



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2015
PRIMARY 5**

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		/ 60
Booklet B		/ 40
Total		/100

Name: _____ () **Class: P 5** _____

Date : 8 May 2015

Parent's Signature: _____

Section A: (30 x 2marks = 60marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following statements are true about sexual reproduction in plants?

- A The new plant grows from a seed.
- B Male and female sex cells are needed.
- C The new plant will definitely not inherit any traits from parent plant.
- D Reproduction is to ensure the continuity of the species to avoid extinction.

- (1) A and D only
- (2) B and D only
- (3) A, B and C only
- (4) A, B and D only

2. Study the flower below.



What is the most likely agent of pollination for the flower above?

- (1) Wind
- (2) Water
- (3) Insect
- (4) Hummingbird

3. Clarice cleared her garden for planting rose plants. After a few weeks, she noticed that there were other plants growing there as well. As these plants were not planted by her, how did they get carried there?

- A The Sun disperses the seed with its light.
- B The wind disperses the seeds to the garden.
- C Birds eat the fruit and the seeds, the seeds are then passed out with the waste materials in the garden.

- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) A, B and C

4. Two test tubes were set up in Diagram 1 and left for a few days in the Science Laboratory at room temperature. After 5 days, the seeds in set-up B germinated but those in set-up A did not as shown in Diagram 2. In the experiment, Solution X was used to absorb oxygen and Solution Y was used to absorb carbon dioxide.

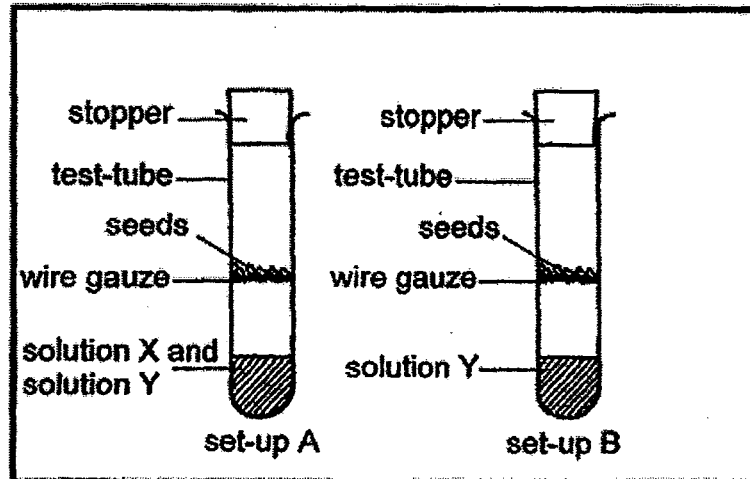


Diagram 1

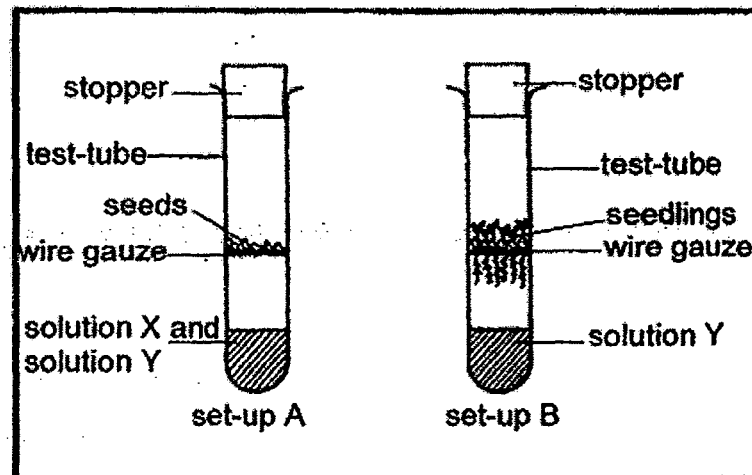
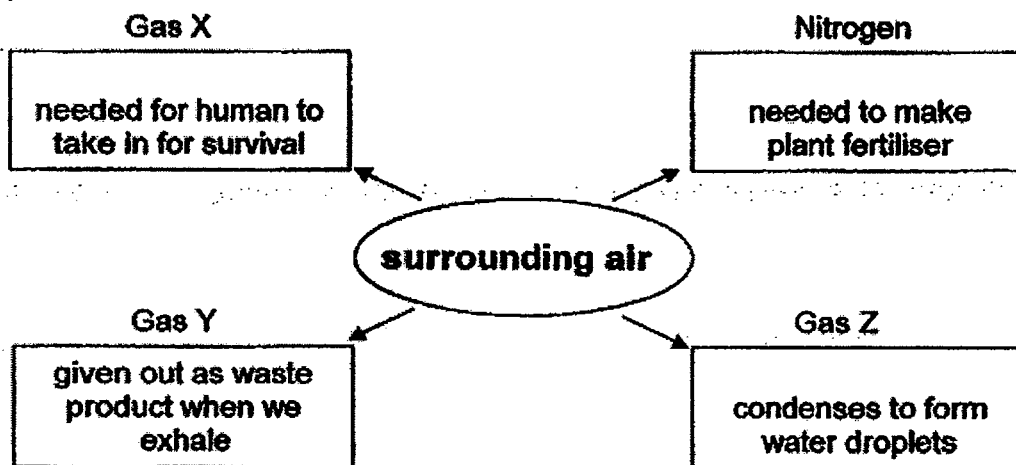


Diagram 2

What can you conclude from the experiment?

- (1) Seeds do not need oxygen to germinate.
- (2) Seeds do not need carbon dioxide to germinate.
- (3) Both oxygen and carbon dioxide are needed for seeds to germinate.
- (4) Both oxygen and carbon dioxide are not needed for seeds to germinate.

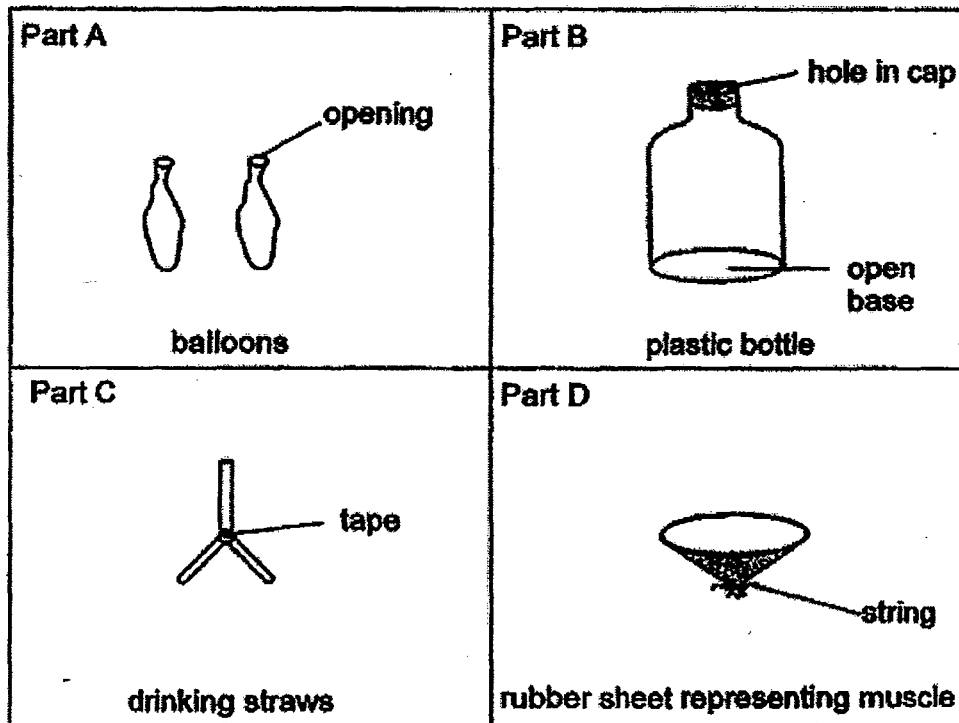
5. Mary has long hair, hitch hiker's thumb and double eyelids.
Which of the following characteristic(s) did Mary inherit from her parents?
- A Long hair
B Double eyelids
C Hitch hiker's thumb
- (1) C only
(2) A and B only
(3) B and C only
(4) A, B and C
6. In most cases in human reproduction, how many months does it take for a fertilised egg to develop into a foetus before it is ready to be delivered?
- (1) 6 months
(2) 7 months
(3) 8 months
(4) 9 months
7. The diagram shows the different types of gases in the surrounding air.



Which one of the following is correct?

	Gas X	Gas Y	Gas Z
(1)	carbon dioxide	water vapour	oxygen
(2)	oxygen	water vapour	carbon dioxide
(3)	water vapour	oxygen	carbon dioxide
(4)	oxygen	carbon dioxide	water vapour

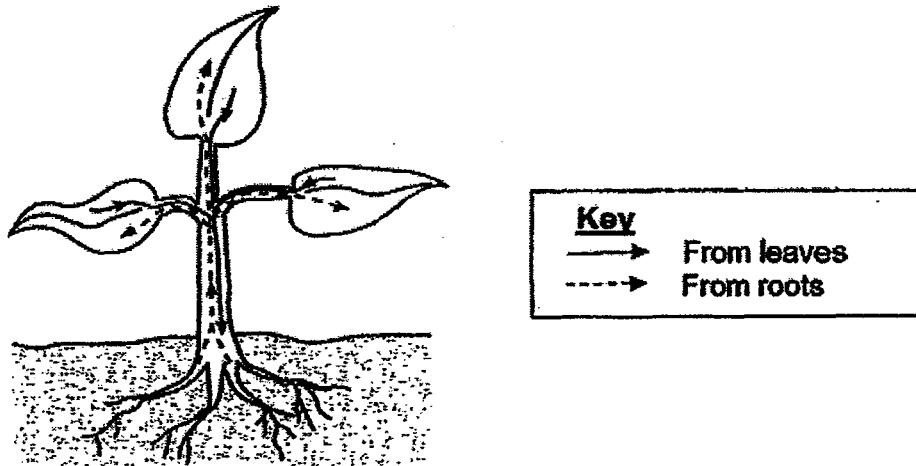
8. Sam made a model of the human respiratory system with four main parts.



Which one of the following correctly represents the parts of the respiratory system?

	Parts		
	A	B	C
(1)	air tubes	muscle	lungs
(2)	lungs	muscle	air tubes
(3)	air tubes	chest	lungs
(4)	lungs	chest	air tubes

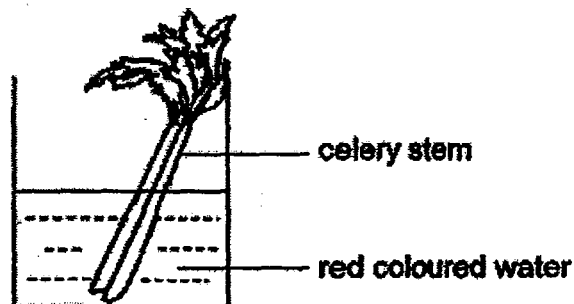
9. The diagram below shows materials which are needed for survival being transported inside a plant.



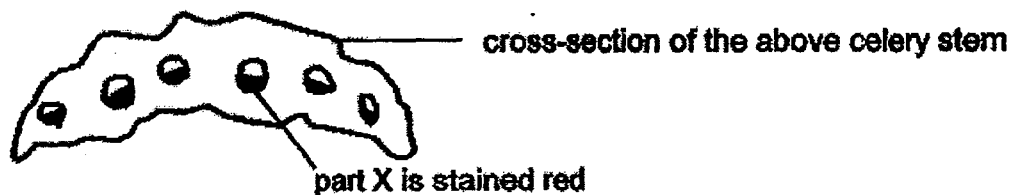
Which body system performs this function in humans?

- (1) Skeletal system
- (2) Digestive system
- (3) Circulatory system
- (4) Respiratory system

10. Ali conducted an experiment with the set-up below.



3 hours later, he cut out a cross-section of the celery stem and examined it carefully.

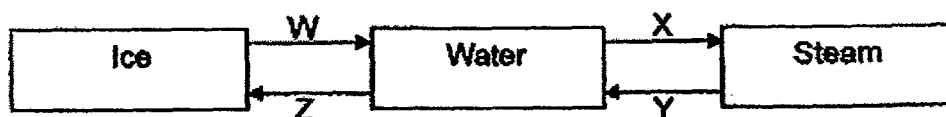


Which of the following statement(s) about part X can be concluded from his experiment?

- A Part X transports food.
- B Part X transports water.
- C Part X transports gases.

- (1) A only
- (2) B only
- (3) A and C only
- (4) B and C only

11. Study the diagram below.

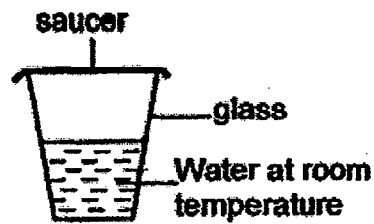


Name the processes represented by the arrows, W, X, Y and Z.

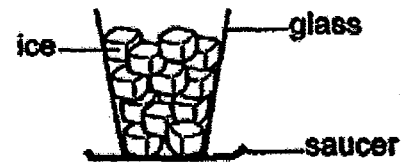
	W	X	Y	Z
(1)	Melting	Evaporation	Condensation	Freezing
(2)	Condensation	Melting	Freezing	Boiling
(3)	Melting	Boiling	Condensation	Freezing
(4)	Evaporation	Freezing	Melting	Condensation

12. Which one of the following set-ups can be used to show that there is water vapour in the air?

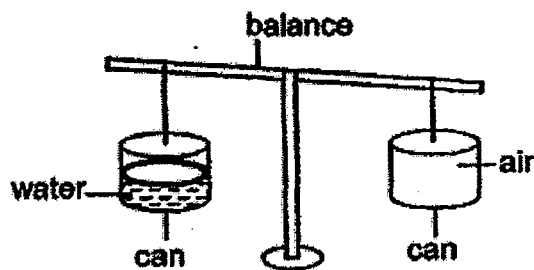
(1)



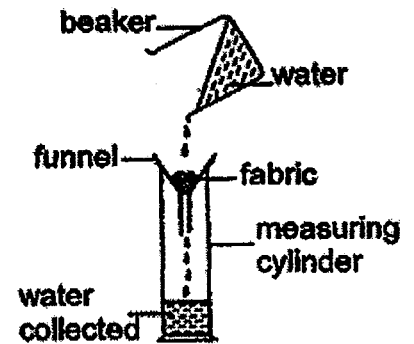
(2)



(3)

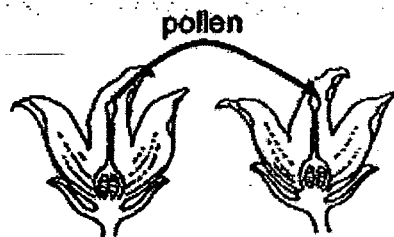


(4)

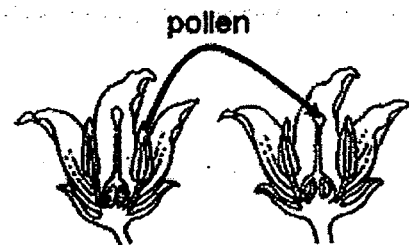


13. Which diagram correctly shows the pollination of flowers?

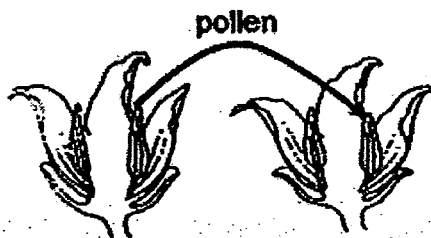
(1)



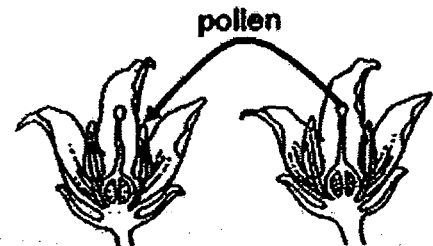
(2)



(3)



(4)



14. Ryan had 3 flowers, A, B and C. All the flowers had male and female parts. He then conducted an experiment to find out if a fruit could be produced when a certain part of a flower was removed. He used the same type of flower for his experiment.

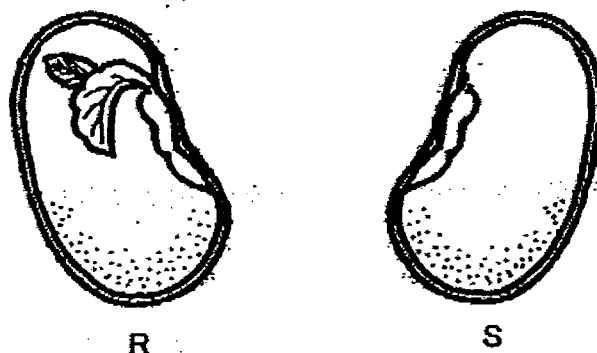
Flower A: Petals were removed.

Flower B: Stigma was removed.

Flower C: Anther was removed.

After removing the parts from the flowers, he dusted pollen grains from the same type of flower over Flowers A, B and C respectively. He observed them for two weeks. Which of the flowers are most likely to produce fruit after two weeks?

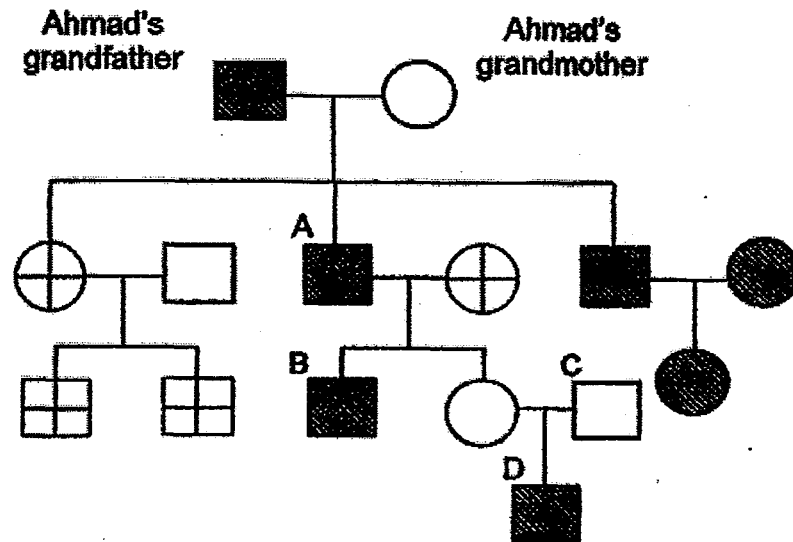
- (1) Flowers A and B
 - (2) Flowers A and C
 - (3) Flowers B and C
 - (4) None of the flowers
15. A green bean was soaked until it was soft. The seed coat was removed and the seed was split as shown in the diagram below.



Both halves, R and S, were placed on damp cotton wool and left aside for a few days. The halves were then observed. Which of the following is the correct observation?

	Observation at R	Observation at S
(1)	Nothing happened.	Nothing happened.
(2)	Nothing happened.	Seedling emerged.
(3)	Seedling emerged.	Nothing happened.
(4)	Seedling emerged.	Seedling emerged.

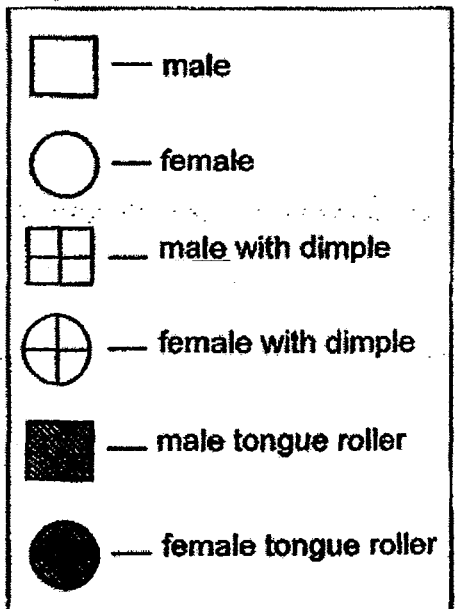
16. The diagram below shows the characteristics of Ahmad's family members.



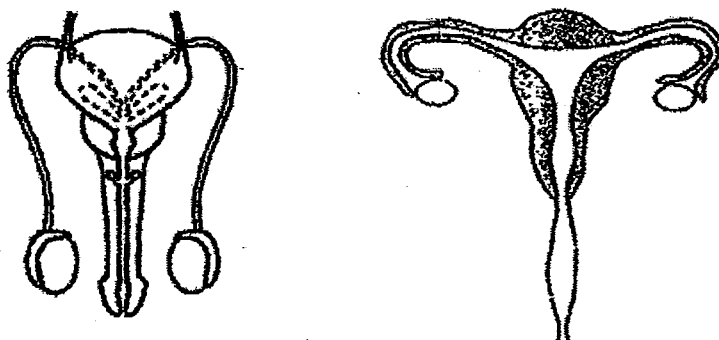
Ahmad can roll his tongue. He notices that Uncle Rahim and Aunt Minah are able to roll their tongues. Who is Ahmad?

- (1) A
- (2) B
- (3) C
- (4) D

Key



17. The diagrams below show the human reproductive system.

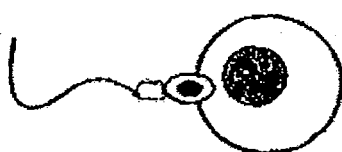


Which of the following statement(s) is/are true of the function(s) of both systems?

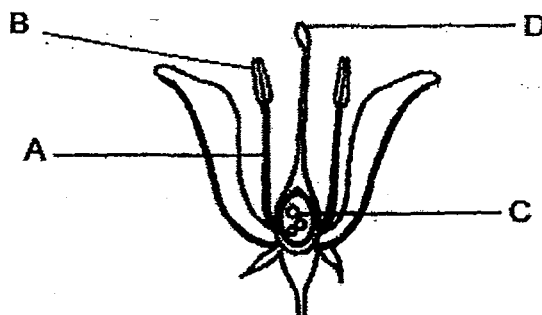
- A Both systems allow fertilisation to occur in them.
- B Both systems provide food for the developing embryo.
- C Both systems allow reproductive cells to be produced.
- D Both systems allow the embryo to be developed in them.

- (1) C only
- (2) A and D only
- (3) A, B and C only
- (4) B, C and D only

18. Study the diagrams below.



Process X



Flower T

In which part of Flower T does Process X take place?

- (1) A
- (2) B
- (3) C
- (4) D

19. Figures 1 and 2 show the blood flow in fish and human respectively.

Key
 direction in which blood flows

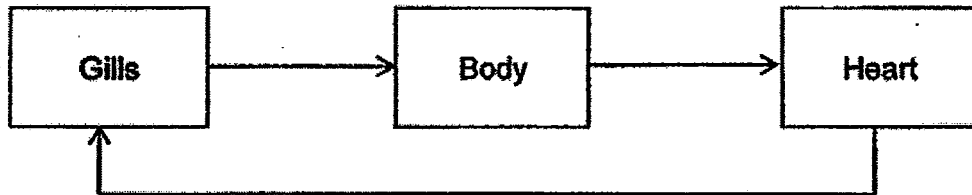


Figure 1 (fish)

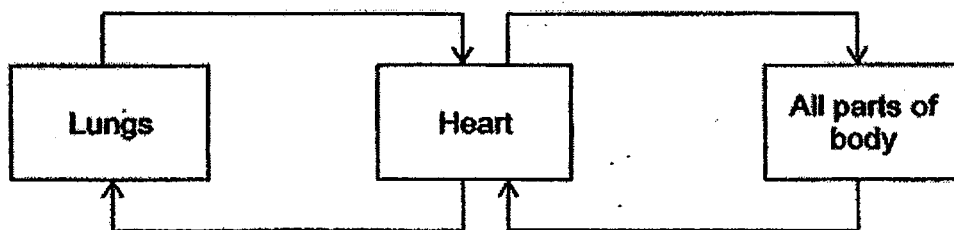


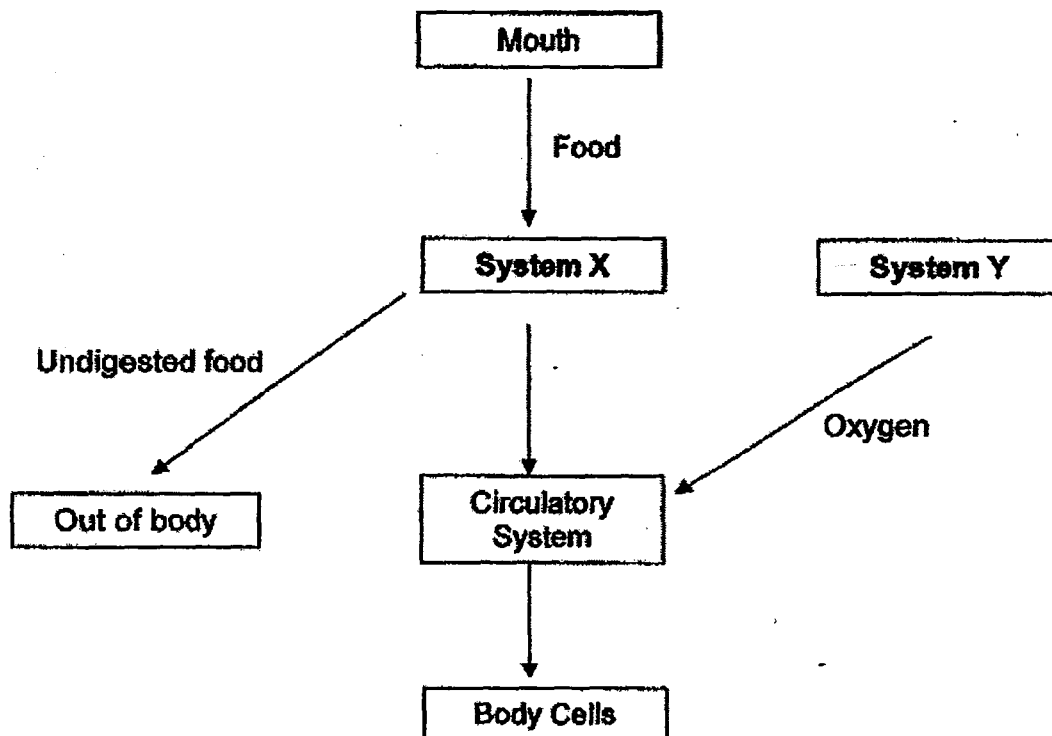
Figure 2 (human)

Based on Figures 1 and 2, which of the following statement(s) is/are correct?

	Figure 1	Figure 2
A	The blood passes through the heart once to complete a single circulation.	The blood passes through the heart twice to complete a double circulation.
B	The gills is needed to take in water.	The lungs is needed to take in air.
C	The circulatory system consists of gills, heart, blood and blood vessels.	The circulatory system consists of lungs, heart, blood and blood vessels.

- (1) A only
 (2) B only
 (3) B and C only
 (4) A, B and C

20. Study the flow chart below.



Which one of the following is the correct system for X and Y?

	System X	System Y
(1)	Digestive system	Respiratory system
(2)	Respiratory system	Digestive system
(3)	Skeletal system	Nervous system
(4)	Muscular system	Skeletal system

21. Figures 1 and 2 show how a certain substance is transported in plant and human respectively.

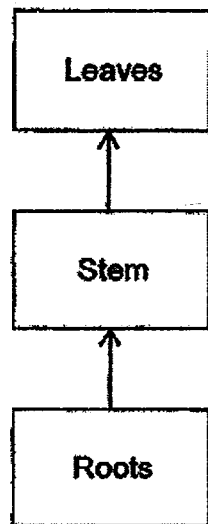


Figure 1 (plant)

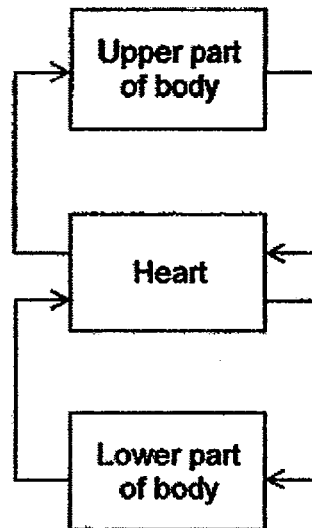


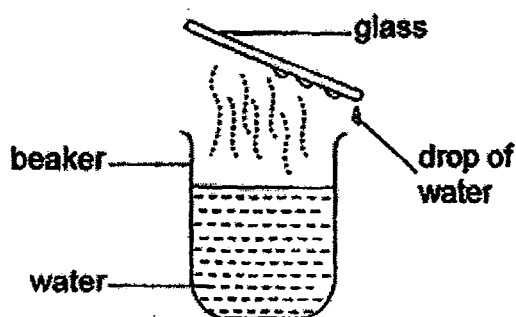
Figure 2 (human)

Which of the following is/are correct?

- A The substance that is transported in both systems is most likely water.
- B The substance in figure 1 flows in one direction while the substance in figure 2 flows in two directions.
- C The substance in figure 1 does not need a heart to pump it to all parts of the plant. The substance in figure 2 needs a heart to pump it to all parts of the body.

- (1) A only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

22. Four pupils were making statements about condensation done in the experiment shown below.



- Ariel Water vapour loses heat during condensation.
Brandon The temperature of the water in the beaker increases after condensation.
Chole Water vapour changes from gaseous state to liquid state during condensation.
Donald The rate of condensation decreases as time goes by as the glass gained more heat from the water vapour.

Who are making the correct statements?

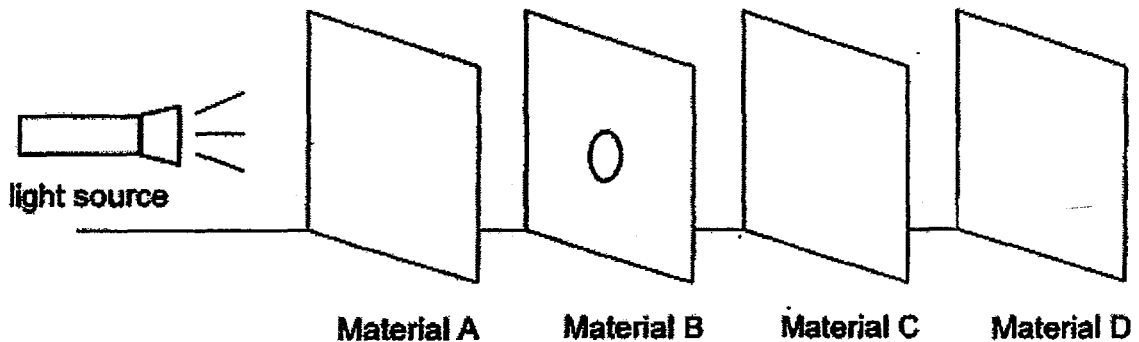
- (1) Ariel and Brandon only
(2) Chole and Donald only
(3) Ariel, Brandon and Chole only
(4) Ariel, Chole and Donald only
23. The table below shows the freezing points and boiling points of three unknown substances, P, Q and R.

Substance	Freezing point (°C)	Boiling point (°C)
P	0	100
Q	16	42
R	45	165

Which of the following substances, P, Q and R, is/are liquid(s) at 40°C?

- (1) R only
(2) P and Q only
(3) Q and R only
(4) P, Q and R

24. An experiment is carried out in a dark room to find out if light can pass through Material A, B, C and D.



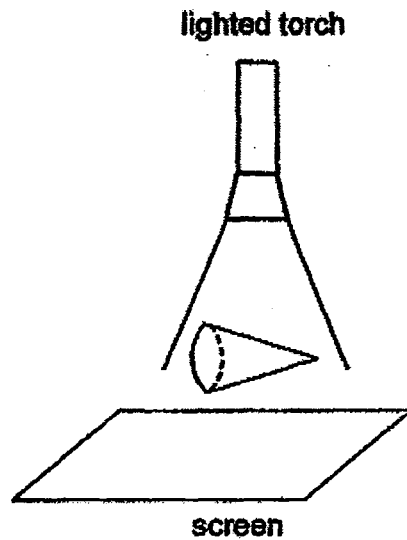
Material B has a circular hole being cut out. When the torch is switched on, a bright circular patch of light is observed on Material C.

Which of the following statements are definitely true about the property of materials A, B, C and D?

- A Material A allows light to pass through.
- B Material B allows light to pass through.
- C Material C does not allow light to pass through.
- D Material D does not allow light to pass through it.

- (1) B and D only
- (2) A and C only
- (3) A, C and D only
- (4) A, B, C and D

25. A cone is placed directly under a light source in a dark room. A shadow is formed on the screen.



Which one of the following shadows could be observed on the screen?



(1)



(2)

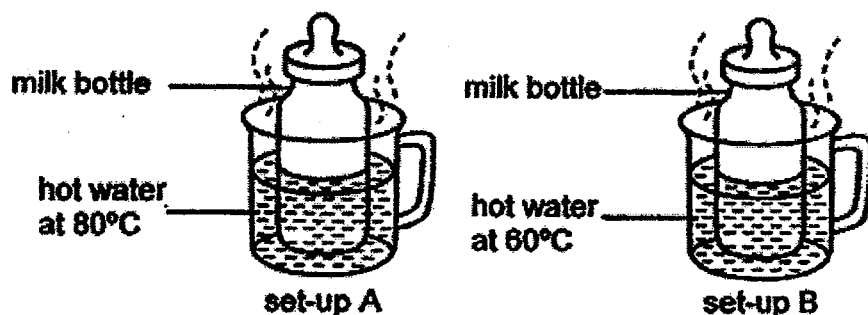


(3)



(4)

26. Sarah has just taken out two similar bottles of milk from the refrigerator and placed them in two water baths as shown below.



Which of the following statements are true?

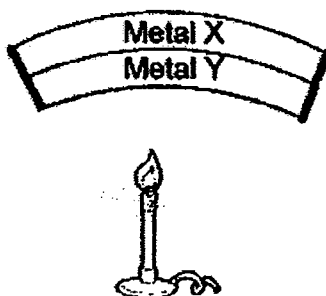
- A The temperature in both bottles of milk will increase.
- B In Set-up A, the heat from the water bath will travel to the milk.
- C In Set-up B, the heat from the milk will travel to the water bath.
- D The temperature of the bottle of milk in Set-up A will increase but the temperature of water in the water bath in set-up A will remain the same.

- (1) A and B only
- (2) A and C only
- (3) C and D only
- (4) A, B and D only

27. A bimetallic strip below is made up of two types of metals.



When it is heated, it becomes curved as shown below.



Which one of the following is the best conclusion?

- (1) Metal X expands more than Metal Y.
- (2) Metal Y expands more than Metal X.
- (3) Metal X expands while Metal Y contracts.
- (4) Metal Y expands while Metal X contracts.

28. James made 4 statements on the 4 objects shown below.



20-cent copper coin



eraser



magazine



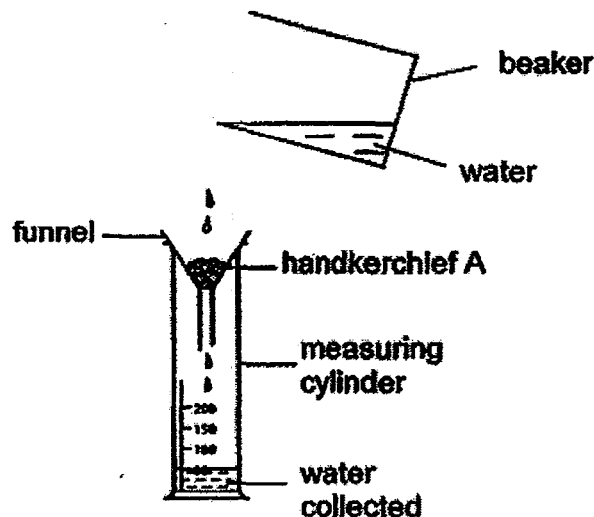
steel padlock

- A They will not break when dropped.
- B They are all made from plant parts.
- C They are made from different materials that have different strength.
- D The 20-cent coin can be used to scratch the eraser because the coin is stronger than the eraser.

Which of the following statement(s) that James made is/are correct?

- (1) B only
- (2) A and C only
- (3) B and D only
- (4) A, C and D only

29. Bala set up an experiment as shown below to find out which handkerchief can be used to soak up more of his sweat after his PE lessons.



He poured 100 ml of water from a beaker into a funnel. The water flowed through Handkerchief A before flowing out and being collected in a measuring cylinder. He recorded the amount of water collected in the measuring cylinder after 5 minutes.

After that, Bala replaced Handkerchief A with Handkerchief B and repeated the experiment. What is/are the condition(s) that Bala must keep the same in order to ensure a fair test?

- A Type of fabric
- B Duration of the experiment
- C Amount of water in the beaker
- D Amount of water collected in the measuring cylinder after 5 minutes

- (1) A only
- (2) B and C only
- (3) A, B and C only
- (4) B, C and D only

30. Study the diagrams of the different types of leaves.

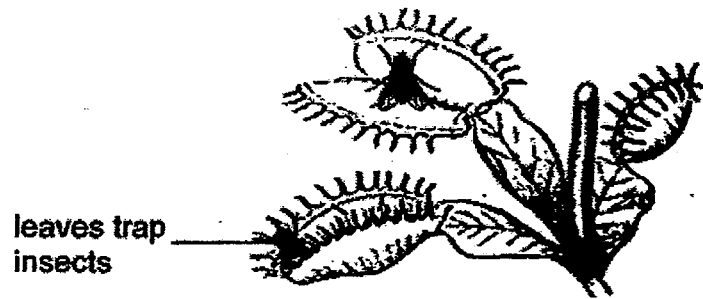


Diagram 1

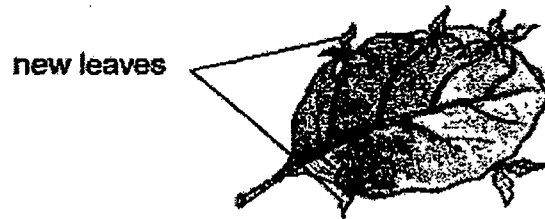


Diagram 2

Based only on the diagrams above, which one of the following statements on the function for each of the above leaves is correct?

	Diagram 1	Diagram 2
(1)	Reproduction	Transport food to other parts of plant
(2)	Help plants get nutrients	Absorb water
(3)	Provide shelter for the insect	Transport food to other parts of plant
(4)	Help plants get nutrients	Reproduction



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2015
PRIMARY 5**

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

Section B

	/40
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Name: _____ () **Class: P 5** _____

Date : 8 May 2015

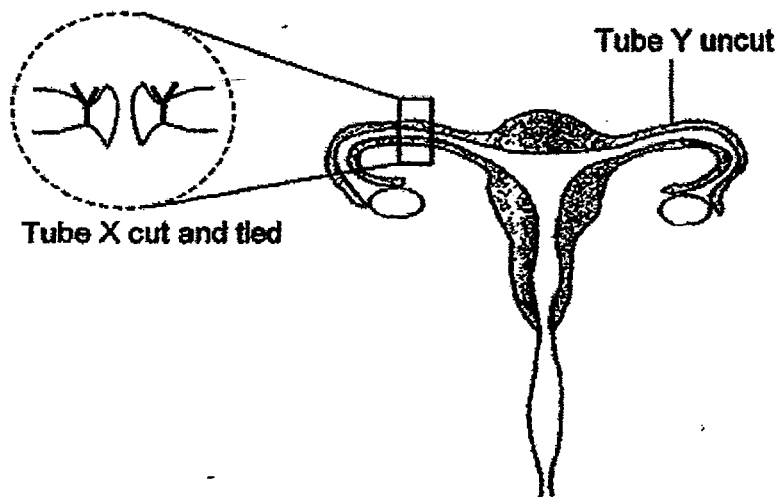
Parent's Signature: _____

Section B: (40marks)

Write your answers to question 31 to 44.

The number of marks available is shown in brackets [] at the end of each question or part question.

31. Tube X in the female reproductive organ below was cut due to a medical condition.



- (a) Circle and label the part of the organ that produces the female reproductive cell. [1]

- (b) Explain clearly why fertilisation is still possible after tube X is cut and tied? [2]

32. Diagram 1 below represents the composition of gases in the surrounding air.

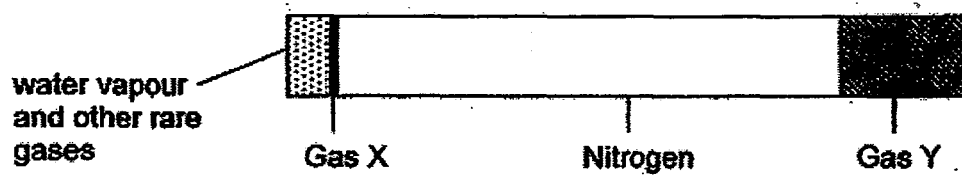
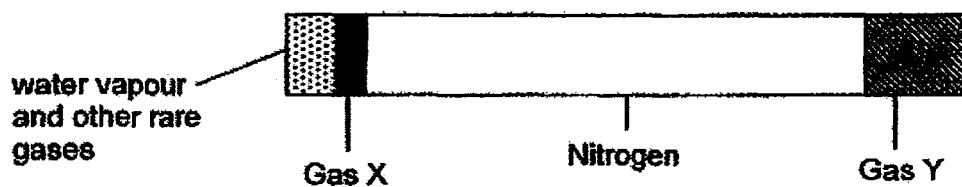


Diagram 2 below represents the composition of gases in the air exhaled by human.

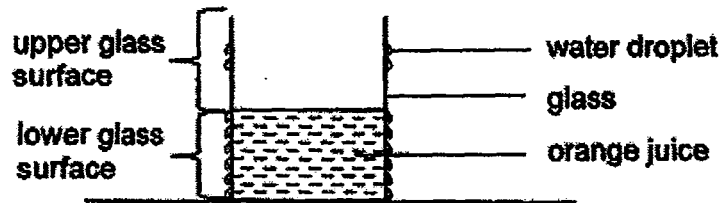


- (a) Name Gas X and Gas Y respectively. [1]

Gas X - _____ Gas Y - _____

- (b) Which gas shown in Diagram 1 is needed during exercise? Explain. [1]

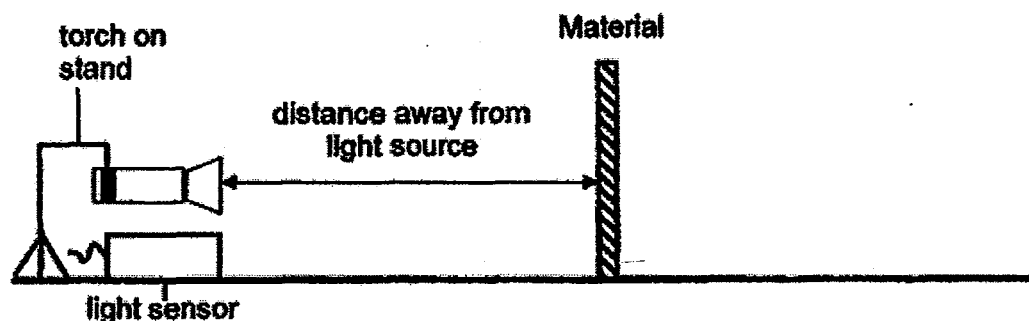
33. Daniel poured some cold orange juice from the refrigerator into a glass as shown below.



- (a) Daniel observed that there were more water droplets on the lower glass surface than the upper glass surface. Explain his observation. [2]

- (b) Daniel wanted to chill the orange juice further by adding some ice cubes. His friend told him to crush the ice cubes into smaller pieces in order to chill the orange juice faster. Explain the reason why the orange juice will chill down faster. [1]

34. An experiment was carried out to find out the amount of light reflected by two types of materials, X and Y. Material X and Material Y of equal thickness are placed at an equal distance away from the light source and light sensor.



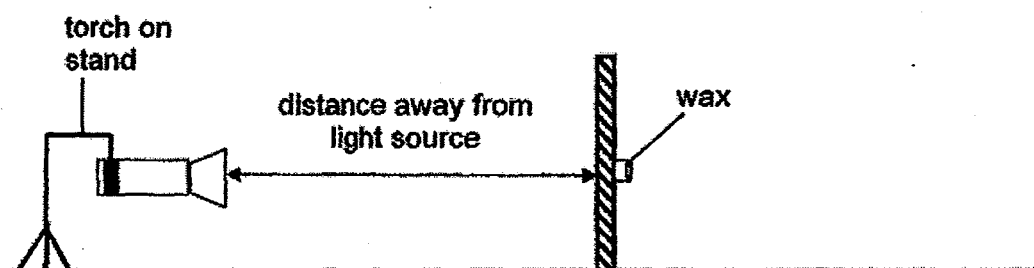
- (a) State a reason why it is important to keep the same distance between the light source and both materials. [1]

The amount of light reflected by Material X and Material Y is recorded in Table A below.

Table A

Material	Amount of light detected (lux)			
	1 st attempt	2 nd attempt	3 rd attempt	Average
X	98	100	99	99
Y	36	38	37	37

A second experiment using the same Material X and Material Y is carried out to find out heat conductivity of both materials. Wax of the same type and mass is attached to both materials.



The time taken for the wax to melt is recorded in the Table B below.

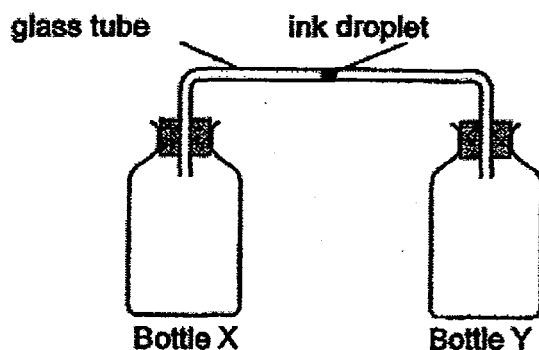
Table B

Material	Time taken for wax to melt (s)		
	1 st attempt	2 nd attempt	Average
X	20	18	19
Y	12	10	11

- (b) Based on Table A and B, how will the amount of light reflected by the material affect the amount of heat being conducted by the material? [1]

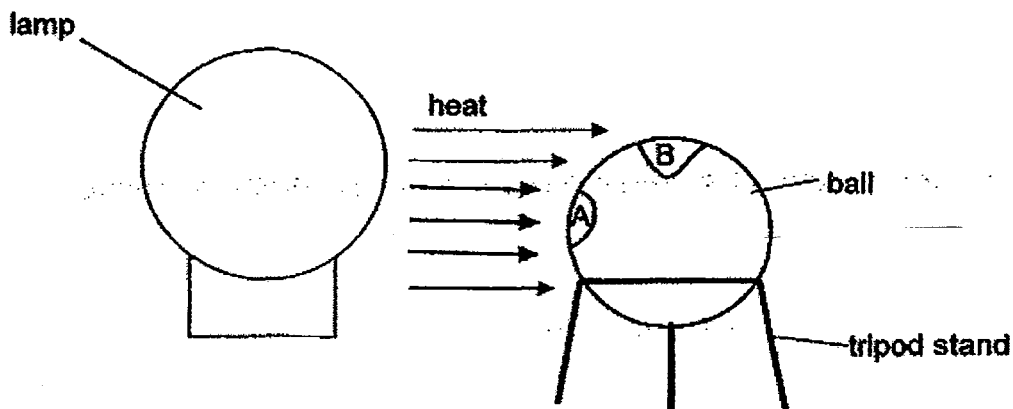
- (c) Based on the results of both experiments, explain which one of the two materials, Material X or Material Y, should be used to make a car sunscreen to keep the temperature in the car low. [2]

- 35a. Study the diagram below. Two empty bottles, X and Y, are connected by a glass tube. An ink drop is placed in the middle of the tube.



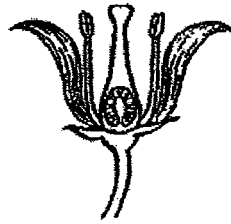
Write down one way that can cause the ink drop to move towards bottle X when you are given a basin of ice. [1]

- 35b. Study the diagram shown below.



Give one reason why Area B will not be as hot as Area A. [1]

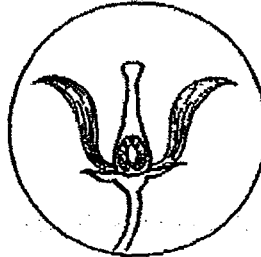
36. Su Fang observed the flower of Plant A in her garden. She found that the flower was being pollinated by some bees.



flower of Plant A

- (a) State two characteristics that the flower has which enables it to be pollinated by bees. [1]

Su Fang conducted an experiment on a flower of Plant A in her garden. She removed a certain part of the flower as shown below.

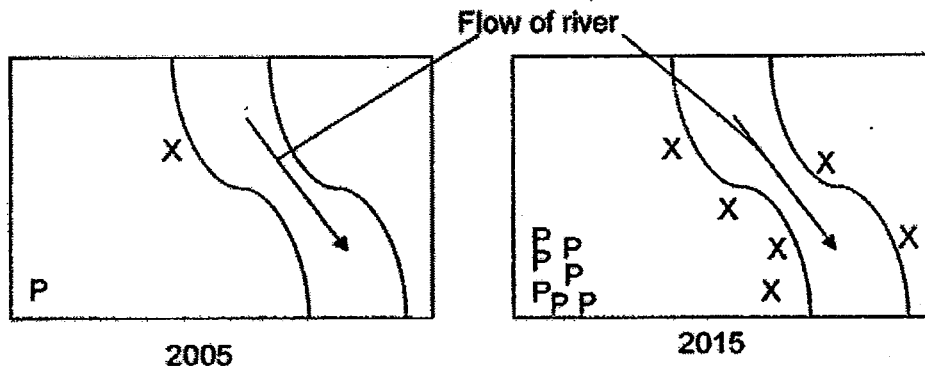


Set-up X

She then tied a plastic bag over the flower as shown in set-up X. She observed that some parts of the flower dried up and developed into a fruit after some time.

- (b) Explain how the flower in Set-up X can become a fruit. [2]

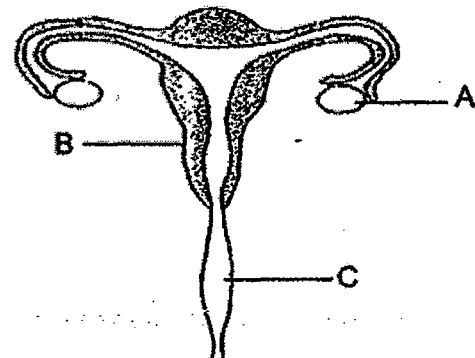
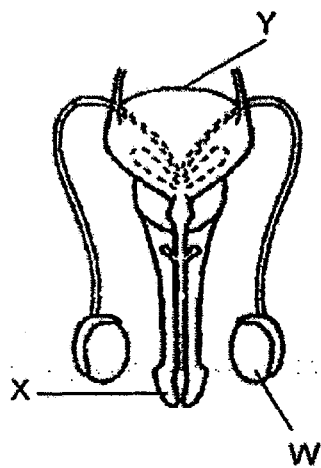
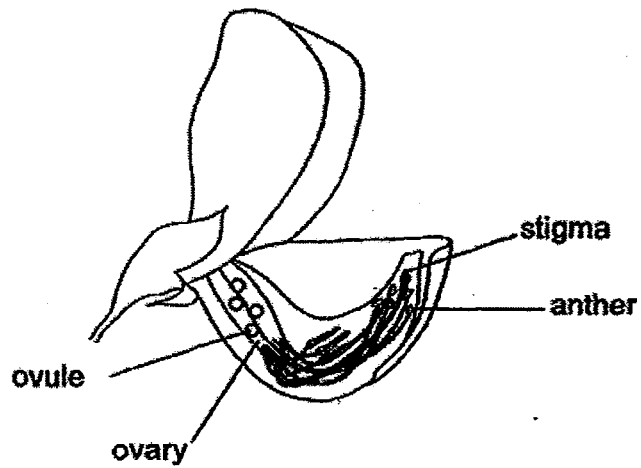
37. Dylan observed and recorded the locations of some young plants on a plot of land in 2005. When he visited that plot of land in 2015, he found that the population of the plants had increased and recorded their locations.



- (a) Name the method of seed dispersal of Plants P and X. [1]
- (i) Plant P: _____
- (ii) Plant X: _____
- (b) He found that young of Plant P did not grow as healthily as Plant X due to the way they are dispersed. Explain why the young of Plant P did not grow as healthily. [2]

Score	3
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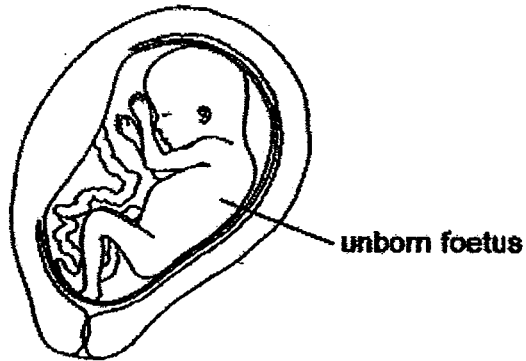
38. The diagrams show the reproductive organs of a flowering plant and human.



- (a) Write the letter representing the reproductive part of the human that has similar function as the plant part stated in the table below. [1]

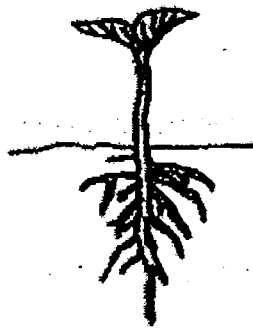
Plant reproductive part	Human reproductive part
Ovary	
Anther	

- (b) Diagram A below shows an unborn foetus.



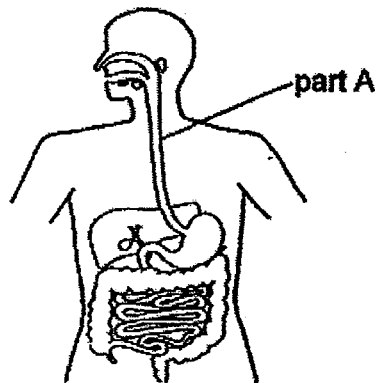
From Diagram A, name the organ where the unborn foetus is found and state the function of the organ. [1]

- (c) - Diagram B below shows a seedling.

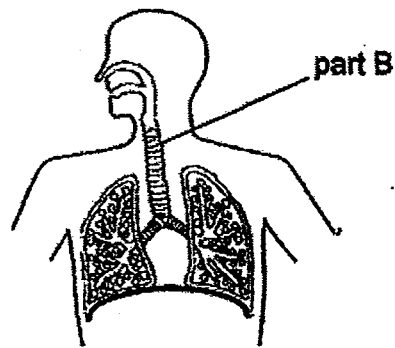


State a difference in the way the foetus and the seedling get their food. [1]

39. The diagrams below show two systems in a human.



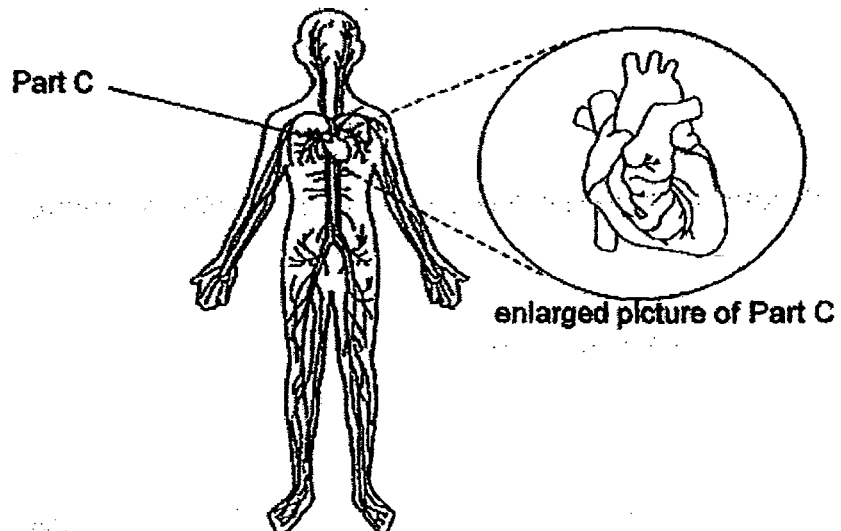
System X



System Y

(a) What is the difference in function between part A and part B?

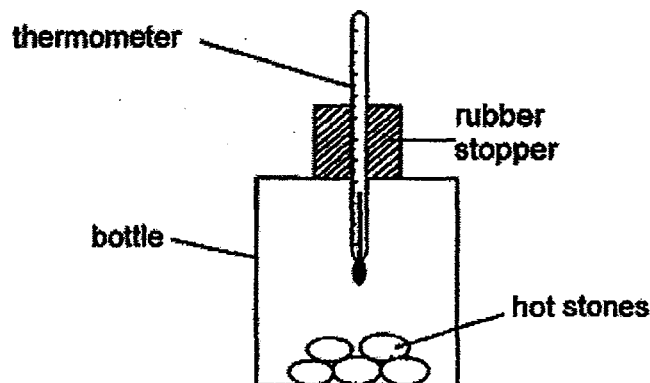
[1]



(b) After the food is digested, how does part C help the digested food reach the rest of the body?

[1]

40. Lifeng placed several hot stones in the bottle and closed the bottle so that it was air-tight. After 5 minutes, she recorded the temperature of the air in the bottle as shown in the diagram below.



Her results are shown in the table below.

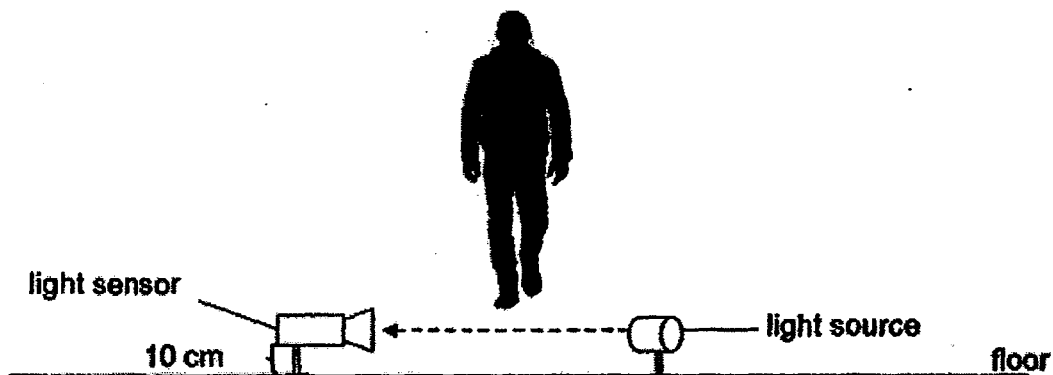
	Temperature of air in the bottle
In the beginning	28°C
After 5 minutes	46°C

- (a) Give a reason for the increase in the temperature of the air in the bottle. [1]

After a while, Lifeng noticed water droplets on the inner surface of the bottle.

- (b) Explain how the water droplets appear in the bottle. [2]

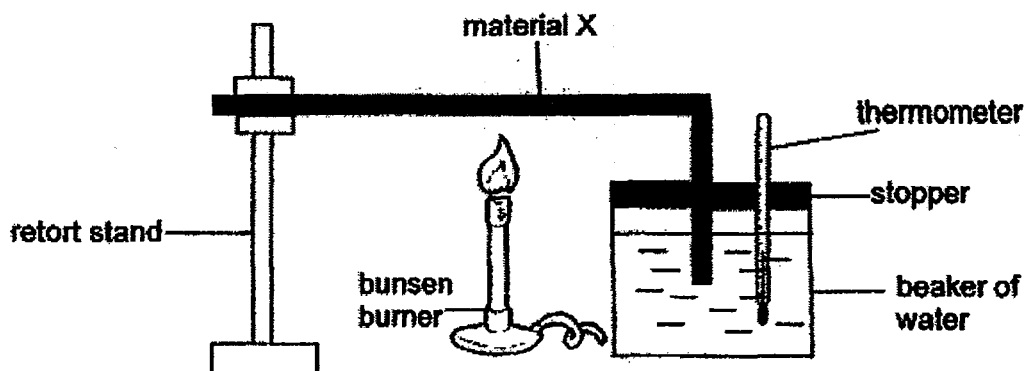
41. The set-up below uses light sensor to count the number of customers entering a shop when somebody moves between the light source and light sensor.



- (a) Will light be detected by the light sensor when a customer is between the light source and light detector? Explain. [2]

- (b) Can the light sensor and light source be placed 3 metres above the floor? Give a reason for your answer. [1]

42. Benjamin placed one end of the rod, which is made of Material X, into the beaker of water which has a temperature of 28°C . He heated the middle of the rod as shown below.



After 20 minutes, the water in the beaker reached 60°C . He repeated the experiment with two other types of material. He recorded the time taken by the water to reach 60°C in the table below.

Material	Time taken for the water to reach 60°C (min)
X	20
Y	16
Z	7

- (a) Why did the water in the beaker become hotter? [1]

- (b) What did the experiment show about the property of different materials? [1]

- (c) Benjamin wants to buy a container to keep his food warm for his recess. Which material should he choose? Give a reason for your answer. [1]

43. The table below shows some properties of four different types of plastic.

Property	Plastic A	Plastic B	Plastic C	Plastic D
Strong	Yes	No	Yes	No
Lightweight	No	Yes	Yes	No
Waterproof	Yes	Yes	Yes	Yes
Hard	Yes	Yes	No	Yes

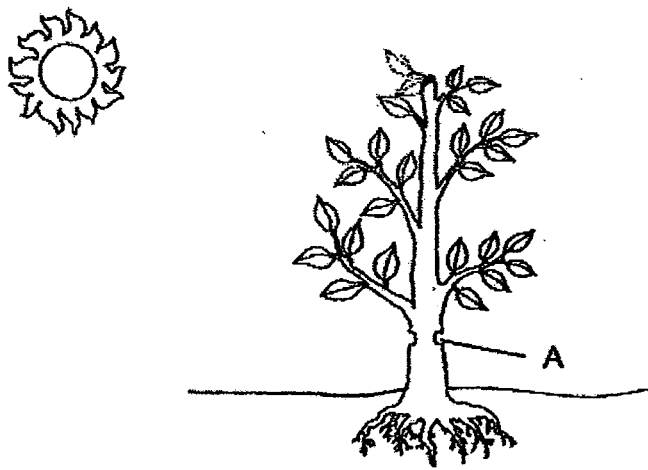
- (a) State the common property found in the 4 different types of plastic. [1]

- (b) Kate wants to buy a luggage bag to use for her holiday trip. She wants a luggage bag that will not break easily and can be carried around easily. Among the four types of plastic, which type is the best choice for Kate? Explain your choice of plastic. [2]

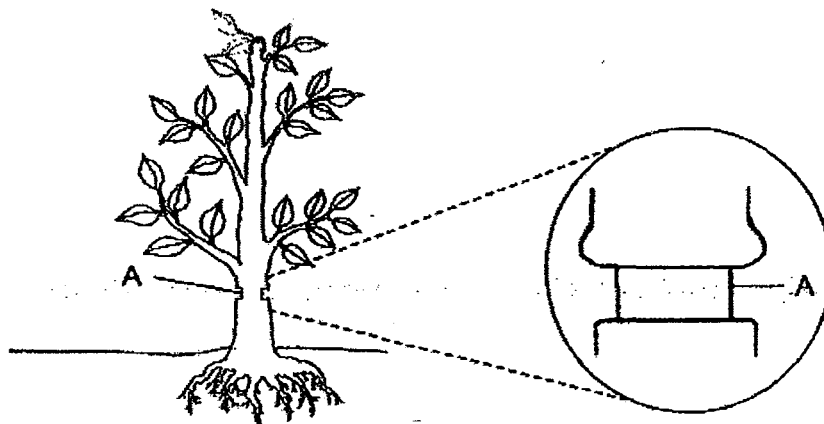
15

Score	3
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44. A small ring-like layer was carefully removed from the outer part of the stem at part A.



After a period of time, the upper part of the cut stem at part A swelled. The enlarged view of part A is shown below.



- (a) Why did the upper part of the stem at part A swell? Explain. [2]

- (b) Give a reason why water is able to flow from the roots to the leaves? [1]

Answer Key

EXAM PAPER 2015

SCHOOL : NAN HUA

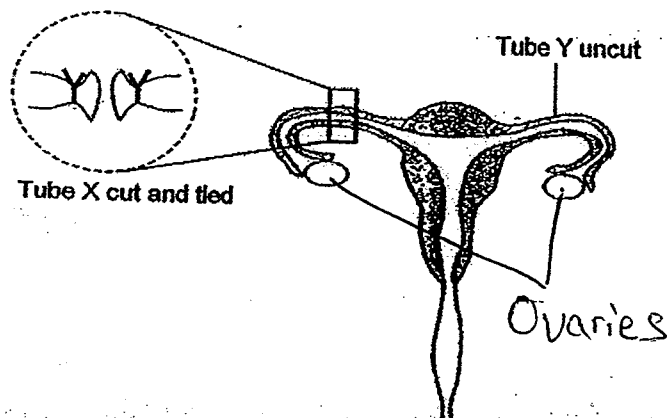
SUBJECT : P5 SCIENCE

TERM : SA1

ORDER CALL : MR GAN @ 92998971 92475053 86065443

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	3	2	3	4	4	4	3	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	2	2	2	3	2	1	3	1	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	4	2	2	2	1	1	2	2	4

31)a)



b) Eggs will travel through the uncut tube Y the sperm will be able fuse with the egg at tube Y.

32)a)X: Carbon dioxide B: Oxygen

b)Oxygen /Gas Y. Oxygen/ Gas Y is needed quickly for digressed food/ food tube broken down to release energy .

33)a)The lower glass surface is cooler as it loses heat to the cold orange juice. Hence the surrounding air condenses more on the cooler lower glass surface.

b)There is more surface area to chill the orange juice as the ice gains heat faster as the surface area is more.

34)a)To ensure a fair test.

b)The greater the amount of light reflected by the material.

c)Material X. It can reflect more light and the amount of heat conducted.

35)a)Out bottle X on the basin of ice.

b)Area B is further area A from the lame, thus Area B will gain less heat than Area A.

36)a)Colourful Petels.

Sweet-scented.

b)The flower already pollinated it was sealed. The eggs were than fertilized and then the ovary develop into a fruit.

37)a)i)splitting of fruit. ii)water.

b)The young plant of plant are more overcrowded but not the plants of plant X. The young plants need to compete for space, light, nutrients and water.

38)a)A

38)b)Womb. The womb is where the developing foetus will develop.

c)The foetus obtains its food from its mother while the seedling making its own food.

39)a)Part A pushes food down while Part B takes the air into the lungs.

b)Part C will pump the blood which contains digested food to the rest of the body.

40)a)The air in the bottle gained heat from the hot stones.

b)The water vapour in the bottle gained heat from the hot stones and when it comes into contact with the cooler, inner surface of the bottle,it loses heat and condenses into water droplets.

41)a)No, as light travels in a straight line, it cannot pass through the opaque customer.

b)No, the customers are not tall enough to block the light sensor and obtain a reading.

42)a)The Bunsen burner heated the material and heat the water in the beaker.

b)Different materials conduct heat at different rates.

c)Material X. It is the poorest conductor of heat and the food will lose heat to the container the fastest.

43)a)They are all waterproof.

b)Plastic C, Plastic C is both strong and easy to carry, while A and D is not light weight and B is not strong.

44)a)The food carrying tubes is cut and the food cannot travel down the rest of the plant.

b)The water-carrying tubes have not been cut transport water from the roots to the rest of the plant.