

Annual Examinations for Middle Schools 2018

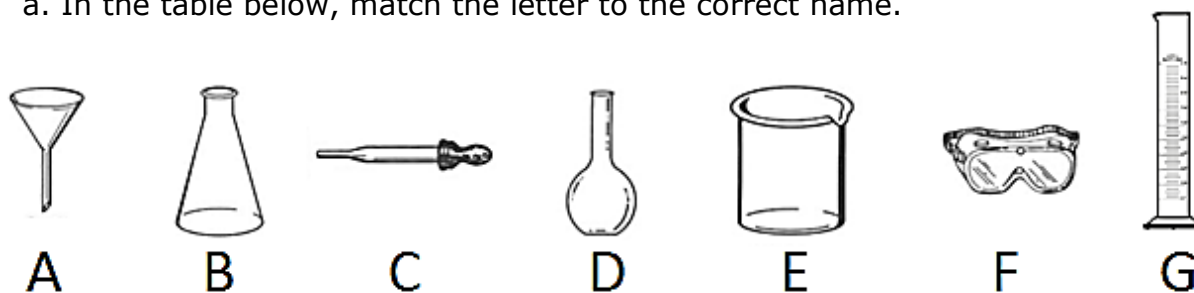
YEAR 7 **INTEGRATED SCIENCE** **TIME: 1h 30min**

Name: _____ **Class:** _____

ANSWER ALL QUESTIONS

1. Some of the labels next to the apparatus in the science lab got jumbled up.

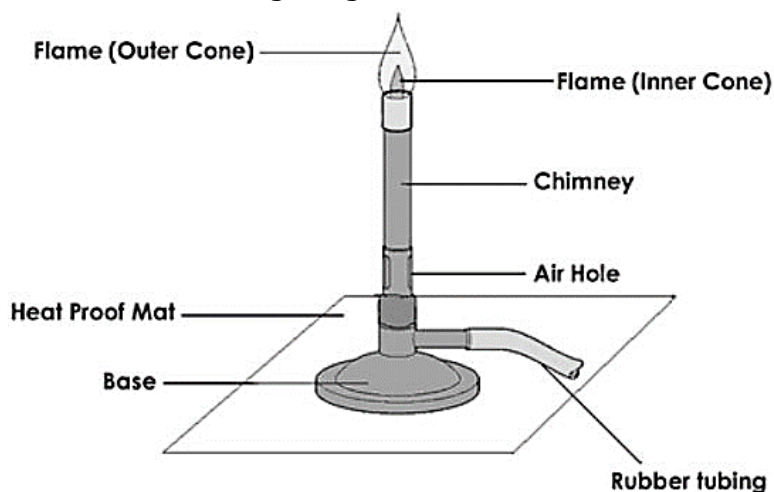
a. In the table below, match the letter to the correct name.



Letter	Name of Apparatus
	Beaker
	Funnel
	Pipette
	Measuring cylinder

(4)

b. Rebecca needs to warm some water. Write two things she has to do to be safe when lighting the Bunsen burner.



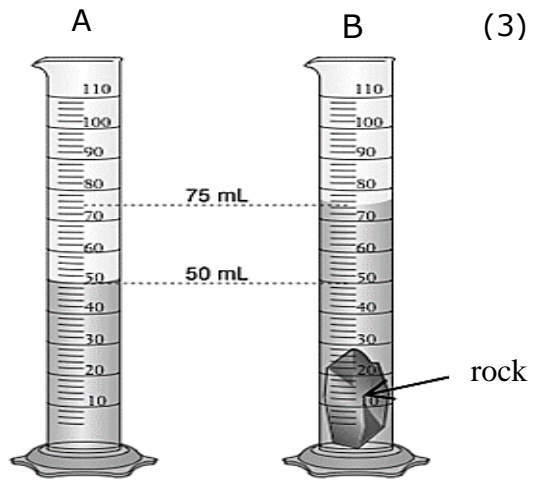
i) _____

 ii) _____

(2)

c. Jacob needs to find the **volume** of a **rock**.

i) Explain how he can use a measuring cylinder to find the volume of the irregular shape.



ii) Look at the picture. Calculate the volume of the rock.

(1)

(Total: 10 marks)

2. These two people are using what they know about the fire triangle to put out the fire safely.

a. Explain what they are doing. Write what part of the fire triangle is removed.



i) _____

(1)



ii) _____

(1)

(Total: 2 marks)

3. A car seems to do some of the vital functions, but it is not a living thing. Complete the table below:

Vital function a car seems to do	Vital function a car does not show
	The car does not grow.

(Total: 3 marks)

4. Look at the following pictures. Follow the arrows and clues to match the letter with the animal. Write the animal under the letter.



Panda



Eagle



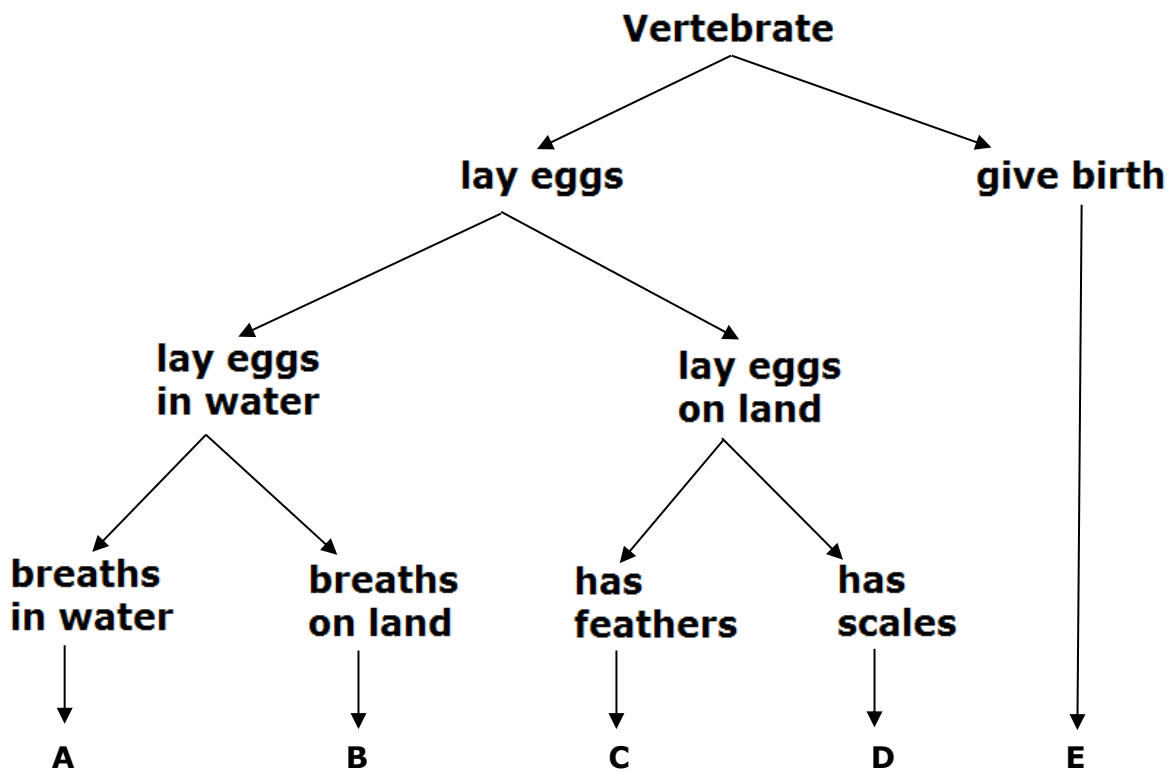
Frog



Fish



Turtle



Panda

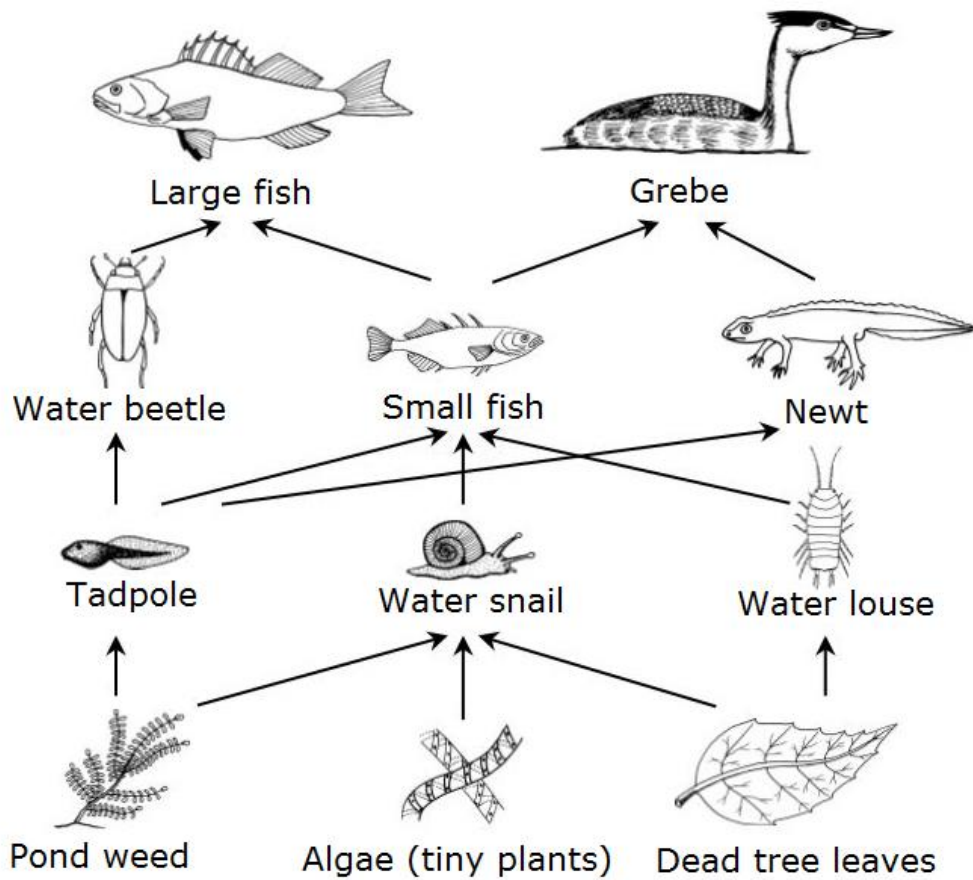
(Total: 4 marks)

5. This question is about vertebrate animals. Fill in:

- a. Vertebrates are all animals that have a _____.
- b. Fish live in water and have _____ for breathing.
- c. The young of _____ live in water, but the adults live on land.
- d. Birds and _____ are warm-blooded.

(Total: 4 marks)

6. The picture below shows a food web from a lake. Answer the following questions about this food web.



a. Due to overfishing, the population of the small fish decreased. Describe how one other animal is affected by this change.

(1)

b. Use the above food chain and complete the following sentences:

- i) The predators of small fish are large fish and _____.
- ii) The prey of water beetles are _____.
- iii) Two herbivores from the food web are _____
and _____.
- iv) The _____ is a top predator.

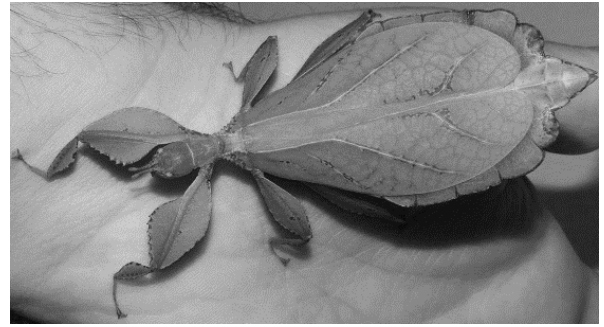
(5)

(Total: 6 marks)

7. Look at the insect in the picture.

a. Describe one adaptation this insect has.

_____ (1)



b. Explain why this adaptation helps the animal survive.

_____ (1)

(Total: 2 marks)

8. The diagram below shows the particles of three different states of matter.

a. Write the state of matter under the pictures: solid, liquid or gas.



_____ (3)

b. Fill in the table below about the three states of matter:

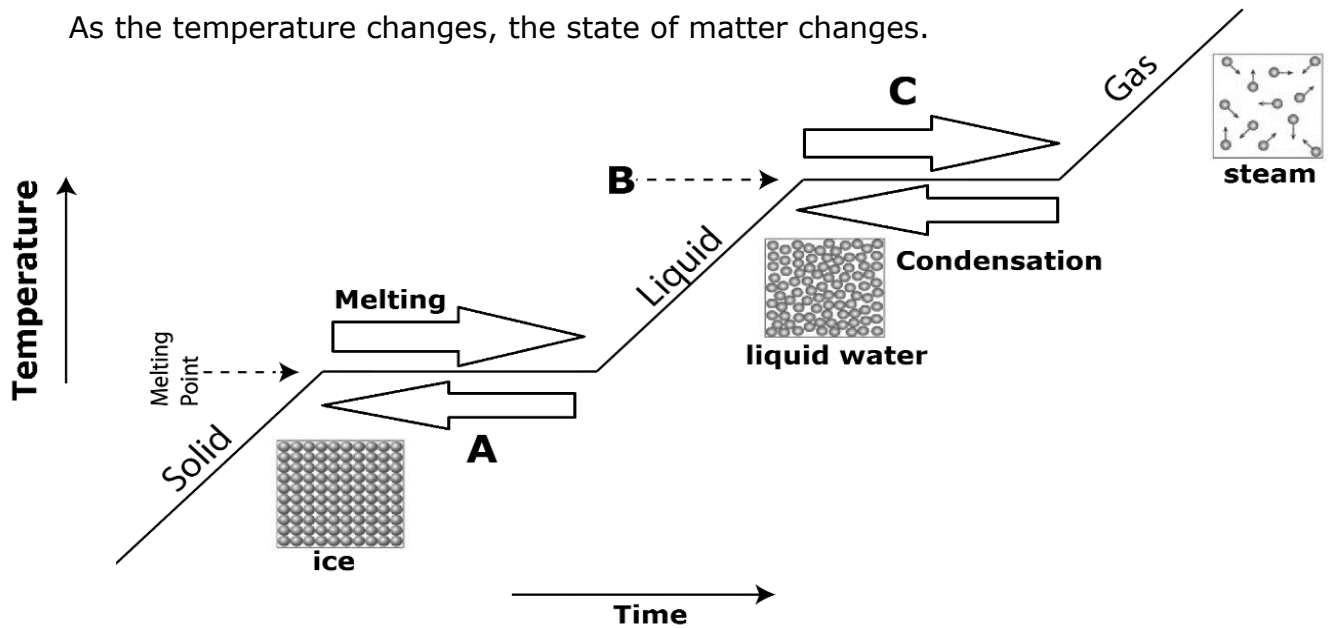
	Gas	Liquid	Solid
Organisation (particle pattern)		Particles touch each other, but do not have a fixed pattern	
Spacing between particles	A lot of space		No space between particles
Movement of particles	Particles move everywhere at a high speed	Particles can flow and take the shape of the container	
Example	Air		Table

(5)

(Total: 8 marks)

9. Look at the diagram below.

As the temperature changes, the state of matter changes.



a. Name the processes marked **A** and **C**:

A: _____ **C:** _____ (2)



b. The temperature change at point **B** is called _____ point. (1)

(Total: 3 marks)

10. This question is about Energy. Fill in the blanks.

a. Energy cannot be _____ or destroyed, but it can be changed from one _____ to another. (2)

b. Look at the pictures and fill in the missing information.

	Input energy	Output energy	Non-useful energy
Kettle 	Electric energy		
Coal fireplace 	Stored energy	Heat energy	

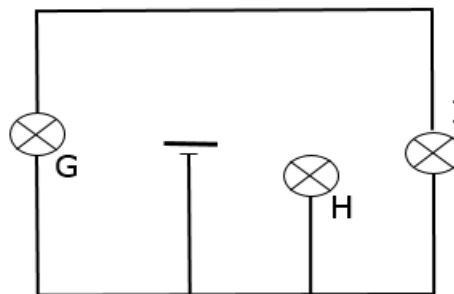
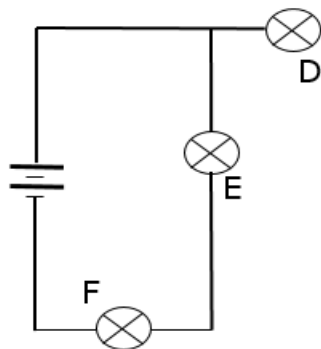
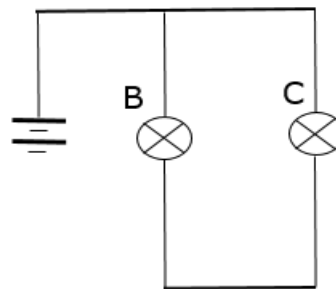
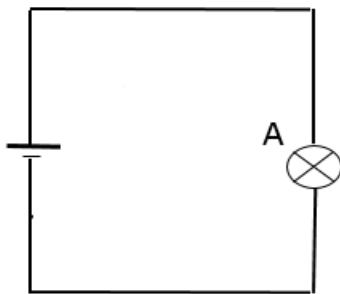
(3)

(Total: 5 marks)

11. The following circuits may be incomplete.

a. List the letters of the bulbs that will light in the following circuits.

(3)



b. On the diagram correct each circuit so that ALL bulbs will light.

(3)

(Total: 6 marks)

12. This picture shows oil being put on a bicycle chain to reduce friction. Complete these sentences by choosing from the words below. Each word may be used once, more than once or not at all.



mix sand grease rub lubricants heat movement

Friction is made when two surfaces _____ together. Where there is friction, _____ energy is given out. Friction can be reduced by using _____ such as oil or _____.

(Total: 4 marks)

13. Potatoes grow best in an acidic soil with a pH level between 5.0 and 6.0. It is possible for them to grow in a higher pH, but the risk of developing a disease is more likely. Lowering soil pH requires planning, but it is worth the effort because it results in an increase in plant health and production.



a. George is a farmer. The pH of his soil is 7.5. He wants to grow potatoes and needs to lower the pH. Suggest a way how this may be done.

_____ (1)

b. Name the reaction between an acid and an alkali. _____ (1)

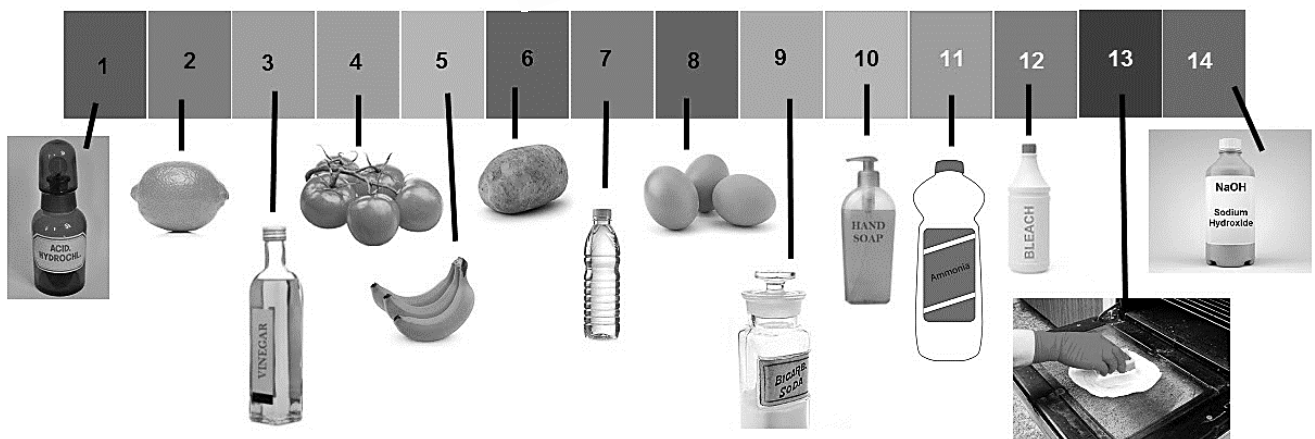
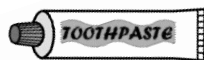
c. George needs an indicator to make sure that the soil pH does not go below 5. State if the litmus paper is a good indicator for this purpose.

_____ (1)

Give a reason for your answer.

_____ (1)

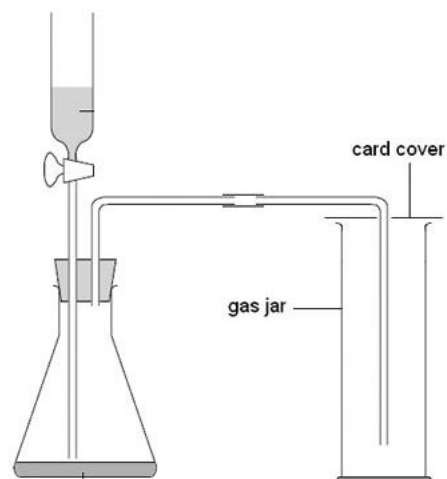
d. Look at the pH scale below. Some substances have been placed next to their pH value. Draw a line to show where you would place tooth paste:



(1)

(Total: 5 marks)

14. Amy was carrying out experiments to produce different gases. She used the apparatus shown to collect the gases.



a. She performed different tests to identify the gases produced. Fill in the following table of results:

Test performed	Observation made	Gas
Place a glowing splint in the gas jar.	It relights a glowing splint.	
Place a lighted splint in the gas jar.		Hydrogen
Pass the gas through lime water.	Turns lime water milky white.	Carbon Dioxide

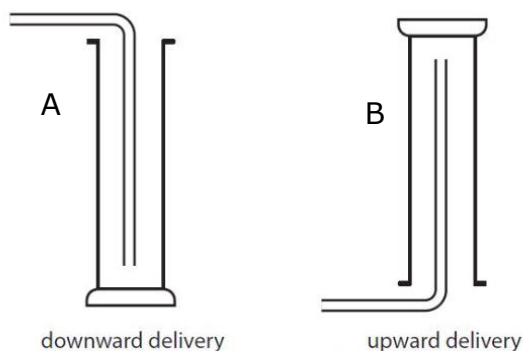
(2)

b. Amy was repeating the experiment without a card cover as a lid. When producing Hydrogen gas, she had to set up the gas jar in a different way. Choose from A or B to show which method you would use. Explain why.

Gas Jar _____

Reason _____

(2)



(Total: 4 marks)

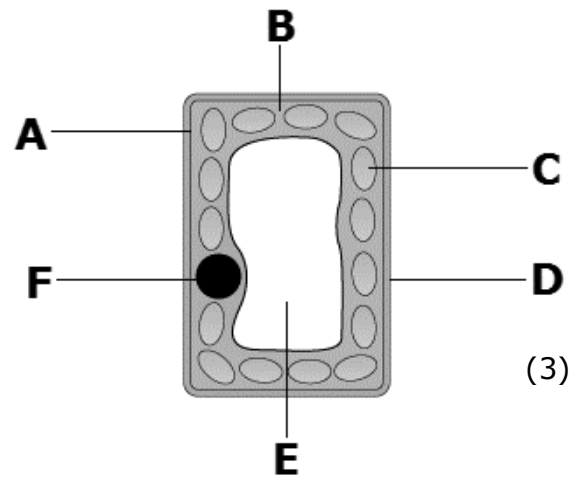
15. Look at the following plant cell and answer the following questions:

a. Name the parts B, E and F.

B: _____

E: _____

F: _____



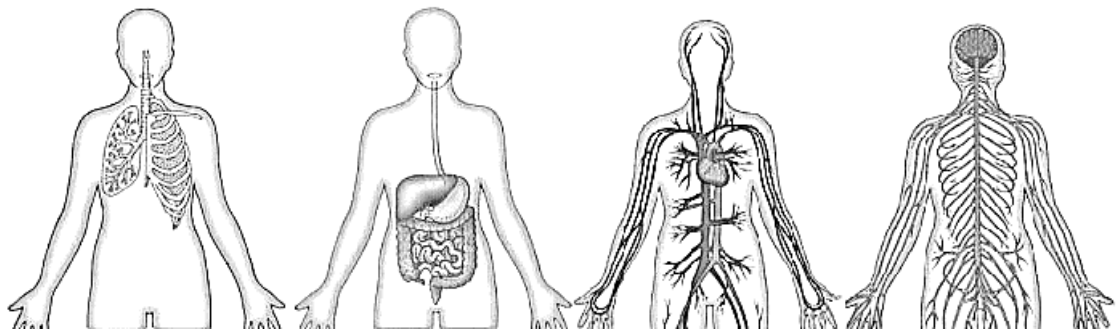
(3)

b. Write the letters that show parts of the cell present in both plant and animal cells:

(1)

(Total: 4 marks)

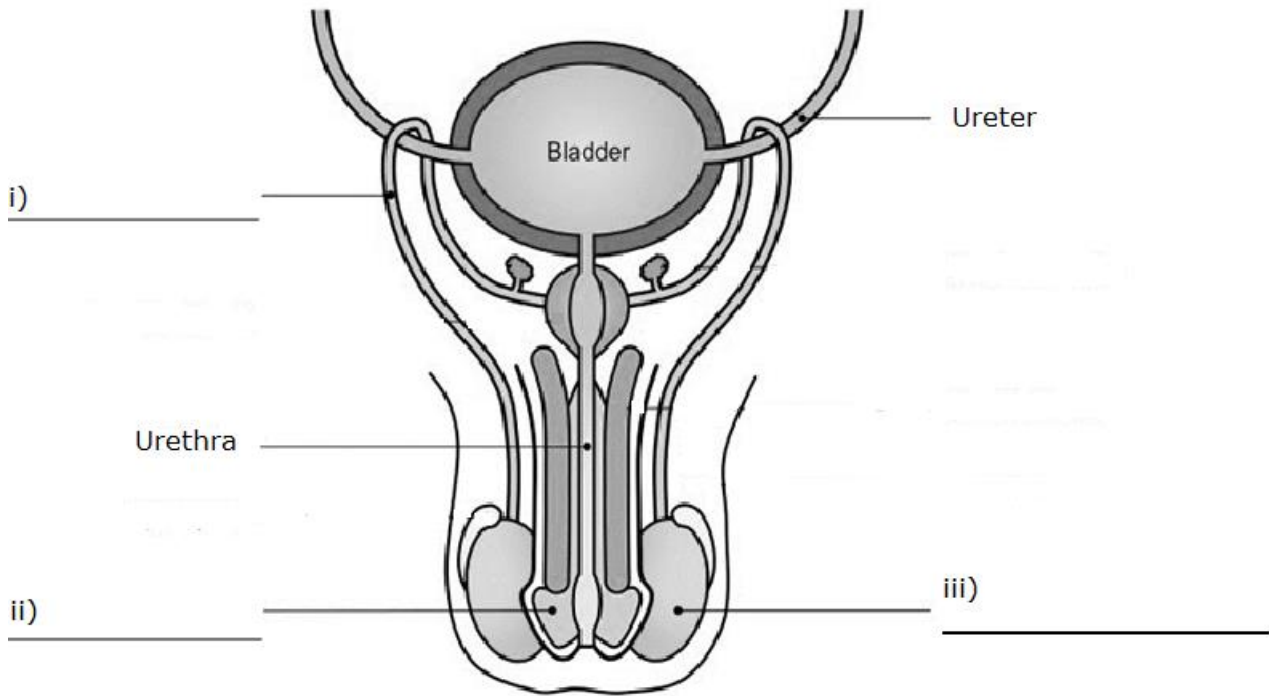
16. The pictures below show some systems that we find in our body. Fill in the missing information in the table.



Body system	Breathing system (respiratory system)		Circulatory system	Nervous system
Function	Oxygen and carbon dioxide are exchanged	Breaks down food to absorb nutrients		Controls how the body reacts
Organ		Stomach	Heart	

(Total: 4 marks)

17. The diagram below shows the male reproductive organ.



a. Fill in the missing labels i), ii) and iii)

(3)

b. Name the reproductive cell produced by the male. _____ cell

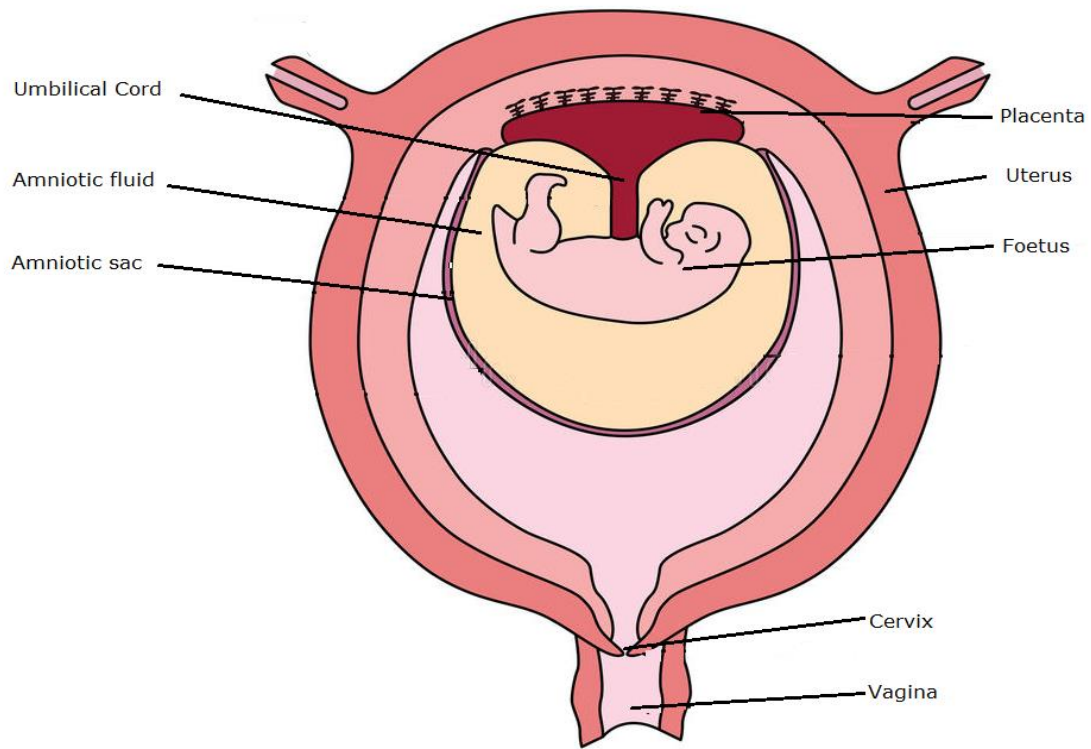
(1)

c. Describe the journey the male reproductive cell takes from the Testis to the female vagina during mating.

(2)

(Total: 6 marks)

18. This diagram shows a foetus growing inside the uterus.



- State how long a baby needs to fully develop during pregnancy.
 _____ (1)
- Describe one function of the placenta. _____
 _____ (1)
- Explain why the mother has to be very careful what she eats during pregnancy.
 _____ (1)
- Name one harmful substance that can pass from the mother to the baby.
 _____ (1)
- Describe what happens to the uterus during birth.
 _____ (1)

(Total: 5 marks)

End of paper. Check your work again.