

# **IGCSE Biology**

## **Year 11**

# **Human**

# **Reproduction**

Name: \_\_\_\_\_

# Glossary

You will reference back to this page throughout the lesson

Ovum

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Sperm

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Gametes

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Fertilisation

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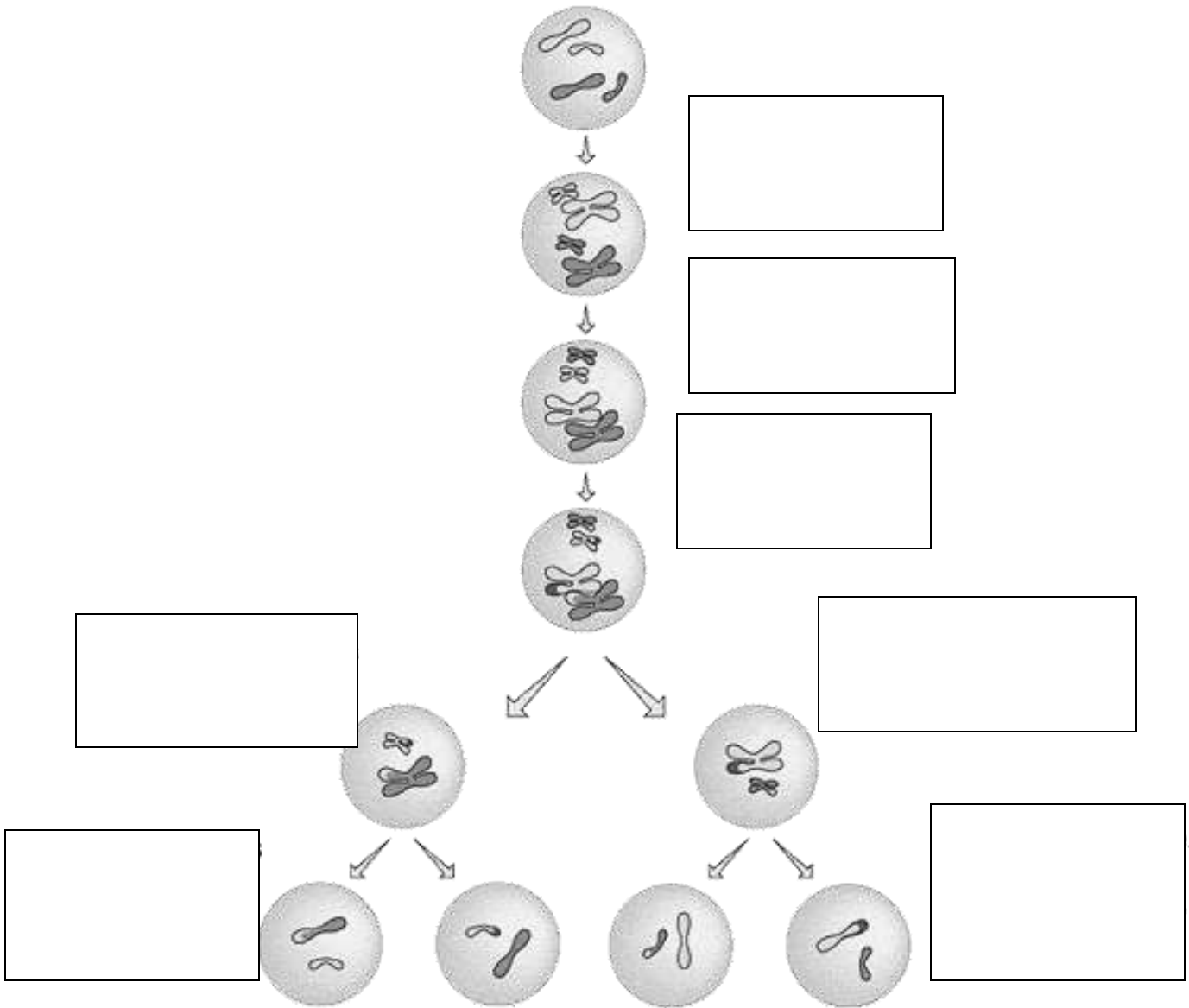
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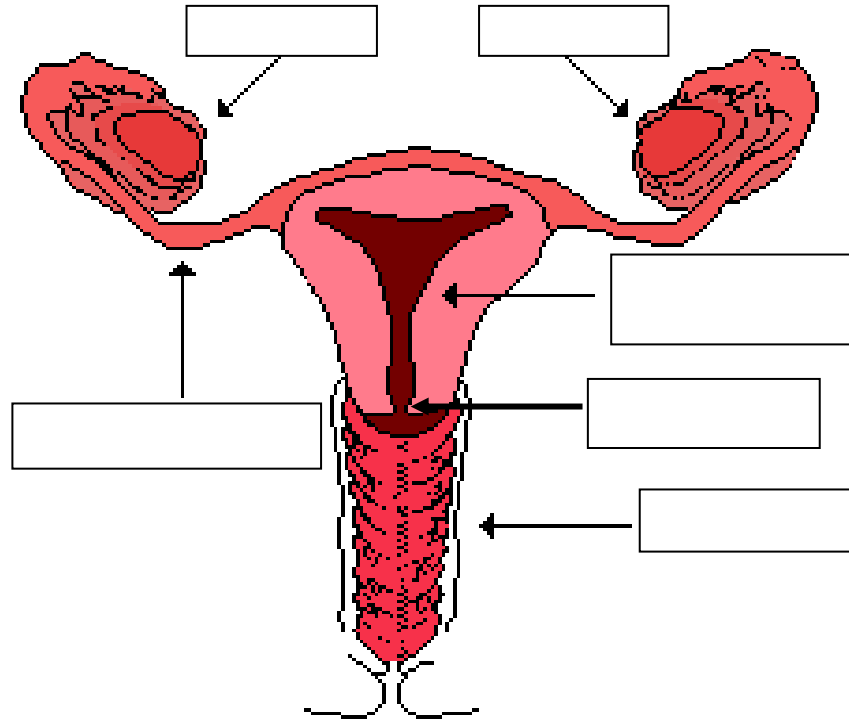
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# Meiosis



# The Female Reproductive System

Label the parts of the Female Reproductive system:



Fill in the table on the next page to show the structure and function of these parts.

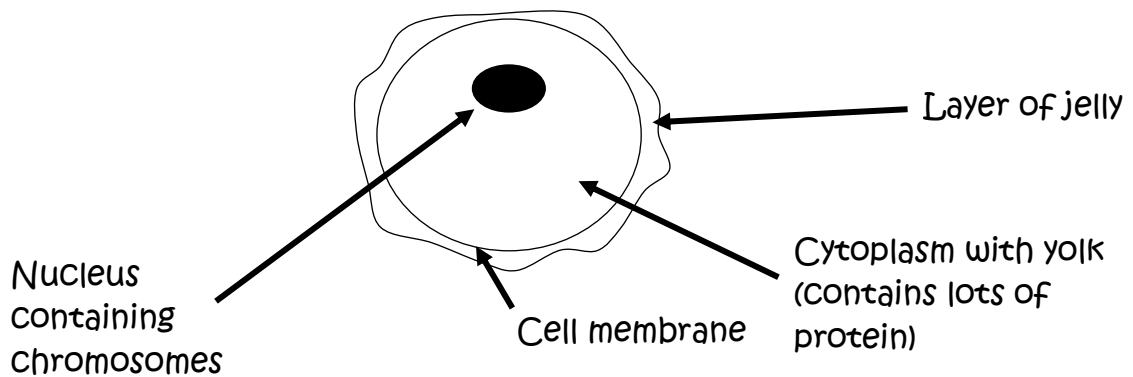
Structure and function of the female reproductive system

Part	Structure (what does it look like?)	Function (what does it do?)
Ovaries	Small, walnut sized organs	Makes the ova (female gamete)
Oviducts		
	Has thick walls made of muscle	
		Holds the baby in place during pregnancy
Vagina		

Structure and function of the female gamete

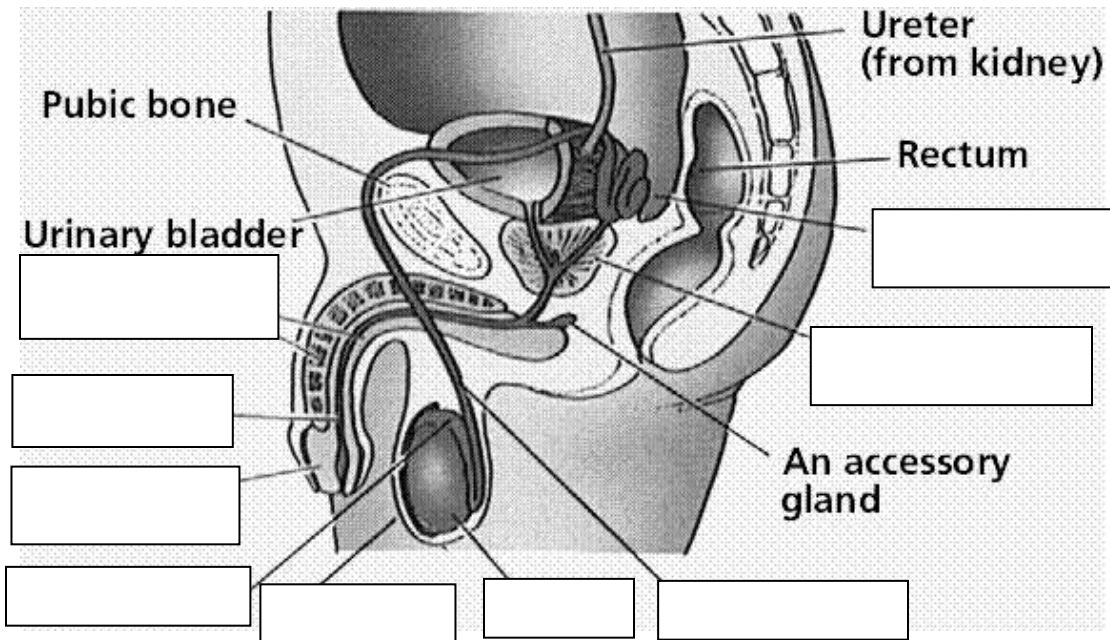
Draw lines from the functions of the ovum to the correct part of its structure:

To provide half the information required to make a new life.	To allow one sperm to enter the outer wall during fertilisation.	To provide nutrients for the developing zygote (fertilised egg).
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# The Male Reproductive System

Label the parts of the male Reproductive system:



## Structure and function of the male reproductive system

Part	Structure (what does it look like?)	Function (what does it do?)
Testis	Medium, egg shaped organs	Makes the sperm (male gamete)
Scrotum		
	Pasta	
		Carries sperm away from testes

Prostate gland		
Penis		

1. \_\_\_\_\_ and \_\_\_\_\_ are fluids that are carried by the urethra.
  
  2. Two glands that secrete the fluid part of semen are \_\_\_\_\_ and \_\_\_\_\_.
  
  3. When a man is sexually excited, \_\_\_\_\_ into the spaces in the \_\_\_\_\_ and the penis becomes erect.
  
  4. \_\_\_\_\_ is a layer of skin that covers the end of the penis. It can be removed for religious reasons or if it is too tight This process is known as \_\_\_\_\_.
  
  - 5.
  
  6. Men must be careful to pull back the foreskin and clean underneath it. Using your knowledge of microbes, why do you think this is important? \_\_\_\_\_
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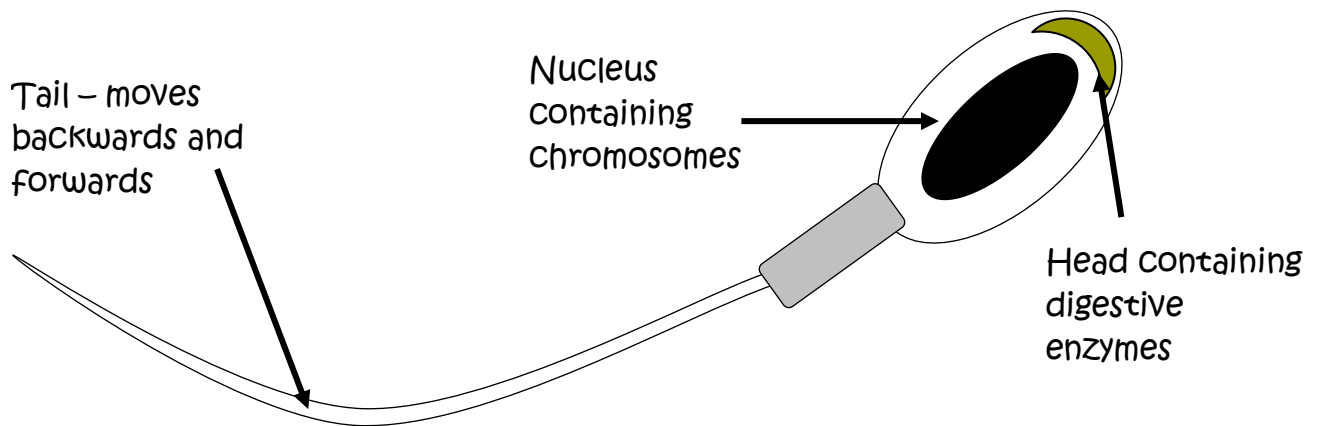
## Structure and function of the male gamete

Draw lines from the functions of the sperm to the correct part of its structure:

To provide half the information required to make a new life.

To swim to the ovum

To penetrate the outer wall of the ovum.



The middle section has a role in making the tail move. It contains lots of mitochondria. Find out what mitochondria do and explain why you think the middle section of sperm has so many. Merit for the answer

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## Menstrual Cycle

1. What usually happens to the life of the ovum?

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2. The first phase of the menstrual cycle is called \_\_\_\_\_.

During this cycle the lining of \_\_\_\_\_ and a small amount of \_\_\_\_\_ comes out through the \_\_\_\_\_. This is called \_\_\_\_\_ or “\_\_\_\_\_.”

3. The second phase of the menstrual cycle is called \_\_\_\_\_.

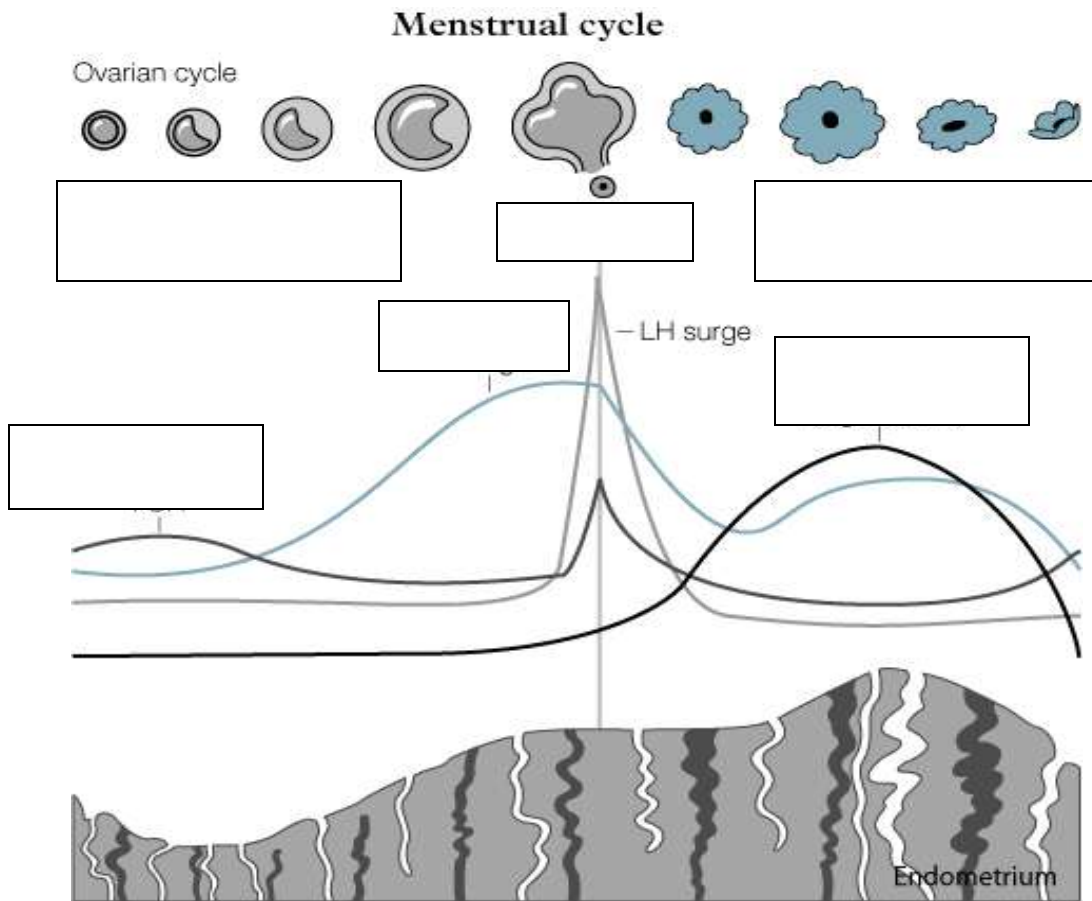
During this phase the uterus lining will \_\_\_\_\_. A new \_\_\_\_\_ starts to mature inside a “\_\_\_\_\_” in the \_\_\_\_\_.

During these days, the lining of the uterus starts to get \_\_\_\_\_ in preparation for a \_\_\_\_\_. At about the middle of the cycle, \_\_\_\_\_ occurs. The ovum travels down the \_\_\_\_\_. The \_\_\_\_\_ stays in the ovary turns into a structure called the \_\_\_\_\_.

4. The third phase of the menstrual cycle is called \_\_\_\_\_.

Thickening of \_\_\_\_\_ will occur. The hormone \_\_\_\_\_, made in the \_\_\_\_\_, keeps the lining of the uterus thick in readiness for implantation.

5. The menstrual cycle starts over again. If the ovum has not been fertilised, the \_\_\_\_\_ disintegrates and no more \_\_\_\_\_ is produced. The lining of the \_\_\_\_\_ is not needed so it comes out through the vagina with a little blood.



# Adolescence and Sex Hormones

1. \_\_\_\_\_ is a time when humans change from children to adults

## Secondary Sexual Characteristics

Hormone	Occurs in which sex?	Function (what does it do?)
Testosterone		
Oestrogen		

## Sexual reproduction and fertilisation

1. The ovum travels down the \_\_\_\_\_, moved along by the \_\_\_\_\_.  
If it meets a sperm then \_\_\_\_\_ can take place.  
The sperm get into the female reproductive system during \_\_\_\_\_.
2. Before sexual intercourse can take place, the male and female have to become sexually excited. During this process the:
  - a. Penis \_\_\_\_\_
  - b. Vagina \_\_\_\_\_
3. A wave of \_\_\_\_\_ starts in the testes and moves through the walls of the \_\_\_\_\_ and \_\_\_\_\_. Sperm are squeezed out of the urethra into the vagina. This is called \_\_\_\_\_.
4. During fertilisation the \_\_\_\_\_ are moved to the \_\_\_\_\_ by muscular \_\_\_\_\_ across the uterus. Once at the \_\_\_\_\_ sperm start to swim towards the \_\_\_\_\_. Sperm surround the ovum and the \_\_\_\_\_ in their heads start to dissolve the \_\_\_\_\_ surrounding the ovum. Once the \_\_\_\_\_ and \_\_\_\_\_ come together a \_\_\_\_\_ is formed. Another name for the sperm and egg is a \_\_\_\_\_.
5. What is the importance of fertilisation  
\_\_\_\_\_

6. What happens during cell division (mitosis)?

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7. At what stage does a zygote turn into an embryo?

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8. Where does the early embryo get its food supply?

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9. The \_\_\_\_\_ sinks and \_\_\_\_\_ into this lining of the \_\_\_\_\_ . It continues to divide. Some of these new cells form the \_\_\_\_\_ which then supply the embryo with food and oxygen. The \_\_\_\_\_ carries on making \_\_\_\_\_. The lining of the uterus is \_\_\_\_\_ shed and \_\_\_\_\_ doesn't happen. Later the placenta secretes \_\_\_\_\_, taking over the role of the \_\_\_\_\_.

10. Label this picture of a pregnant woman:



12. The \_\_\_\_\_ is the link between the \_\_\_\_\_ and the mother. It is attached to the foetus by the \_\_\_\_\_.  
The placenta has \_\_\_\_\_ that fit closely into the uterus lining.

13. Add in a line to show the mother's blood. Colour in the diagram and labels to show the exchange of materials (blue for waste, red for useful products). Annotate the diagram with numbers to show where the labels should go.

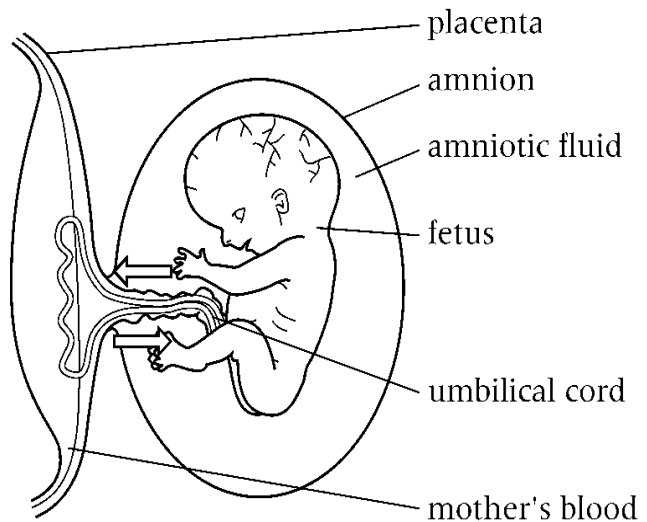
1. Foetus' blood containing Carbon dioxide and waste

2. Mother's blood containing food and oxygen

3. The two bloods exchange materials but do NOT mix!

4. Foetus' blood containing food and oxygen

5. Mother's blood containing carbon dioxide and waste



Complete these phrases:

- a. Blood from the foetus flows down the \_\_\_\_\_, into the \_\_\_\_\_ and back to the \_\_\_\_\_.
- b. Blood from the \_\_\_\_\_ flows into the uterus, \_\_\_\_\_ to the placenta and out of the uterus.
- c. FOETUS AND MOTHER'S BLOOD \_\_\_\_\_!!  
(But substances can be exchanged between them!)

14. Complete this table:

Material	Mother → Foetus	Foetus → Mother
Oxygen		
Carbon dioxide		
Urea		
Glucose		
Drugs e.g. Alcohol		
Viruses		

15. Why do you think pregnant women are advised not to drink or take drugs?

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16. What is the amnion and what is its function?

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17. Describe the features of each trimester

18. How long does human pregnancy last for?

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19. Describe what happens during birth and immediately afterwards.

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