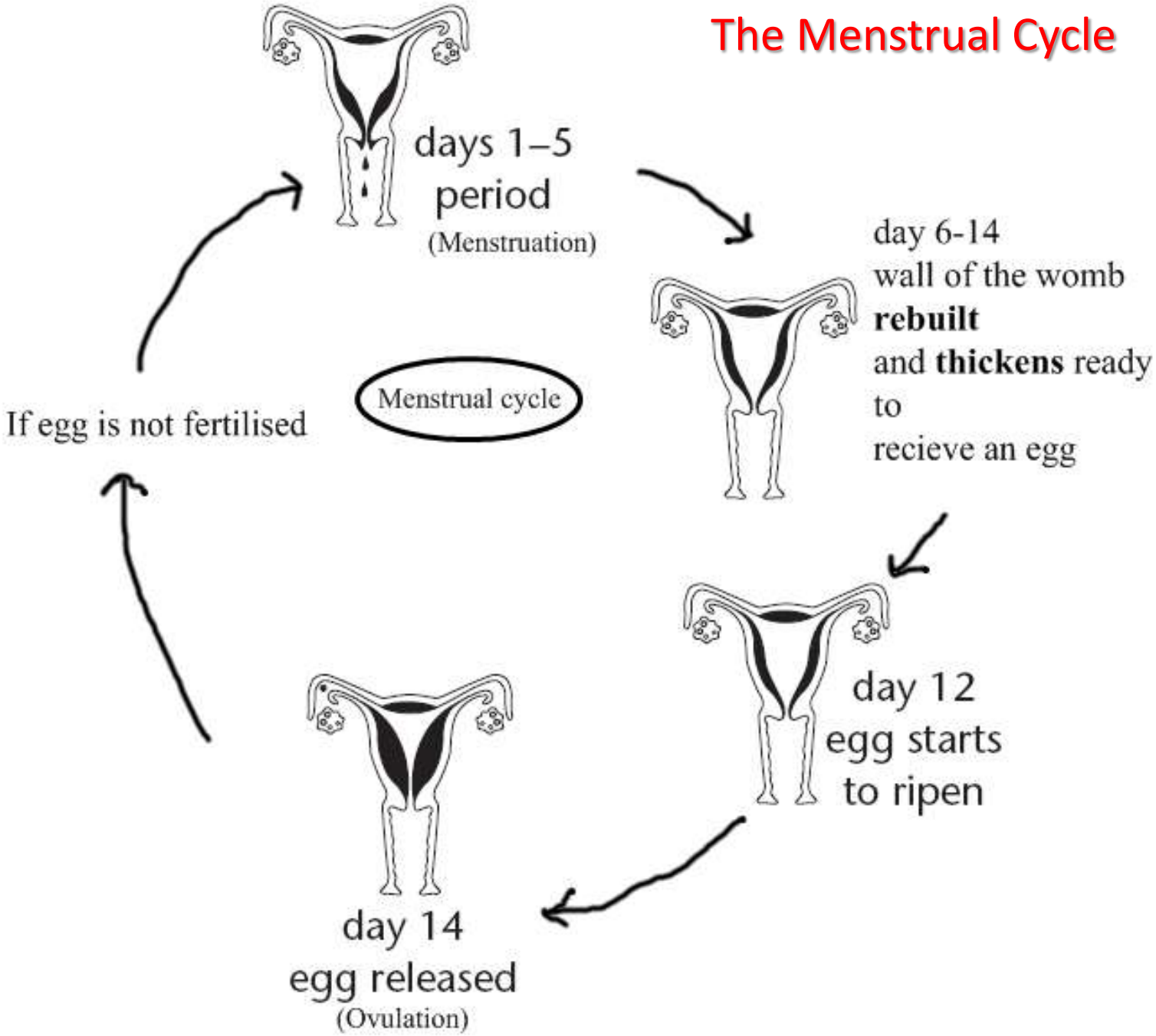


Day 1 – 7

The cycle starts over again expelling the lining of the uterus and the egg.

Remember this is known as a period or menstruation.

The Menstrual Cycle



Sperm or egg?

Which adaptations do sperm and eggs cells have?

sperm	eggs

contain food stores

?

C

solve

For a woman to become pregnant fertilisation must occur.

What is fertilisation?

Fertilization is the fusing of an egg and a sperm cell. In this process the sperm's nucleus will join with the egg's nucleus.

Females produce an egg approximately every 28 days. This is called **ovulation**.

Males continually produce sperm in the testes.

How do these cells come into close contact with each other?

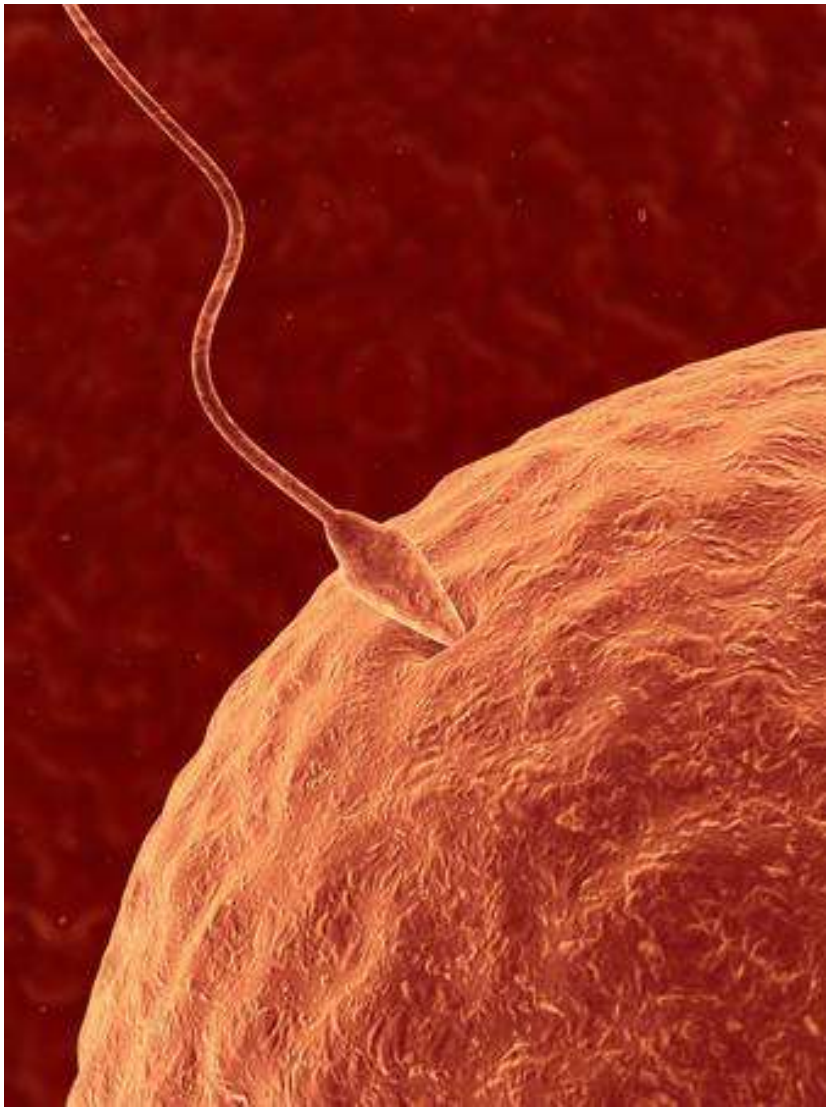
Sexual intercourse

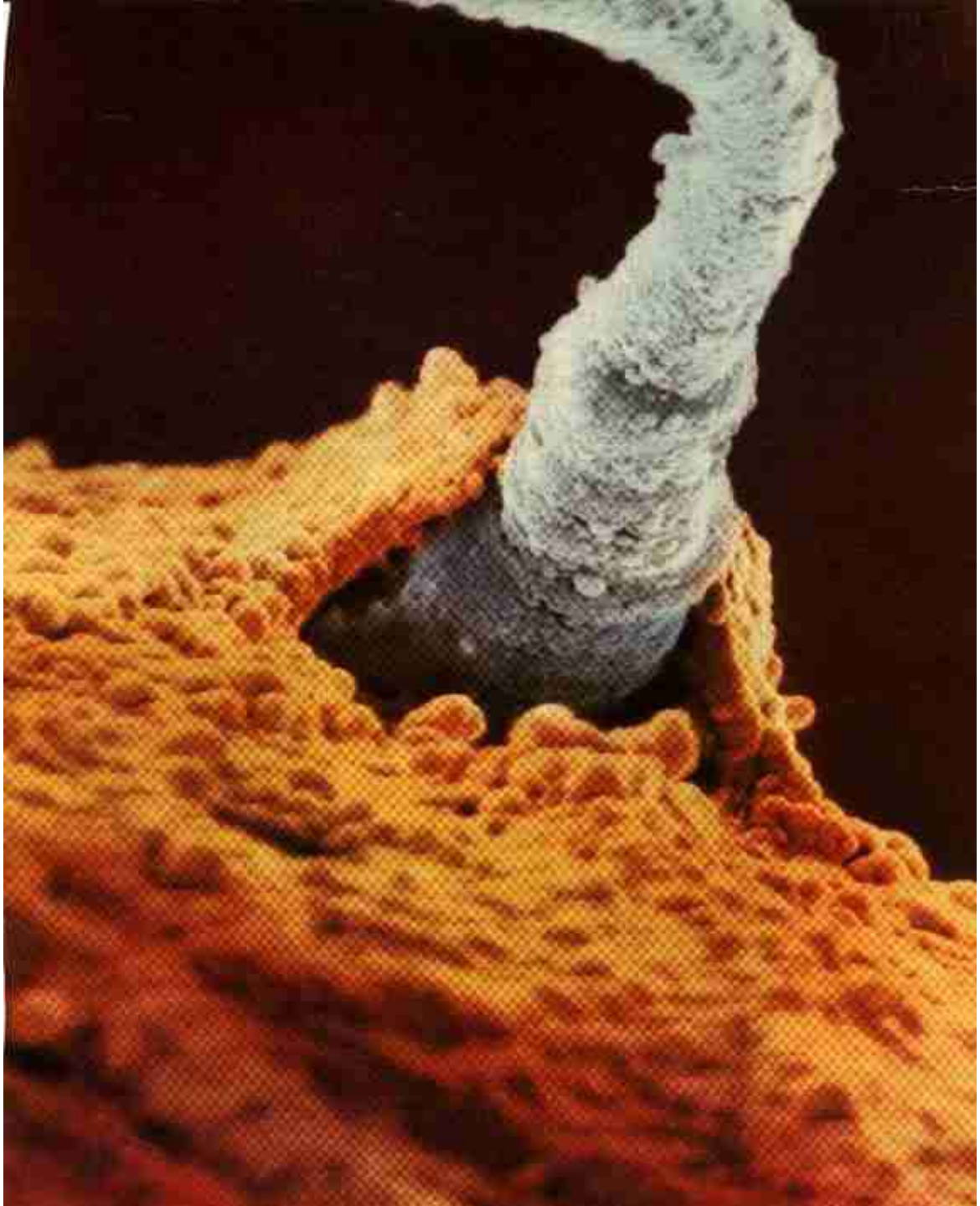
During **sexual intercourse** the man inserts his penis into the woman's vagina.

Millions of sperm cells are ejaculated into the top of the vagina.

They enter the uterus through the cervix, where the sperm cells may meet an egg.

Now fertilisation can occur.



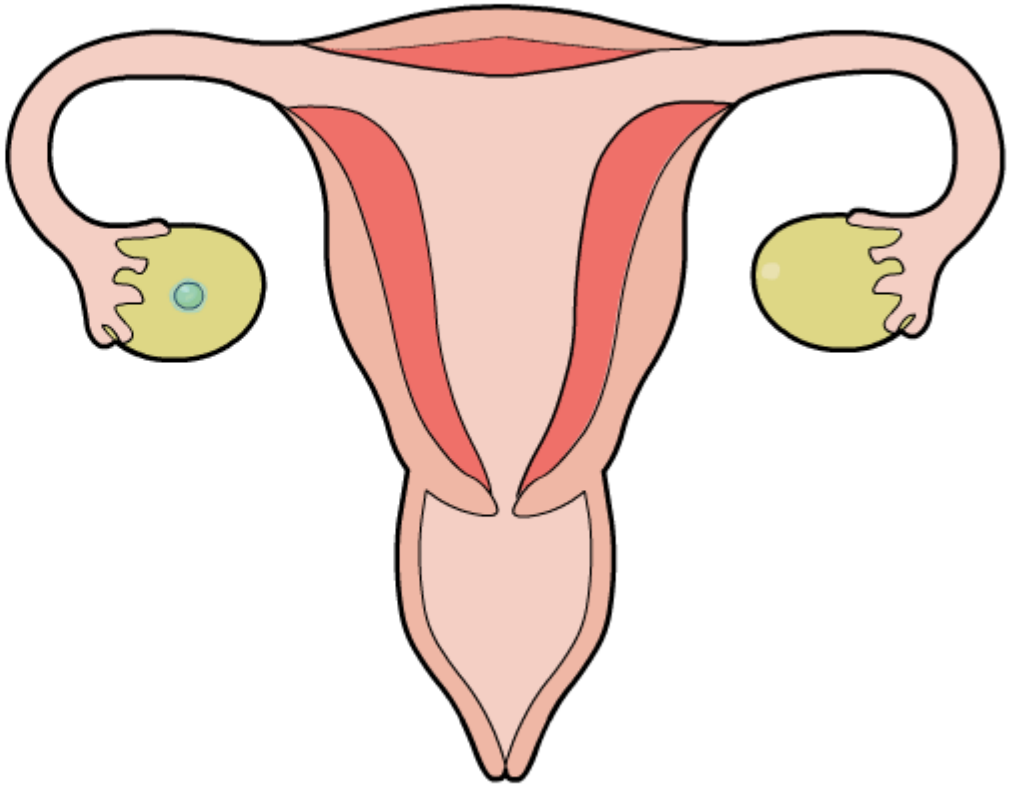


Fertilisation and implantation

Fertilization and implantation

During fertilization the male and female sex cells fuse.

Click "**play**" to find out more about the process.



Questions – use pp. 36-38 red books

1. List adaptations that sperm and eggs have for their function.
2. What helps the ovum (egg) move along the oviduct?
3. Which part of the male anatomy adds fluid to the sperm?
4. How many sperm are contained in 3cm3 of semen?
5. Where does fertilisation take place? How does this differ with plant fertilisation?
6. Describe how twins (both identical and non identical) are produced.

<u>Read the article "Sperm Tracked in 3-D – a First":</u>

1. Why might this new technology be helpful?
2. Why was this technique better than conventional ways of tracking sperm?
3. What did it show about the path that some sperm take?

What does each reproductive process involve?

ovulation	The egg and the sperm nuclei fuse.
ejaculation	The ejection of sperm through the penis.
fertilization	The embryo sinks into the uterus lining.
implantation	The release of an egg from the ovary.

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