METHODIST GIRLS' SCHOOL

Founded in 1887

END OF YEAR EXAMINATION 2013
PRIMARY 5
SCIENCE

BOOKLET A1

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5.

Date: 3 October 2013

This booklet consists of 16 printed pages including this page

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 on the Optical Answer Sheet.

[60 marks]

---

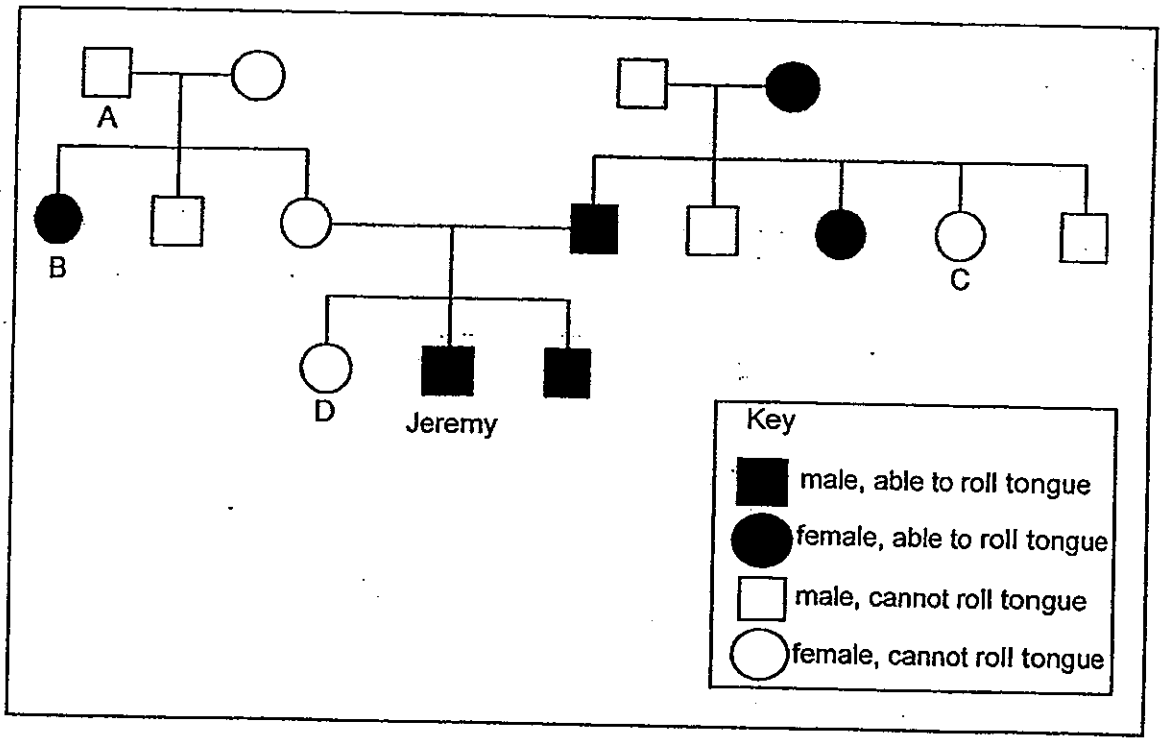
1. While on a nature trip, Madeline and her friends collected a fruit. Back in school, their teacher told them that the fruit they collected was dispersed by water. What could Madeline do to confirm this?

A: Cut the fruit to find out if it contains water.
B: Cut the fruit to find out if it has a fibrous husk.
C: Place the fruit in water and observe if it floats.
D: Release the fruit in front of the strong wind from a fan and observe how far it can travel.

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

(Go on to the next page)

2. Study the family tree below. The family tree shows the members who can either roll their tongues or cannot roll their tongues. Jeremy can roll his tongue. Recently, someone sent in an anonymous letter saying that one of his family members is adopted.



Based on the family tree above, who is most probably adopted?

(1) A

(2) B

(3) C

(4) D

(Go on to the next page)

3. A group of students obtained the data as shown in the table below during a Science lesson.

Students	Pulse rate at rest (beats/min)	Pulse rate after exercise (beats/min)
A	60	91
B	70	97
C	78	122
D	74	106
E	83	119

Three students, Patricia, Qistina and Ramona, each gave a statement on the relationship between pulse rate and exercise.

Patrica: The pulse rate increases when a person exercises as the heart has to pump faster to deliver more oxygen and digested food to the cells to be used.

Qistina: The pulse rate decreases when a person exercises as the heart has to pump slower to deliver less oxygen and digested food to the cells to be used.

Ramona: The pulse rate remains the same when a person exercises as exercising has no effect on the pulse rate.

Who made the **correct** statement?

(1) Patricia only

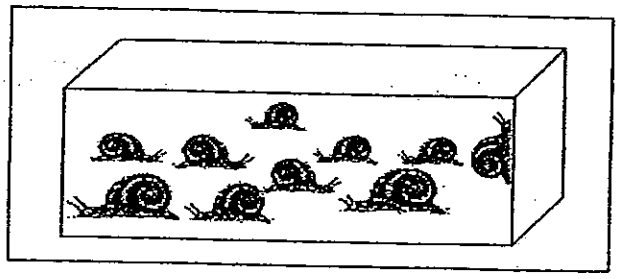
(2) Qistina only

(3) Ramona only

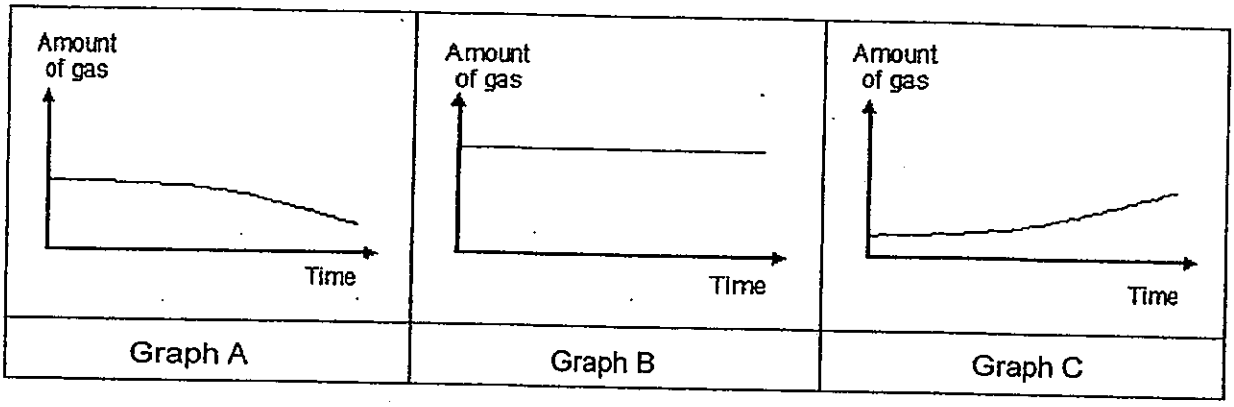
(4) None of the above

(Go on to the next page)

4. Victoria kept 10 snails in an air tight tank as shown in the diagram below.



She wanted to find out the change in the level of gases in the tank two hours later. She plotted three different graphs to show the level of the various gases in the tank as shown below.

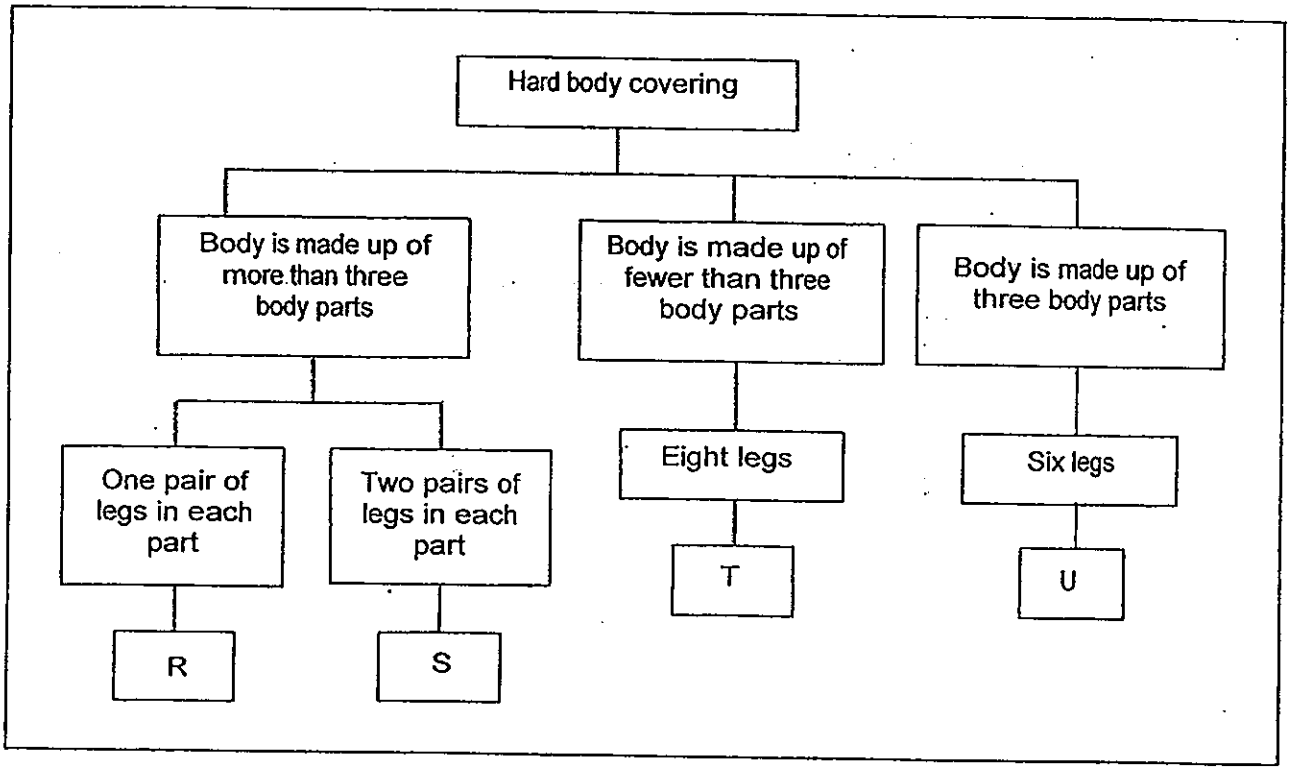


Which of the graphs above correctly represents the changes in the levels of the carbon dioxide and oxygen as shown below?

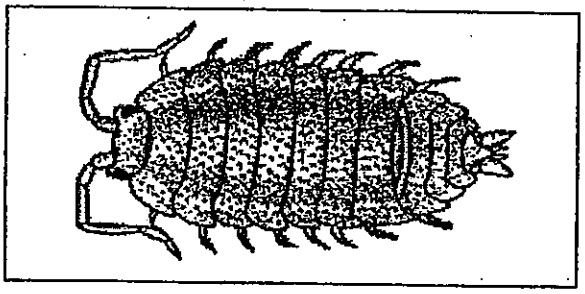
	Carbon dioxide	Oxygen
(1)	Graph A	Graph C
(2)	Graph C	Graph A
(3)	Graph B	Graph A
(4)	Graph C	Graph B

(Go on to the next page)

5. Study the classification table below.



Rachel found an animal as shown in the diagram below. She observed that it had a hard body covering.



Which group, R, S, T or U does this animal belong to?

(1) R

(2) S

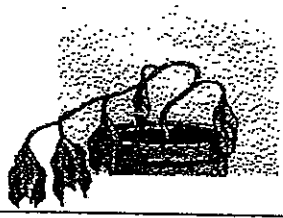
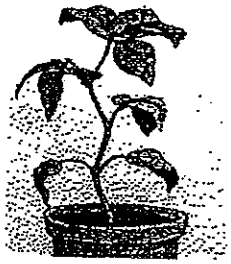
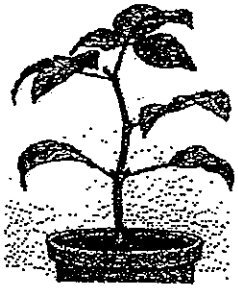
(3) T

(4) U

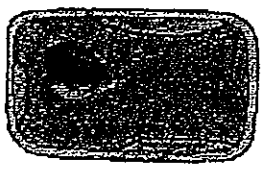
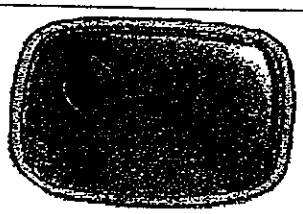
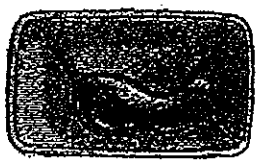
(Go on to the next page)

6. Mrs Lee wanted to show her students the effect of water on plants. She set up an investigation on three pots of balsam plants. Other than the amount of water, all the other variables were kept the same. There was also sufficient sunlight for the plants to make food.

The diagram below shows what the three pots of balsam plants looked like 12 days later.

		
Plant in Pot A	Plant in Pot B	Plant in Pot C
no water for the past 12 days	100ml of water on the 3rd, 6th and 9th day	100ml of water daily

Mrs Lee then took a cell sample from each of the plant and observed them under the microscope. The results of the cell samples were shown in the diagram below.

		
Cell X	Cell Y	Cell Z

Based on the results, she then instructed her students to match the cell samples to the correct plants.

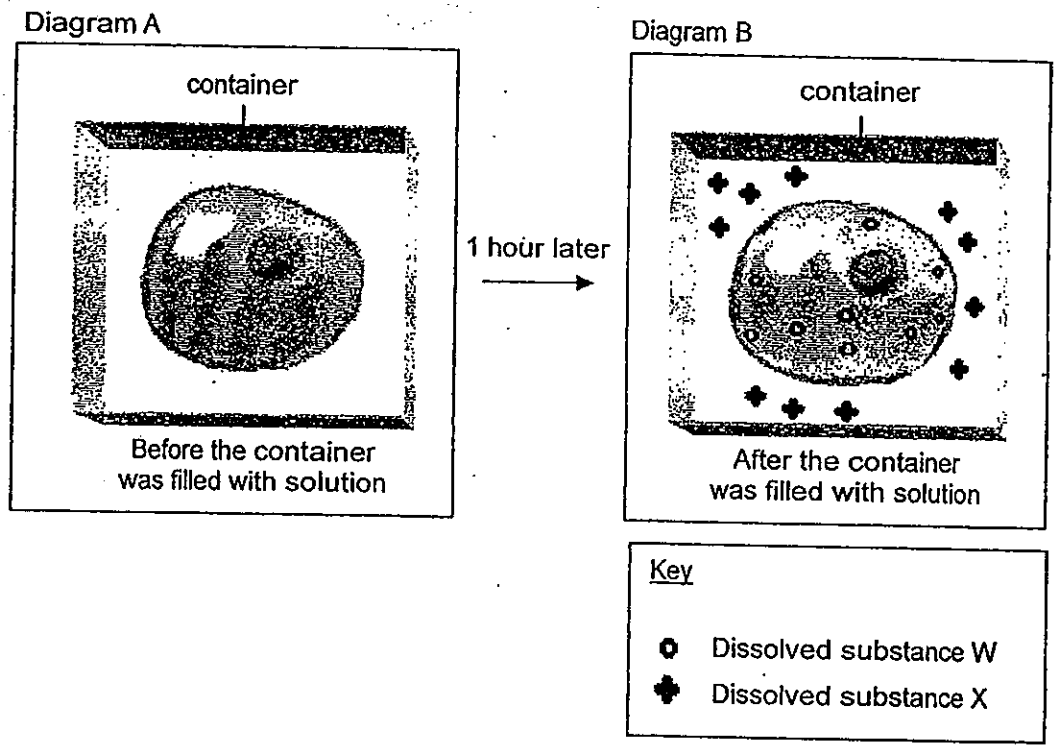
Which of the following students matched the cell samples to the plants correctly?

	Students	Plant in Pot A	Plant in Pot B	Plant in Pot C
(1)	Abrielle	Cell X	Cell Y	Cell Z
(2)	Brenda	Cell Z	Cell Y	Cell X
(3)	Caitlyn	Cell Z	Cell X	Cell Y
(4)	Deborah	Cell Y	Cell X	Cell Z

(Go on to the next page)

7. An animal cell was placed in a container. The container was then filled with a solution that contained dissolved substances, W and X.

Diagram A below shows the cell before the container was filled with the solution. Diagram B shows the cell after the container was filled with the solution one hour later.



Three children, Jasmine, Kayla and Lauren, made the following conclusions based on the observations from the diagram above.

Jasmine: The cell membrane is semi-permeable. It allows only certain substances to enter or leave the cell.

Kayla: Dissolved substances W and X could move in and out of the cell.

Lauren: The nucleus controlled the movement of substances W and X in and out of the cell.

Who made the correct conclusion/s?

(1) Kayla only

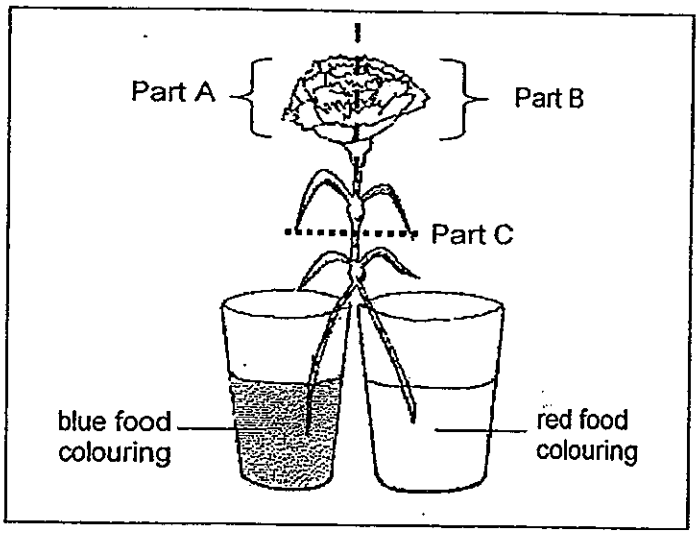
(2) Jasmine only

(3) Jasmine and Lauren only

(4) Jasmine, Kayla and Lauren

(Go on to the next page)

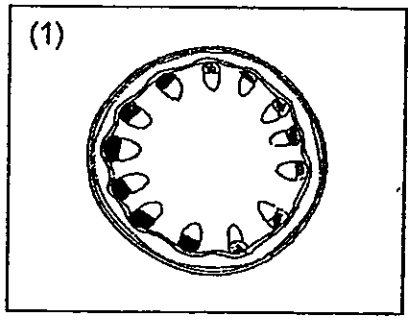
8. Sumei set up the following experiment as shown below. She split the stalk of a white carnation into half and immersed one half into blue food colouring and the other half into red food colouring. She labelled part of the petals Part A and the other Part B.

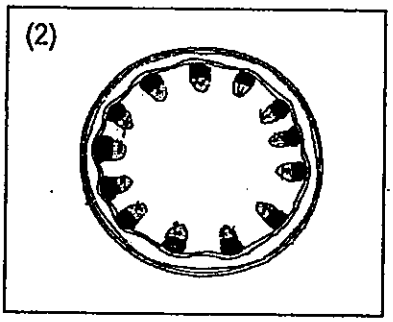


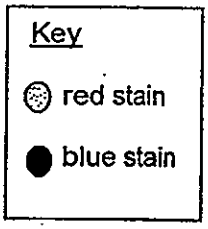
The next day, she observed that Part A of the carnation had turned blue while Part B had turned red because the blue and red colouring was transported by the water carrying tubes in the stalk to the petals.

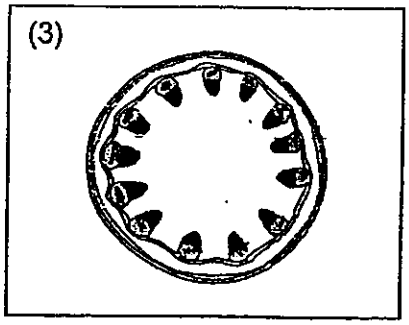
She then cut a thin slice from the stem of the plant at Part C.

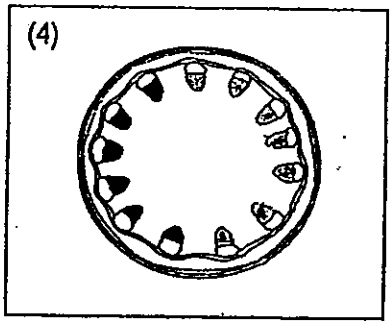
Which one of the following diagrams shows the areas that have been stained by the blue and red colourings?





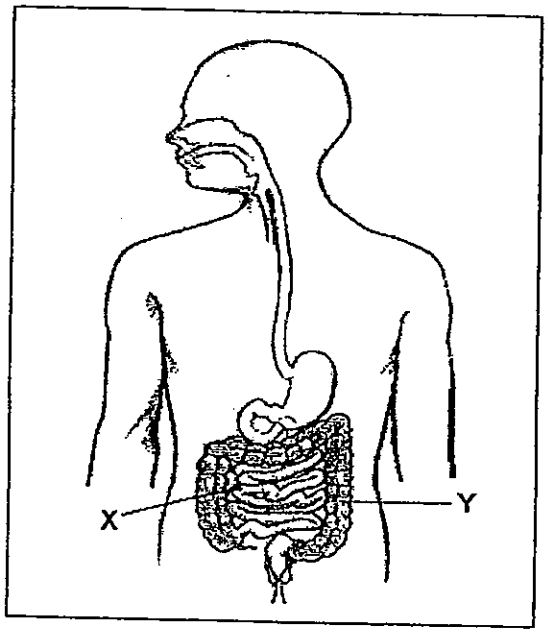






(Go on to the next page)

9. The diagram below shows the human digestive system.

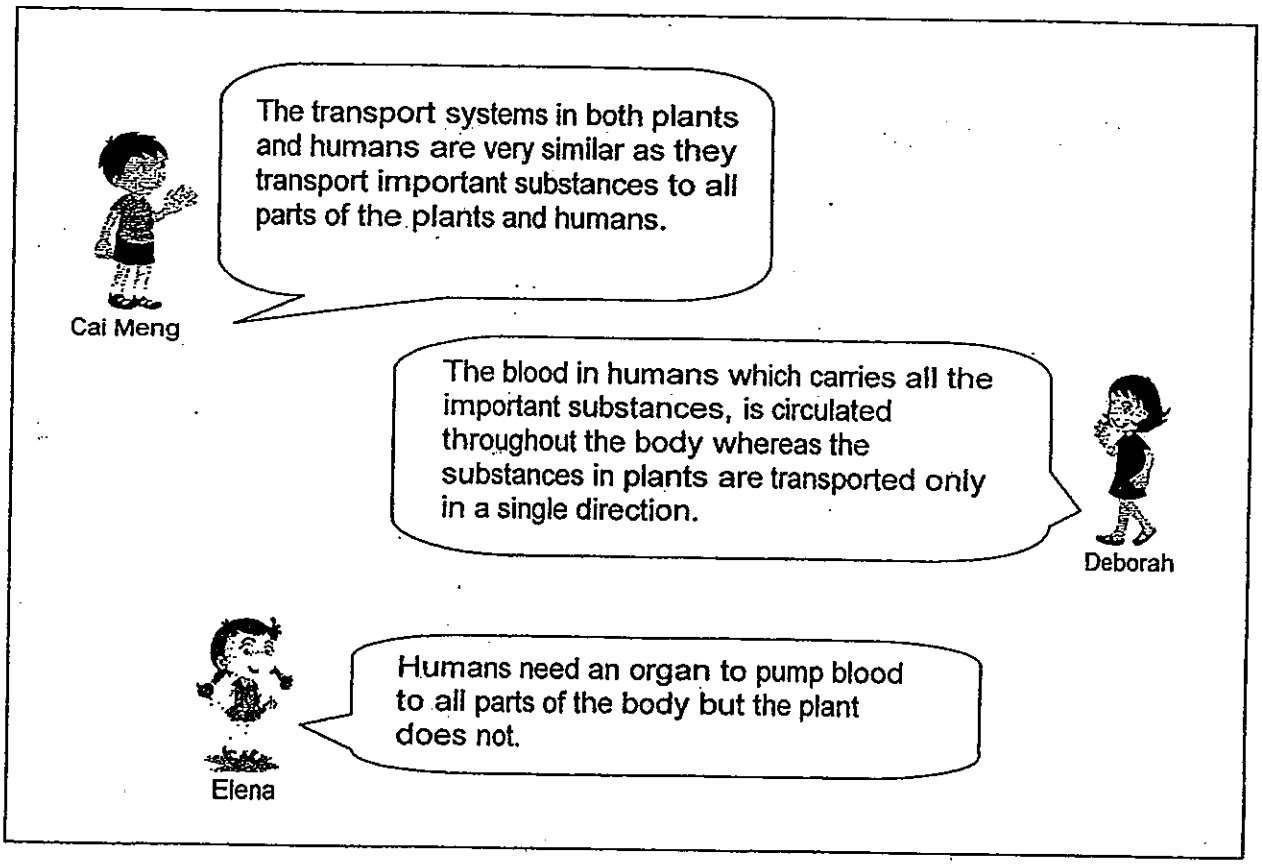


Which of the following correctly shows what happens at X and Y?

	X		Y	
	Absorption of water	Absorption of digested food	Absorption of water	Absorption of digested food
(1)	Yes	No	No	Yes
(2)	No	Yes	No	Yes
(3)	Yes	Yes	Yes	No
(4)	Yes	No	Yes	No

(Go on to the next page)

10. Cai Meng, Deborah and Elena were having a discussion on what they had just learnt about the transport systems in both plants and humans. They made the following comments.



Who made the correct comment/s?

(1) Cai Meng only

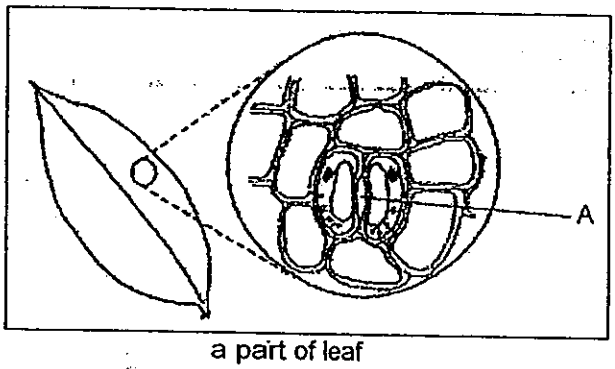
(2) Cai Meng and Deborah only

(3) Deborah and Elena only

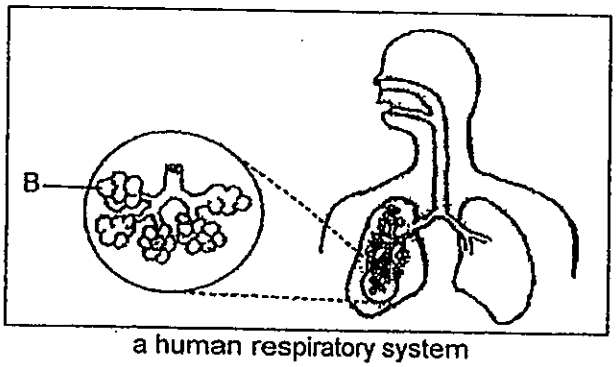
(4) Cai Meng, Deborah and Elena

(Go on to the next page)

11. The diagrams below show a part of a leaf and the human respiratory system.



a part of leaf



a human respiratory system

Which of the following statements is true?

(1) Air is stored in parts A and B

(2) Gaseous exchange occurs at parts A and B

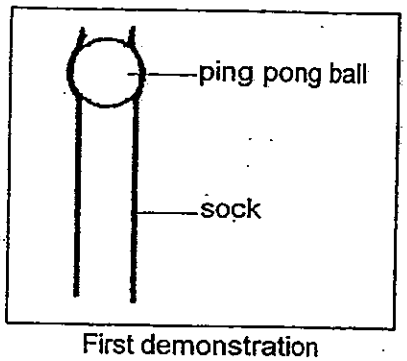
(3) Part A helps the plant to make food while part B helps in gaseous exchange

(4) Part A helps the plant to respire while part B helps the human to inhale and exhale

(Go on to the next page)

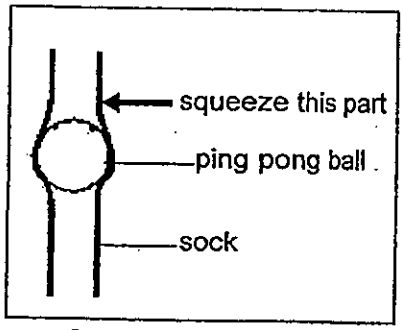
12. Mrs Lee used a section of an old sock and a ping pong ball to demonstrate how our muscles help in the movement of a substance in our human body system.

In her first demonstration, she placed the ping pong ball at the top opening of the sock. It was observed that the top portion of the sock bulged out but the ping pong ball did not move any further downwards. The set-up of her demonstration is shown in the diagram below.



First demonstration

In her second demonstration, she squeezed the top half of the sock at the region near the ping pong ball, as indicated by the arrow below. The ping pong ball was observed to move downwards. She repeated her actions until the ping pong ball reaches the bottom end of the sock.



Second demonstration

In which part of the human body would our muscles help in the movement of a substance as demonstrated by Mrs Lee?

(1) gullet

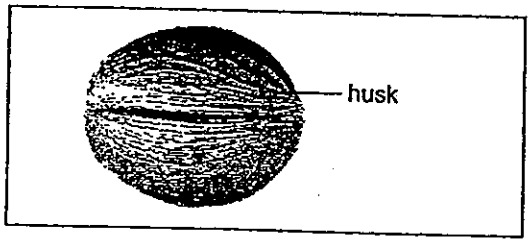
(2) mouth

(3) large intestine

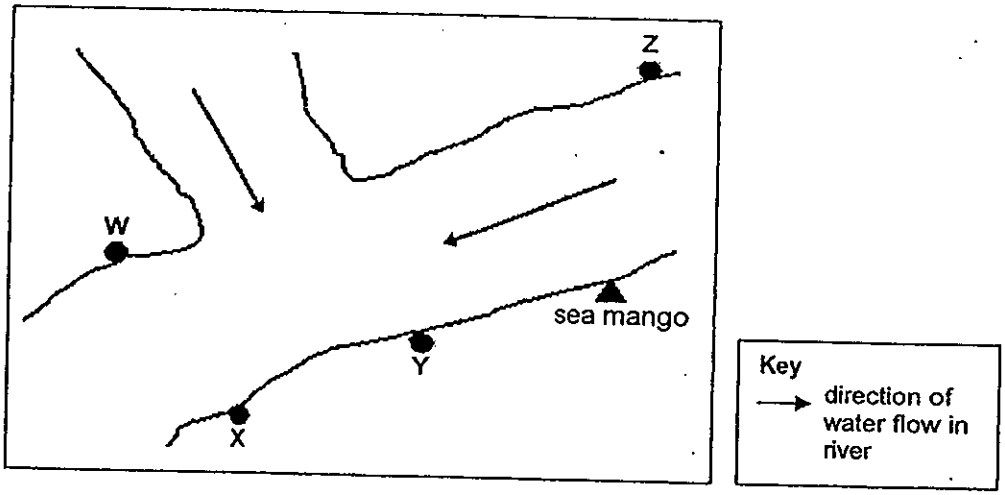
(4) small intestine

(Go on to the next page)

13. The diagram below shows the fruit of a sea mango.



The diagram below shows the different possible parts, W, X, Y and Z of a swift flowing river where sea mango may be found growing.



Three students, Ali, Bala and Cynthia made the following statements about the **unlikely** part/s of the river where the young of sea mango is found.

Ali: Part Z because the fruits cannot float against the flow of the river to reach this part.

Bala: Part W because the fruits can only float along the same side of the river where the young of sea mango is found.

Cynthia: None of the above parts because with its fibrous husk, the fruit will be able to reach all parts of the river.

Who made the correct statement/s?

(1) Bala only

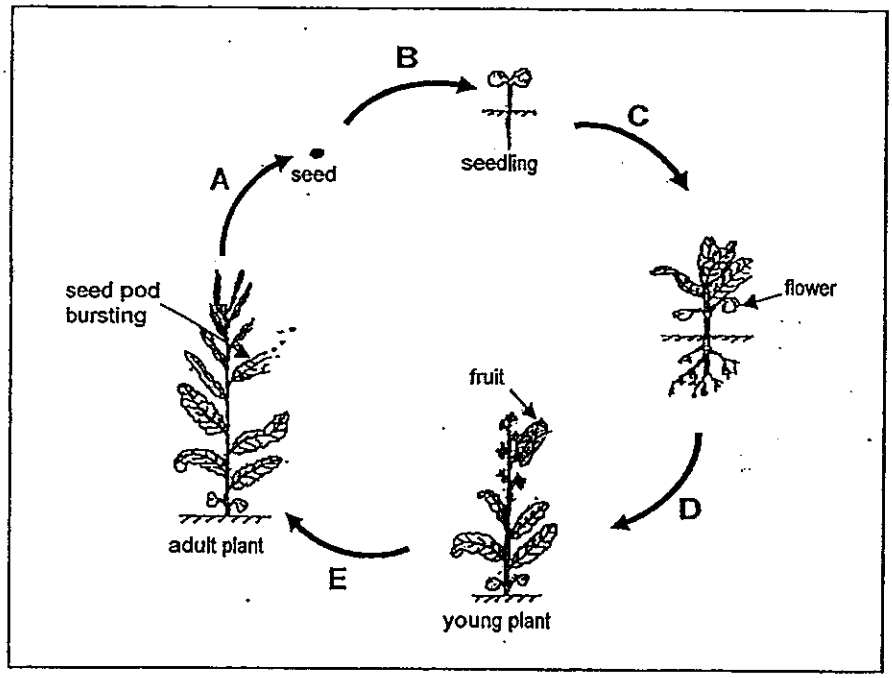
(2) Ali only

(3) Bala and Cynthia only

(4) Cynthia and Ali only

(Go on to the next page)

14. The diagram below shows the stages of growth of a flowering plant.



Based on the stages above, at which stages do germination and pollination take place respectively?

	Germination	Pollination
(1)	A	C
(2)	B	D
(3)	C	E
(4)	D	A

(Go on to the next page)

15. Plants that reproduce by spores may produce thousands of spores at a time. The following statements were made to explain why these plants produce such a large number of spores.

A: A large number of spores will ensure dispersal by wind.

B: A large number of spores will increase the chance that a new plant is grown.

C: A large number of spores will ensure new healthy plants.

Which of the statements above provides the best explanation why such plants produce a large number of spores?

(1) A only

(2) B only

(3) A and B only

(4) A, B and C

(Go on to the next page)

METHODIST GIRLS' SCHOOL

Founded in 1887

END OF YEAR EXAMINATION 2013
PRIMARY 5
SCIENCE

BOOKLET A2

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5._____

Date : 3 October 2013

This booklet consists of 10 printed pages including this page.

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.

[60 marks]

---

16. Three materials, A, B and C are classified according to their properties as shown in the table below.

	Material A	Material B	Material C
Magnetic material	No	No	Yes
Poor conductor of heat	No	Yes	No
Conductor of electricity	Yes	No	Yes

Which of the following are A, B and C most likely to be?

	A	B	C
(1)	Gold	Graphite	Iron
(2)	Copper	Plastic	Steel
(3)	Glass	Nickel	Graphite
(4)	Graphite	Styrofoam	Aluminum

17. Miss Chay brought a container of fine grains into her Science class. The grains were made up of four substances, P, Q, R and S. She asked her pupils to carry out an experiment to separate them.

The table below shows the properties of substances, P, Q, R and S.

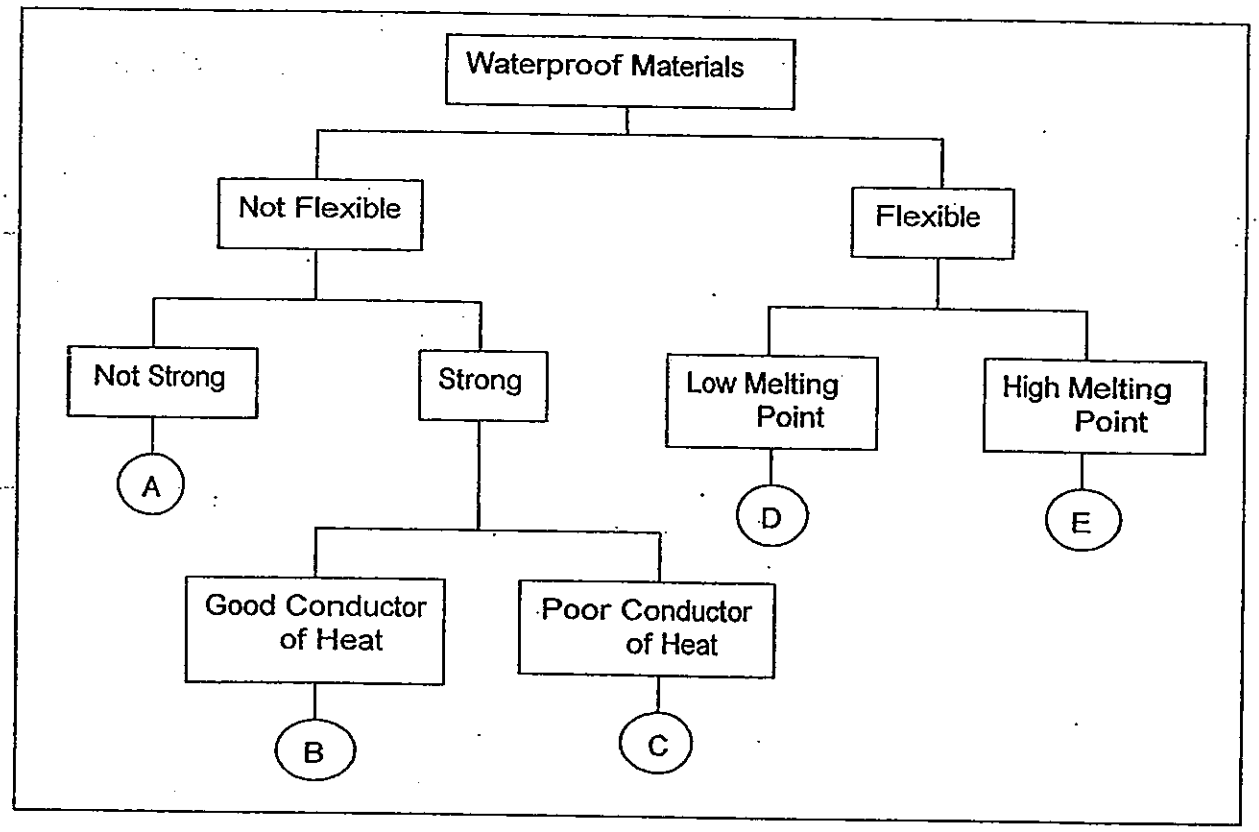
Substance	Magnetic	Able to dissolve in water	Colour
P	Yes	No	White
Q	No	Yes	White
R	No	No	Brown
S	No	Yes	Silver

Which two substances would be the most difficult to separate from the mixture?

(1) P and Q
(2) Q and R
(3) R and S
(4) Q and S

(Go on to the next page)

18 The classification table below shows the properties of materials A, B, C, D and E.

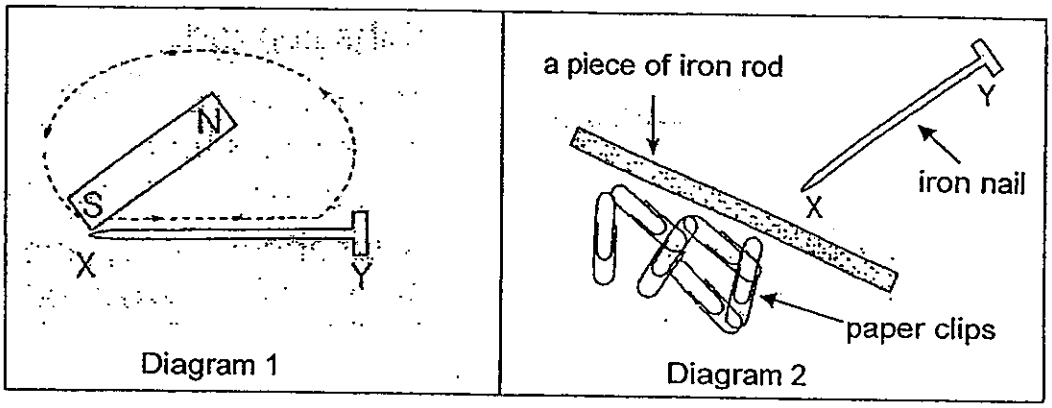


Mr Lim was told to select the best material for making a helmet for firemen.

Which is the best material for making a helmet for firemen?

(1) B
(2) C
(3) D
(4) E

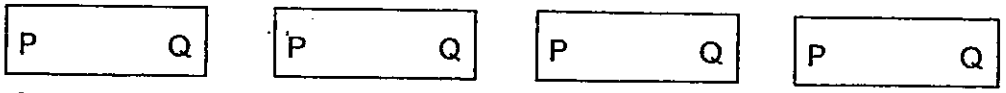
19. Ali stroked the entire length of an iron nail with a bar magnet in the same direction as shown in Diagram 1. After that, he held the iron nail above a piece of iron rod and some paper clips below it as shown in diagram 2.

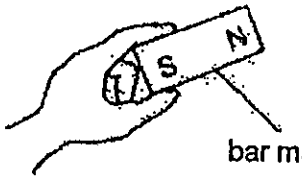


What will happen to the paper clips in Diagram 2?

(1) The paper clips will remain at the same place.
(2) The paper clips will be attracted to the iron rod.
(3) The paper clips will be attracted to the iron nail.
(4) The paper clips will move away from the iron rod.

20. Erin had four metal bars, W, X, Y and Z as shown below. She brought the North pole of a bar magnet near end P of each metal bar and recorded the observations. Next, she brought the North pole of the bar magnet near end Q of each metal bar and again recorded the observations.





Erin recorded the observations made during the experiment in the following table.

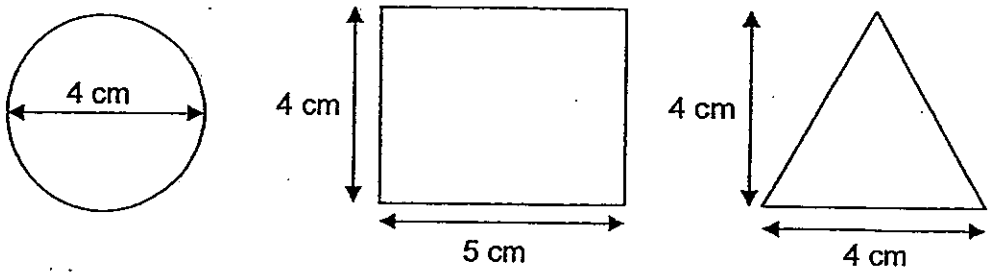
Metal bar	Observations	
	North pole and end P	North pole and end Q
W	attracted	attracted
X	attracted	repelled
Y	repelled	attracted
Z	no reaction	no reaction

Which of the metal bars are magnets?

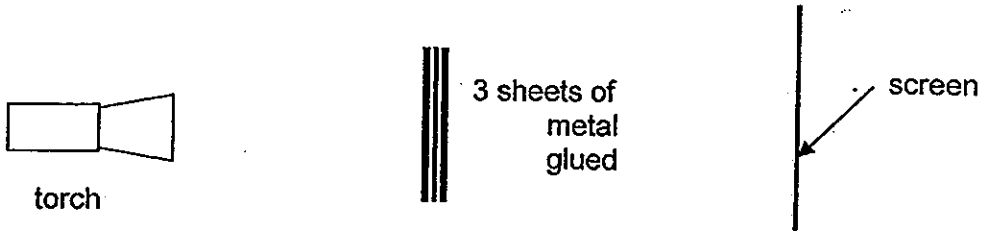
(1) W only
(2) X and Y only
(3) W, X and Y only
(4) X, Y and Z only

(Go on to the next page)

21. The diagram below shows 3 pieces of metal sheets, a circle, a rectangle and a triangle. (Not drawn to scale)

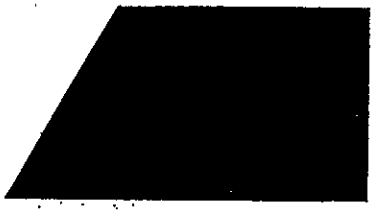


The 3 metal sheets were glued together and placed in between a torch and a screen. When the torch was switched on, a shadow was observed on the screen.

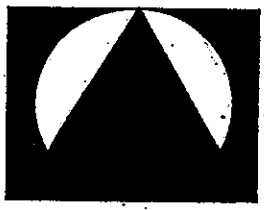


Which one of the following is **most likely** to be observed on the screen?

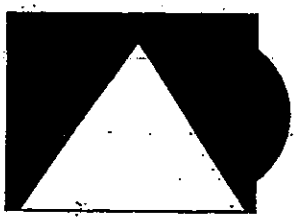
(1)



(2)

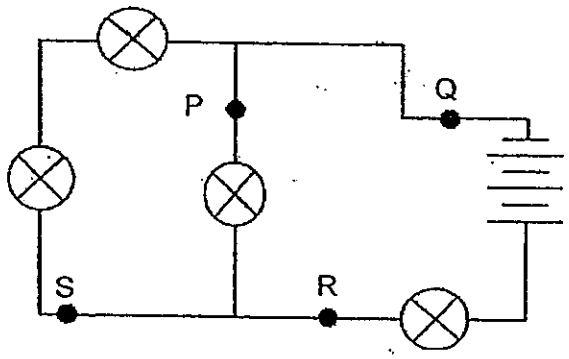


(3)



(4)

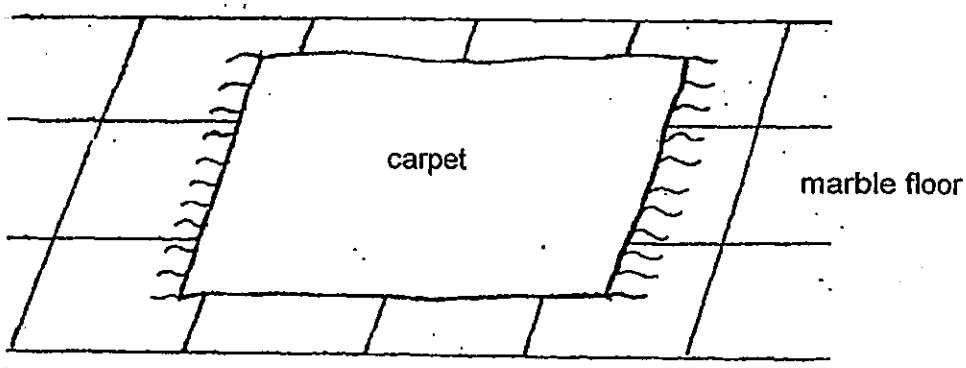
22. Study the electric circuit. All the four bulbs are lighted up.



Mr Soh wants to install a switch so that he is able to switch off a bulb while leaving the rest of the bulbs lighted. Which part of the circuit, P, Q, R or S, should Mr Soh install the switch?

(1) P
(2) Q
(3) R
(4) S

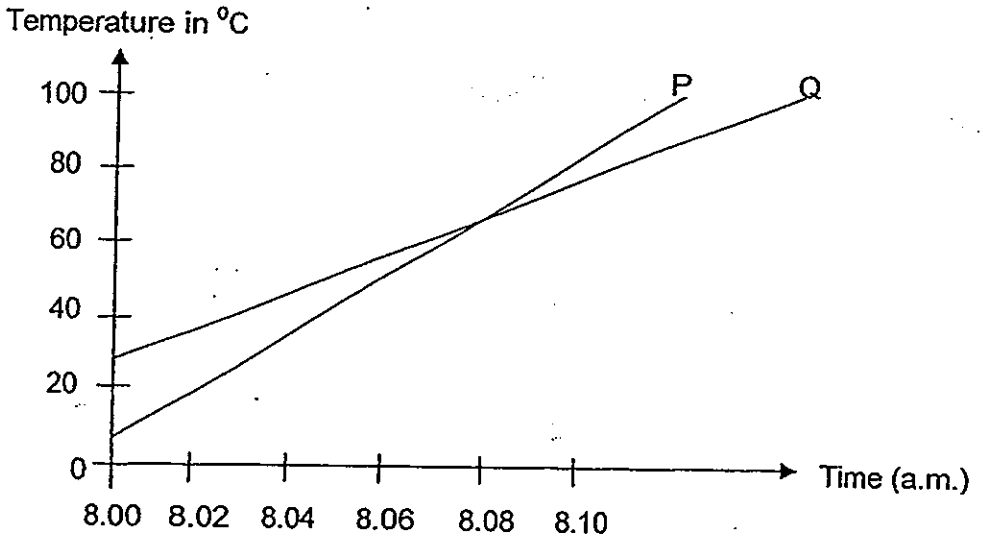
23. A carpet is placed on a marble floor in a room as shown below.



Gabby discovers that the carpet feels warmer to her bare feet compared to the marble floor when she stands on it. Why is this so?

(1) The carpet gains heat from the surroundings.
(2) Heat travels from the marble floor to the carpet.
(3) The marble floor conducts heat faster than the carpet.
(4) The marble floor has a lower temperature than the carpet.

24. Jenny heated two identical beakers marked P and Q, which were filled with an equal amount of water, at 8 a.m. The graph below shows the changes in the temperature of water in beakers P and Q over a period of time.

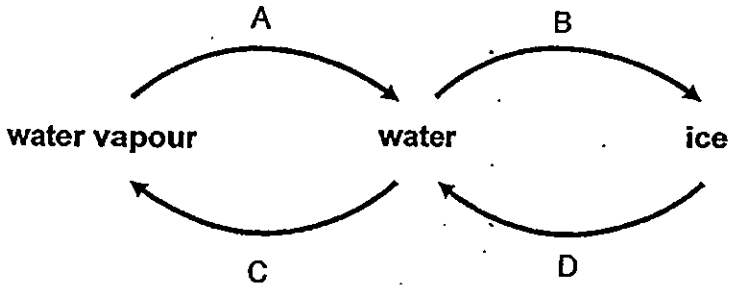


Based on the graph above, which of the following statements is/ are true?

A: Beaker P received less heat than Beaker Q.
B: Both beakers of water reached the same temperature at about 8.08 a.m.
C: ~~Wendy~~ Jenny filled the beakers with water of the same temperature before heating.

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

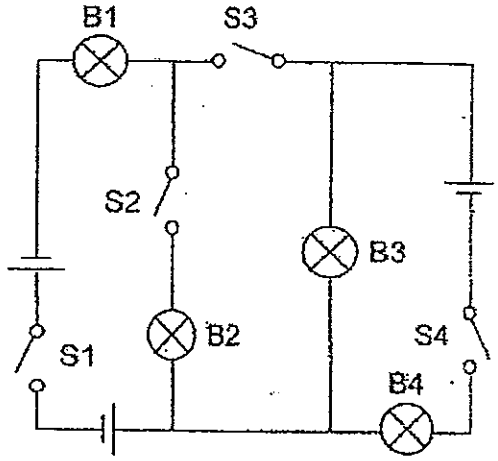
25. The diagram below shows how water changes its state. There are 4 processes, A, B, C and D.



During which two processes is heat lost to the surroundings?

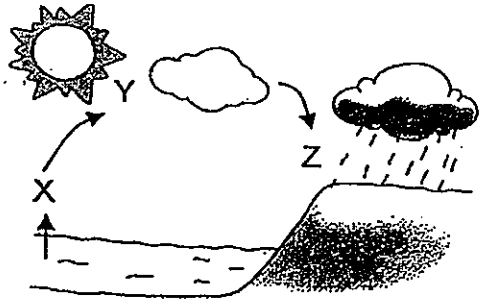
(1) A and B
(2) A and C
(3) B and D
(4) C and D

26. Based on the circuit as shown below, which of the following switches have to be closed in order to achieve the brightest light when the bulb/ bulbs is/ are lit up?



(1) S1 and S3
(2) S2 and S3
(3) S1 and S4
(4) S3 and S4

27. The diagram below shows the water cycle.



The letters X, Y and Z represent different processes involved in the water cycle. Which of the following statements is / are correct?

A: There is heat gain in Process X
B: There is heat loss at Process Y
C: There is heat gain during Process Z.
D: Process X can take place at any time.

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

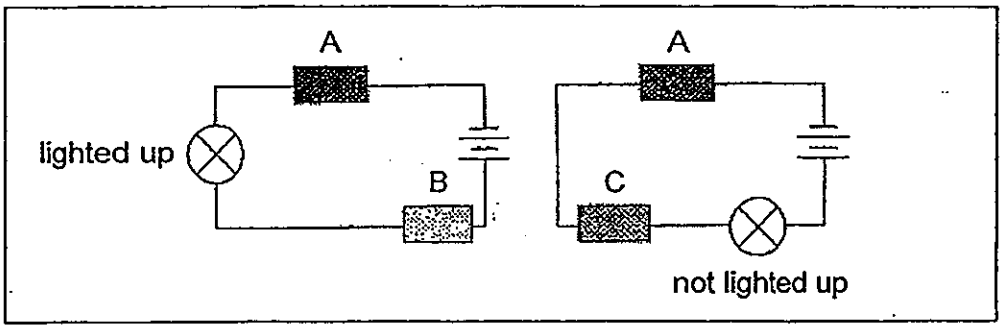
28. Aiden noticed water droplets on the exterior of the glass windows of his mother's car in the afternoon when he entered the air-conditioned car. Which of the following explanations are correct?

A: The surrounding air outside is colder than the window of the car.
B: The surrounding air outside is warmer than the window of the car.
C: Water vapour in the car condenses on the cold window of the car.
D: Water vapour outside the car condenses on the cold window of the car.

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

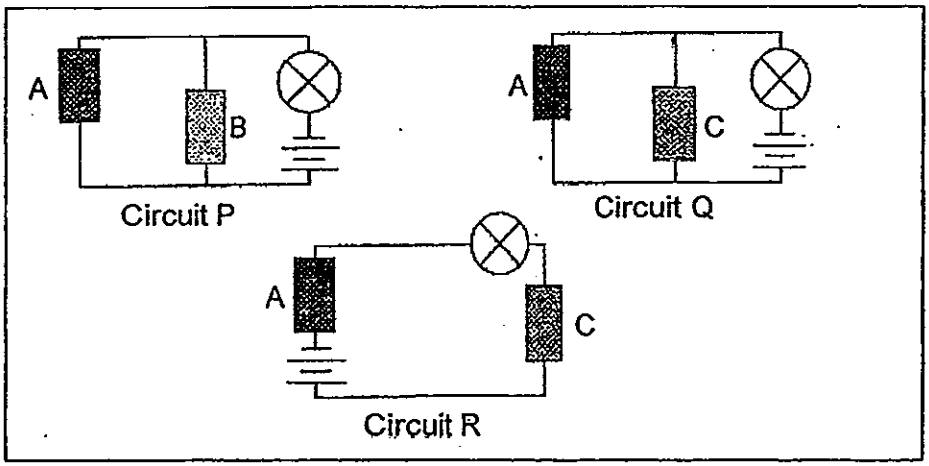
29. Keith used the same type of batteries and bulbs to make 2 circuits as shown in set-up1 below. But he used different materials, A, B and C.

Set-up 1



Keith then reshuffled the electrical components and made 3 circuits as shown in set-up 2.

Set-up 2



In which of the circuits, P, Q or R, will the bulb light up?

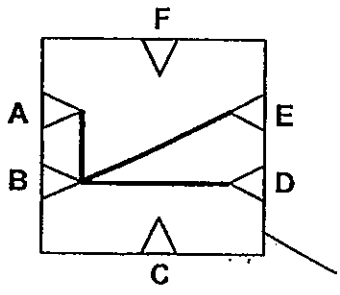
(1) P only
(2) P and Q only
(3) P and R only
(4) P, Q and R

30. John tested a paper circuit card and recorded the results in the table below.

Clips tested	Did the bulb light up?
A and E	Yes
A and C	No
B and D	Yes
B and C	No
D and E	Yes
E and F	No

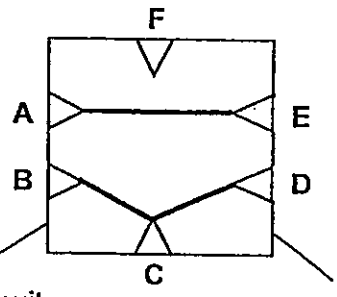
Which of the following diagrams show(s) the possible connectors of the clips by wires?

Diagram P



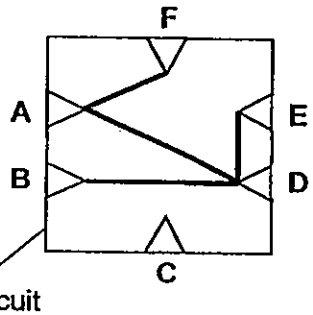
paper circuit cards

Diagram Q



paper circuit cards

Diagram R



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

End of Booklet A2

METHODIST GIRLS' SCHOOL

Founded in 1887

END OF YEAR EXAMINATION 2013
PRIMARY 5
SCIENCE

BOOKLET B1

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

INSTRUCTIONS TO CANDIDATES

Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 5._____

Date: 3 October 2013

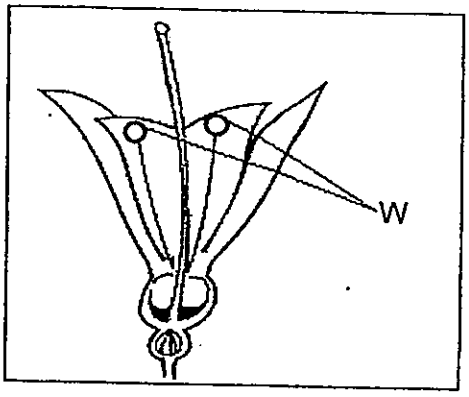
Booklet B1	**/ 20**

This booklet consists of 12 printed pages including this page.

For questions 31 to 37, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

31. Study the flower shown in the diagram below.



(a) Name the part labelled W in the diagram above. [1]

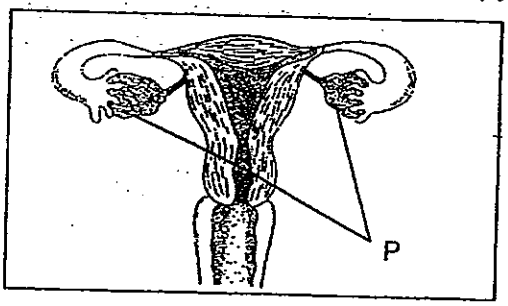
(b) Would the flower still be able to reproduce if the parts labelled W were removed? Explain your answer. [1]

(c) State one similarity between the pollen grain and the sperm. [1]

3

(Go on to the next page)

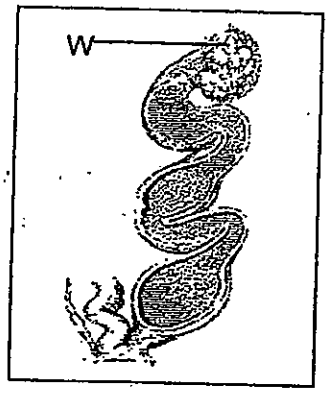
32. The diagram below shows the human female reproductive system.



(a) Name the part labelled P. [1]

(b) What is the main function of the part labelled P? [1]

The diagram below shows the female reproductive system of a bird. The part labelled W has the same function as the part labelled P in the human female reproductive system.



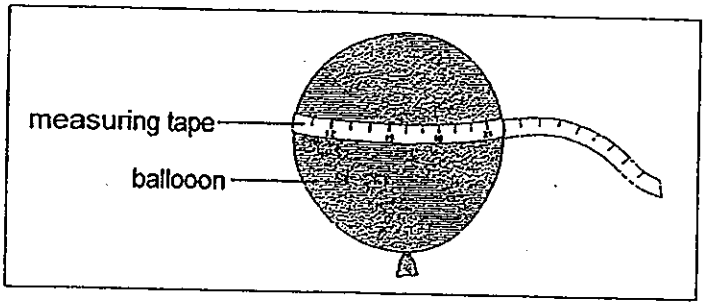
However, the human female reproductive system has two parts labelled P. The female reproductive system of a bird on the other hand, has only one part labelled W.

(c) What advantage has the human female reproductive system over the female reproductive system of a bird? [1]

3

(Go on to the next page)

33. Four girls wanted to find out if the mass of a person affects the amount of air she breathes out. Each of them then took a deep breath and blew into a balloon. Then, the balloon was secured with a rubber band to ensure that no air could escape. Next, the balloon was measured around its widest part to determine its size as shown in the diagram below.



Name	Age (years)	Mass (kg)	Number of breaths blown into the balloon	Size of balloon (cm)
Alicia	7	34	1	11
Brenda	9	52	1	9
Candice	11	45	1	12
Deborah	13	60	1	8

(a) Their teacher said that the investigation is not a fair one. Why did she say that? [1]

_____

_____

(b) What can the girls do to obtain a consistent and reliable result? [1]

_____

_____

Asthma is a lung disease that inflames the air passage of the respiratory system. Sandy has asthma, the tubes that carry air into and out of her lungs are swollen and the muscles around them tighten.

Diagram A shows a cross-section of a normal air passage. Diagram B shows a cross-section of an air passage during an asthma attack.

2

(Go on to the next page)

Diagram A
Normal air passage

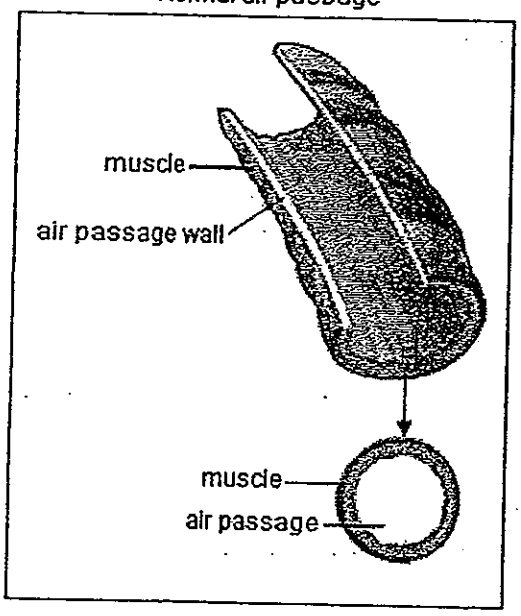
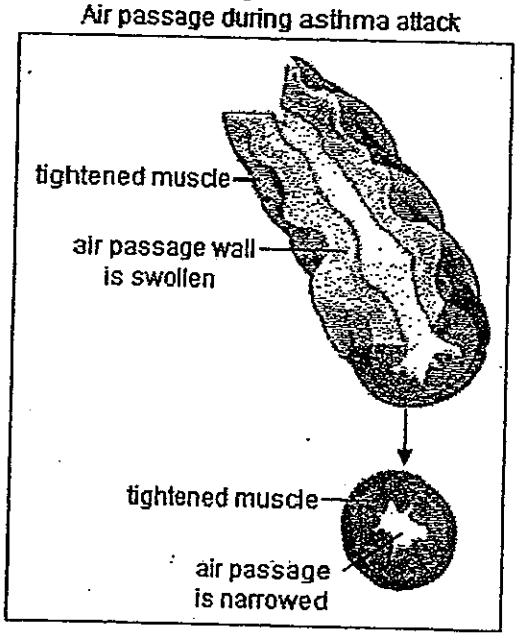


Diagram B
Air passage during asthma attack



(c)

(b) A person suffering from an asthma attack would have difficulty in blowing up a balloon. Explain the reason for this [1]

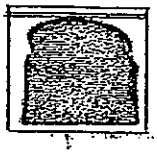
_____

_____

1

(Go on to the next page)

34. Jessika prepared three set-ups A, B and C as shown in the diagram below.

Set-up A	Set-up B	Set-up C
		
• fresh bread • 25 ml of water added	• fresh bread • sealed in a vacuum-packed plastic bag • 25 ml of water added	• toasted bread

After two weeks, Jessika noticed some black spots growing on the bread in Set-up A.

(a) What could the black spots be? [1]

_____

(b) Based on the investigation above, besides warmth, what are the other two conditions required for the black spots to grow? [1]

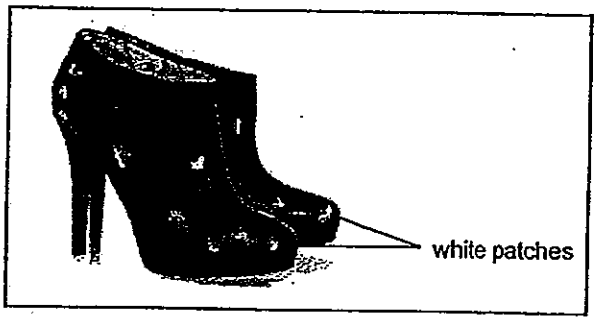
_____

Four months ago, Jessika bought a pair of leather boots. On opening the box, she found a packet of drying agent as shown in the diagram below. Thinking that she would not need it, she threw the drying agent away.

2

(Go on to the next page)

When she took out the pair of leather boots from the box, she noticed that there were some white patches on the boots as shown in the diagram below



She realised that it was a mistake to throw the packet of drying agent away.

(c) Why was the packet of drying agent included in the box when Jessika first bought the pair of leather boots 4 months ago? [1]

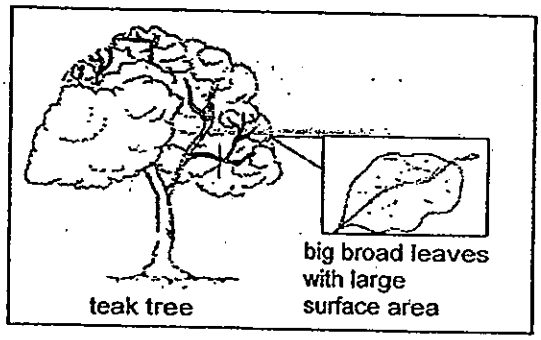
_____

_____

1

(Go on to the next page)

35. Study the diagram of a teak tree as shown below.



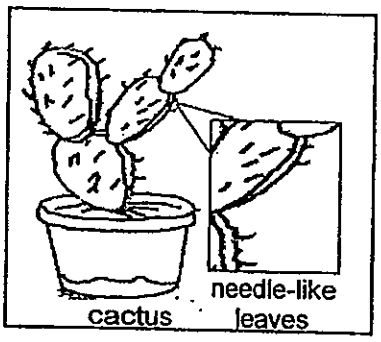
The teak tree has big broad leaves with large surface areas. It is found in rainforests where the weather is warm and there is plenty of sunlight. The rain falls all year round.

(a) How does the large surface area of the leaf of the teak tree allow it to make food more efficiently? [1]

_____

_____

A cactus on the other hand, is a plant found in the desert where the weather is hot and there is very little rainfall. Unlike the teak tree, the cactus has needle-like leaves as shown in the diagram below.



(b) Explain why the leaves of the cactus plant appear small and needle-like? [1]

_____

_____

(c) In which part of the cactus is food mainly being manufactured? [1]

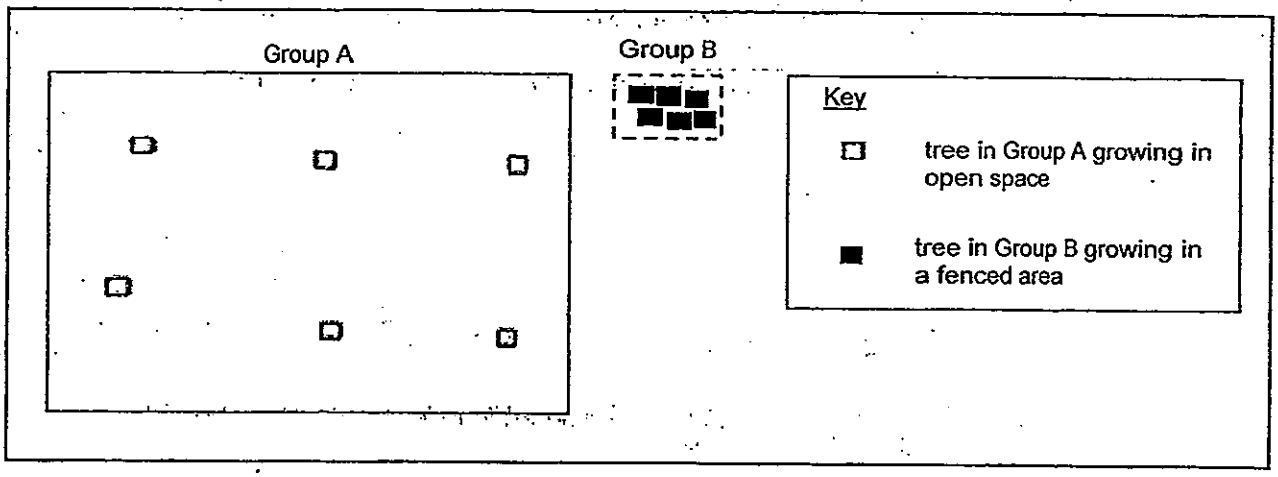
_____

3

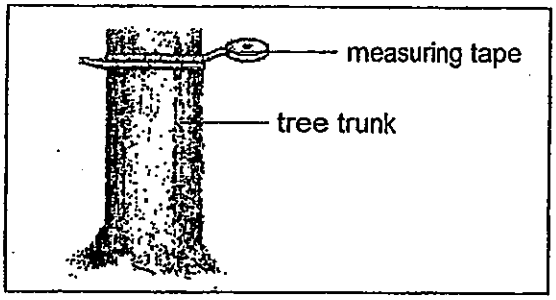
(Go on to the next page)

36. Alyssa and Rita studied two groups of angsana trees, Group A and Group B, which were found growing at two different locations. The trees in Group A were growing in an open space while the trees in Group B were growing in a fenced area.

The diagram below shows the location of the trees in Group A and Group B.



The girls measured around the trunk of each Angsana tree as shown in the diagram below.



They then recorded the results in the table shown below.

Sizes of tree trunks growing in open space (cm)	Sizes of tree trunks growing in a fenced area (cm)
319	102
192	68
323	81
401	33
352	97
245	72

(Go on to the next page)

(a) Using the information from the table above, what can Alyssa and Rita conclude about the sizes of tree trunks growing in a fenced area as compared to those growing in an open space? [1]

(b) What do you think could be the reason for your answer in part (a)? [1]

2

37. A group of students was given four different types of cells, A, B, C and D. They observed the cells under a microscope and recorded their observations in the table shown below.

Parts	Type of Cell			
	A	B	C	D
Cell wall	Present	Present	Absent	Absent
Cell membrane	Present	Present	Present	Present
Cytoplasm	Present	Present	Present	Present
Nucleus	Present	Present	Present	Absent
Chloroplast	Absent	Present	Absent	Absent

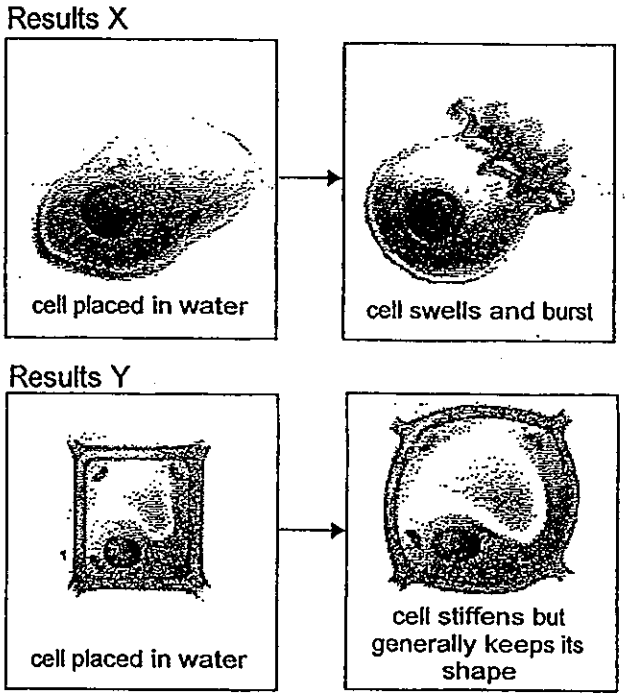
(a) **Draw** and **label** Cell A in the box below. [1]

The students then carried out an experiment on the four cells to find out what happens when each of the cells was soaked in a beaker of water for 5 hours.

1

(Go on to the next page)

The diagram below shows the results of the experiment 5 hours later.



Two of the cells reacted the same way as Results X while the other two cells reacted the same way as Results Y.

(b) Which two cells reacted the same way as Results X when soaked in the beaker of water for 5 hours? Explain your answer. [1]

(c) Give an example of a Cell D and give a reason why you chose this example. [1]

2

End of Booklet B1

METHODIST GIRLS' SCHOOL

Founded in 1887

END OF YEAR EXAMINATION 2013
PRIMARY 5
SCIENCE

BOOKLET B2

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

INSTRUCTIONS TO CANDIDATES

Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____( )

Class: Primary 5._____

Date: 3 October 2013

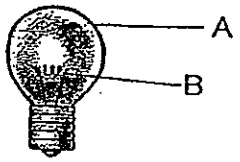
Booklet A	**/ 60**
Booklet B1	**/ 20**
Booklet B2	**/ 20**
Total	**/ 100**

This booklet consists of 8 printed pages including this page.

For questions 38 to 44, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

38. The diagram below shows a bulb.



(ai) Name the parts indicated in the diagram above. [1]

A: _____ B: _____

(aii) What is the most likely property of the material used for part A? [1]

_____

_____

(b) Mrs Phua advised her daughter to buy an umbrella with a plastic tip instead of a metal tip. She commented that a metal tip is especially unsafe if there was lightning.

Explain why it is so. [1]

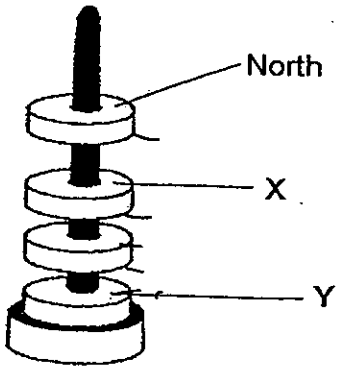
_____

_____

3

(Go on to the next page)

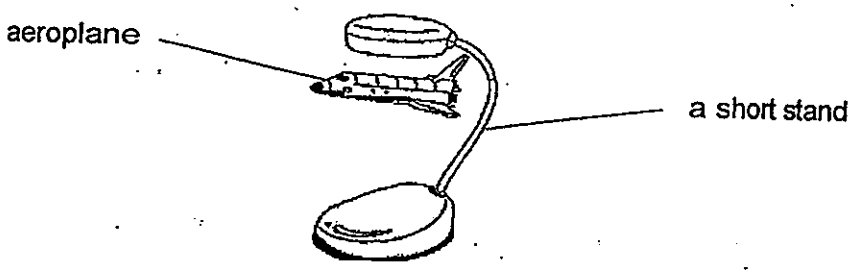
39. Jeremy was playing with some ring magnets as shown below. He found out that he could make some of them 'float' in the air.



(a) If the pole of the top ring magnet is North Pole, state the poles, X and Y, of the magnets as shown in the diagram above. [1]

X: _____ Y: _____

Jeremy has a toy aeroplane that is able to 'float' in the air as shown below.



(b) Based on what he has learnt from (a), explain clearly why the toy plane is able to stay in the air. [2]

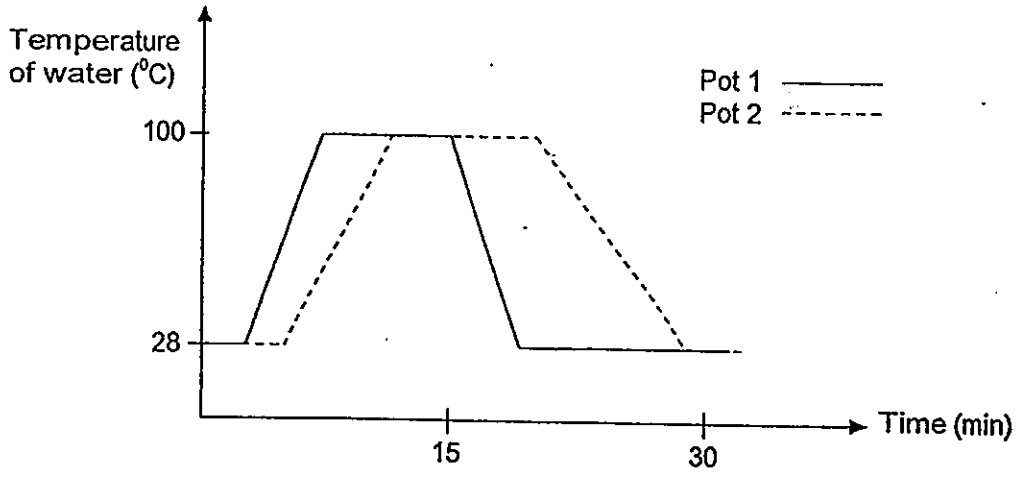
_____

_____

3

40. Mrs Chua had a <u>clay</u> pot and a <u>steel</u> pot of the same size. She poured equal amounts of water into each of them and placed them on a stove. She turned on the fire for 15 minutes. After 15 minutes, she removed the pots from the stove and left them to cool on the table.

Mrs Chua recorded the temperatures of the water in the pots as shown in the graph below.



(a) Based on the graph above, identify the material of the pots. [1]

Pot 1: _____

Pot 2: _____

(b) Explain your answer in (a). [1]

_____

_____

_____

(c) Provide an advantage of cooking food using the clay pot over the steel pot. [1]

_____

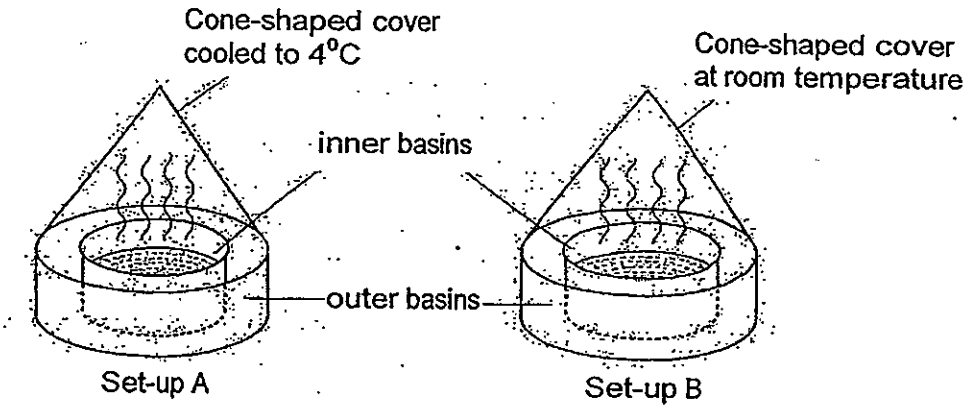
_____

_____

3

(Go on to the next page)

41. Mathew set up an experiment as shown in the diagram below to investigate the rate of condensation of water. The apparatus used in both set-ups are identical. Mathew poured equal amounts of freshly boiled water into the inner basins and covered the outer basin with the cone-shaped cover. However, the cone-shaped cover used in Set-up A was cooled to 4°C before the start of the experiment while the cone-shaped cover used in Set-up B was left at room temperature. He then observed the set-ups for eight minutes.



(a) What variable should he measure in order to find out which set-up allows a faster rate of condensation? [1]

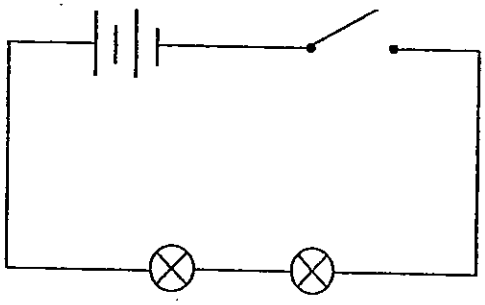
(b) Which set-up do you think will allow condensation to take place at a faster rate? Give a reason for your answer. [1]

(c) Why do you think Mathew use a cone shaped cover for his experiment? [1]

3

(Go on to the next page)

42. Ally set up an electrical circuit as shown in the circuit diagram below.



Ally noticed that both the bulbs were dim when the switch was closed. She decided to make some changes to the circuit so that the bulbs would glow brighter.

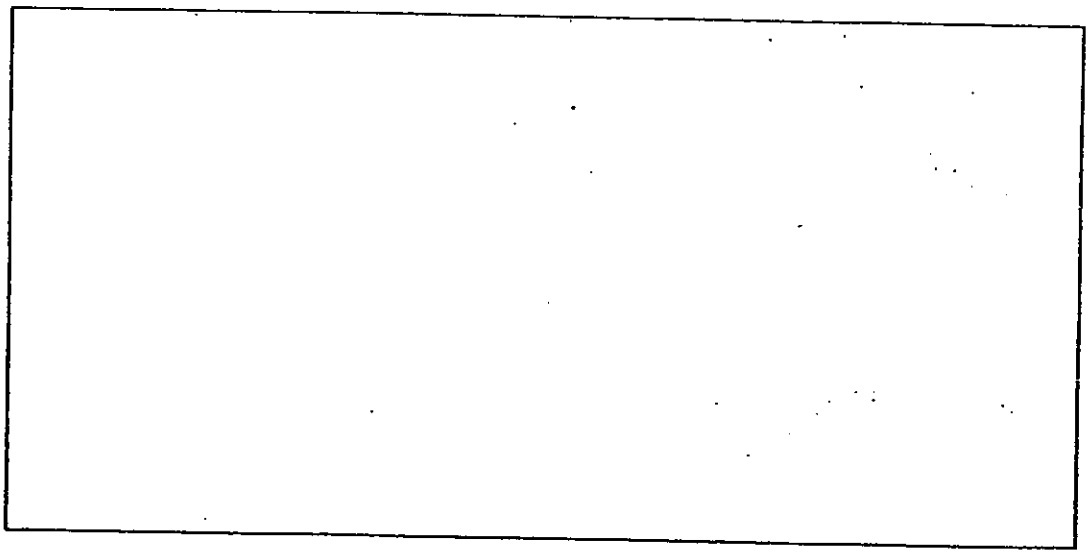
(a) State two ways she could do to the circuit so that the two bulbs will glow brighter. [1]

_____

_____

(b) Ally is given **two batteries**, **two bulbs**, **one switch** and **some wires** in a Science competition. She is asked to connect the circuit components and construct a circuit which allows one bulb to light up even though the other bulb has fused. [2]

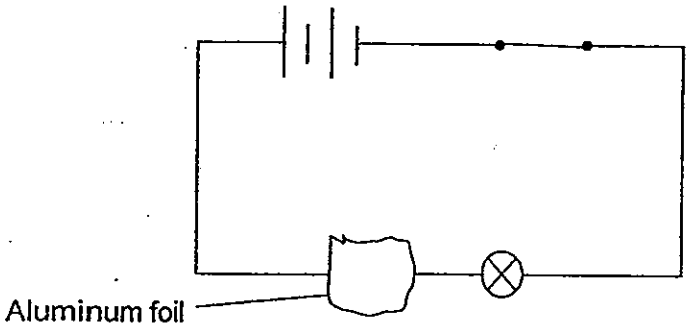
In the space below, draw a **circuit diagram** of the circuit she should construct.



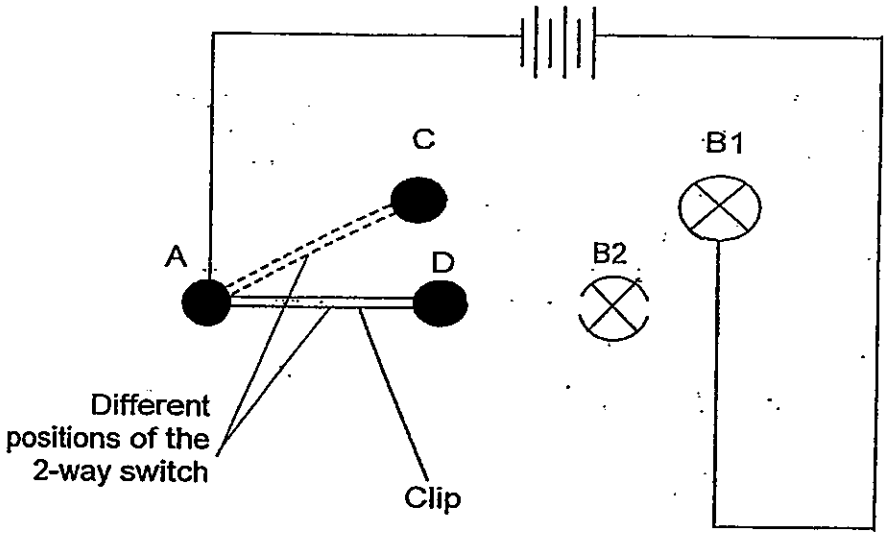
3

(Go on to the next page)

(c) What will happen to the other bulb if one of the bulbs in Ally's circuit was replaced by a piece of aluminum foil? Explain your answer. [1]



43. The diagram below shows an open circuit. The 2-way switch is made up of 3 pins A, C and D. A clip is connected to Pin A and it can be moved to touch pins C or D.

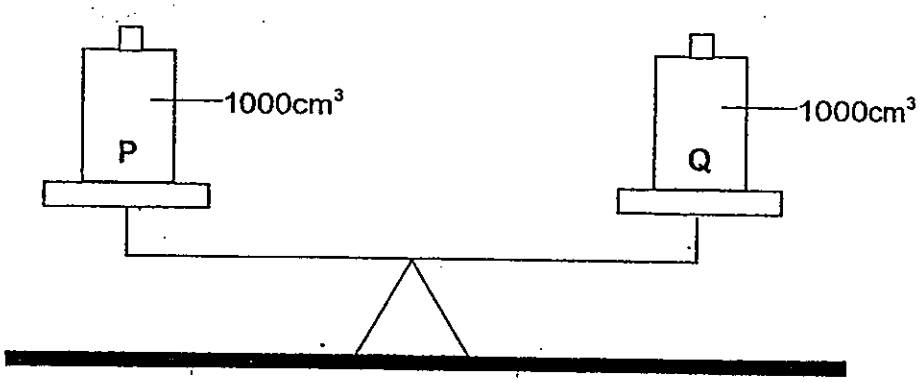


Draw 3 wires in the diagram above to show how the 2-way switch can be connected to the bulbs so that only I bulb can light up at a time. [2]

3

(Go on to the next page)

44 Jess balanced two identical containers of equal capacity, P and Q, on a lever balance as shown in the diagram below.



(a) State what Jess would observe when she pumped in another 800 cm^3 of air into container P [1]

(b) What properties of air does this experiment clearly demonstrate? [1]

2

End of Booklet B2

Answer Ke

EXAM PAPER 2013
SCHOOL : MGS
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	2	1	2	1	3	2	4	3	4	2	1	2	2	2	2	4

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	1	2	1	1	3	2	1	1	3	4	2	1

31)a)Anthers.
b)Yes. Cross-pollination can still take place.
c)Both fuse with the female egg during fertilisation.

32)a)Ovaries.
b)To produce eggs for fertilization.
c)The human does not rely too much on one ovary while the bird has to. Also for the human if one of the ovaries are not working there is still a second one to depend on, while the bird doesn't have another one.

33)a)The age of each of the girls are different when they are meant to be a constant variable, unabling them to compare accurately.
b)They can repeat the investigation three times and find the readings.
c)The air passage is swollen and the muscles are tightened, making the passage narrow causing it to be difficult for air to travel out of the lungs and to the mouth to blow air into a balloon.

34)a)Mould

b)Water and air.

c)The packet of drying agent contains silica gel which helps to keep the boots dry so that mould will not grow, helping to maintain the boots well so it will not spoil.

35)a)There is more exposed surface area of the chlorophyll and hence it can trap more sunlight to make food more efficiently.

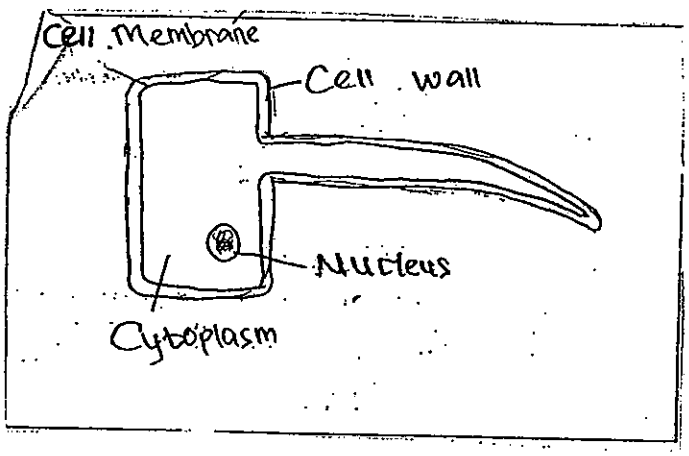
b)To reduce the surface area of the leaves so that the water loss through transpiration is not prevented, thus conserving water in the hot desert.

c)The stem.

36)a)The sizes of tree trunks growing in an open space is larger compared to those growing in a fenced area.

b)Trees growing close together have to compete for sunlight, nutrients, water and space unlike those growing on open space.

37)a)



b)Cells C and D. Both have no cell wall to keep its shape and hence in not as strong. When it absorbs too much water, it bursts, no cell wall keeping it together.

c)Red blood cell. It has no nucleus, cell wall and chloroplast but cell membrane and cytoplasm is present.

38)a)i)A: Glass casing B: Filament

ii)It is transparent

b)As metal is a good conductor of electricity, when there is lightning the metal tip might conduct the electricity and the person might get electrocuted.

39)a)X: South Y: South

b)There is a magnet on the aeroplane and one on the bottom of the stand. Both like poles are facing each other, causing repulsion which allows the toy plane to stay in the air.

40)a)1: Steel 2: Clay

b)Steel is a better conductor of heat than clay. Hence, pot 1, which gains heat and loses heat faster should be made of steel and pot Z, which gains heat and loses heat slower should be made of clay.

c)The food in the pot could be kept warmer for a longer period of time.

41)a)The amount of pure water/ water droplets collected in the outer basins.

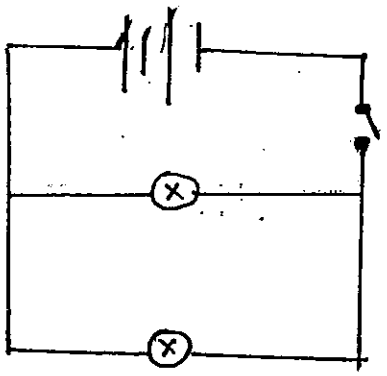
b)Set-up A. As the cone-shaped cover is colder than the cone-shaped cover in set-up B, the evaporated water vapour will lose heat faster and hence condense faster.

c)So that the condensed water droplets would slide back into the outer basin as the sides of the cone is slanted.

42)a)1)Put more batteries.

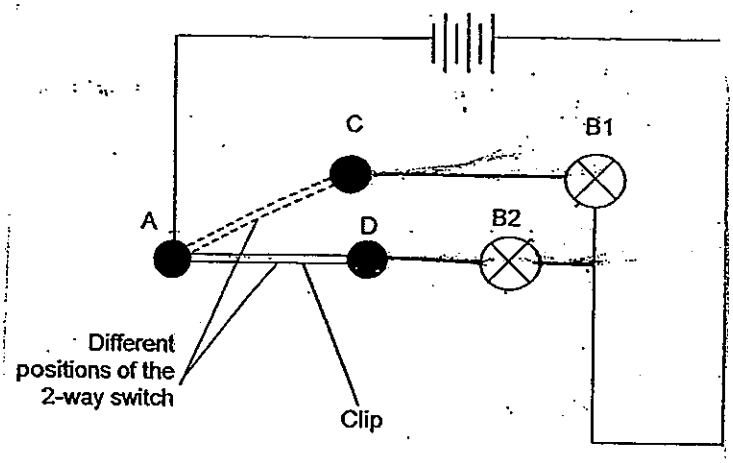
2)Arrange the bulbs in parallel.

b)



c)The bulb would continue to light up as aluminum is a conductor of electricity and hence, electric current can flow through it, creating a closed circuit with no gaps.

43)



44)a)The level balance would tilt downwards towards container P.
b)Air has mass and can be compressed.