METHODIST GIRLS' SCHOOL

Founded in 1887

MID-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: 16 May 2013

This booklet consists of 9 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]

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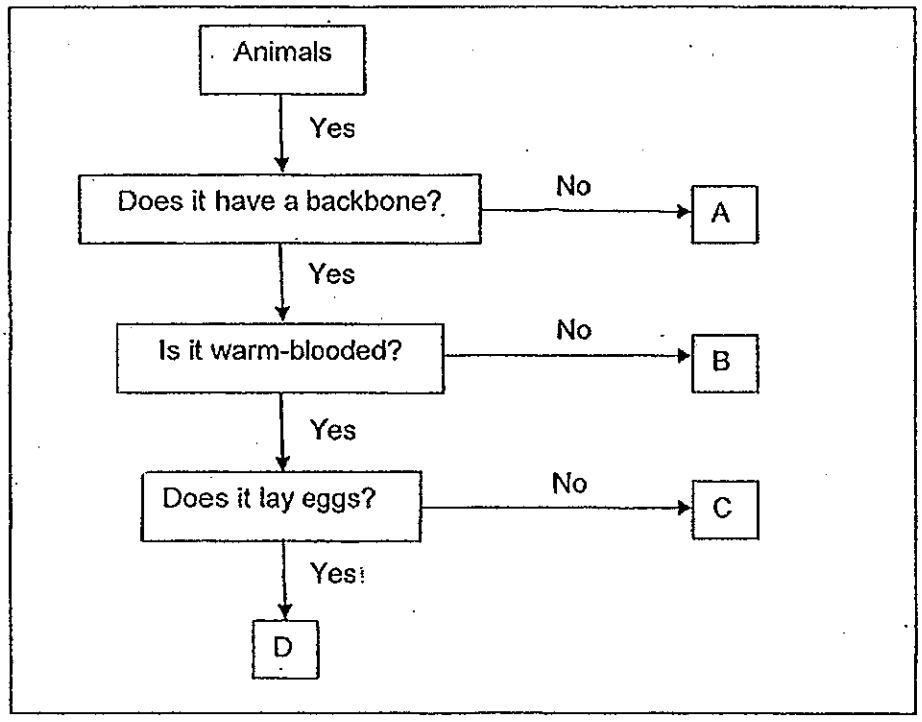
1. Study the table below.

	Moves on its own	Can reproduce	Can make food
A	No	No	No
B	No	Yes	Yes

Based on the table above, what can you conclude about A and B?

(1) A and B are living things.
(2) A is a fungi and B is a plant.
(3) A is a non-living thing and B is a living thing.
(4) Both A and B need air, food and water to grow.

2. Study the flow chart below.



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

	A	B	C	D
(1)	Snake	Penguin	Pig	Lizard
(2)	Snail	Crocodile	Dog	Penguin
(3)	Turtle	Toad	Cat	Crocodile
(4)	Spider	Lizard	Duck	Parrot

(Go on to the next page)

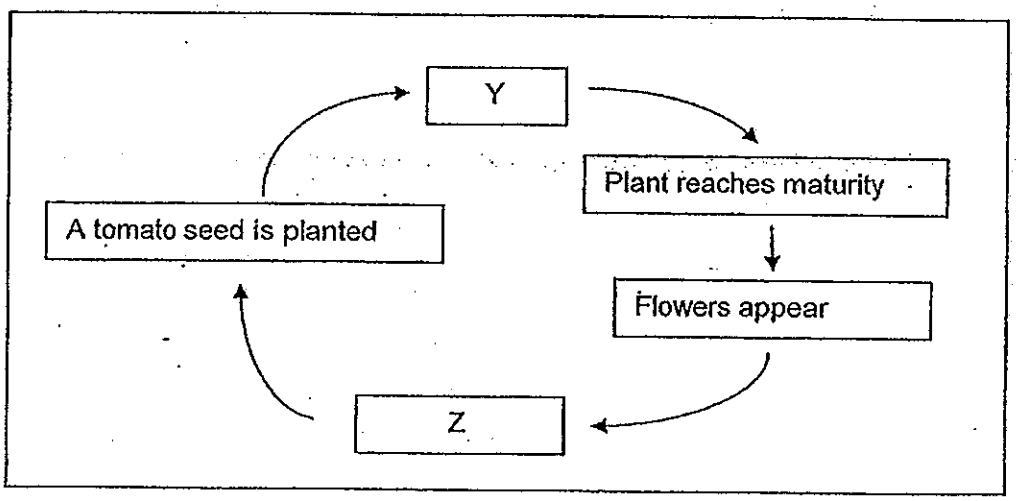
3. A living thing, S, has the characteristics shown below.

A: S does not bear flowers.
B: S reproduces from spores.
C: S cannot make its own food.

What is S likely to be?

(1) Moss
(2) Bacteria
(3) Mushroom
(4) Bird's nest fern

4. Study the life cycle of the tomato plant shown below.



Which of the following show the stages Y and Z correctly?

	Y	Z
(1)	Shoot appears	Fruits appear
(2)	Roots appear	Seed leaves fall off
(3)	Seeds are pollinated	Seeds are dispersed
(4)	Fruits appear	Roots appear

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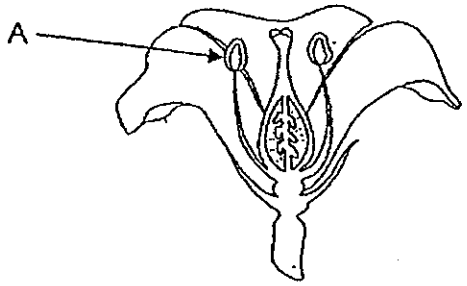
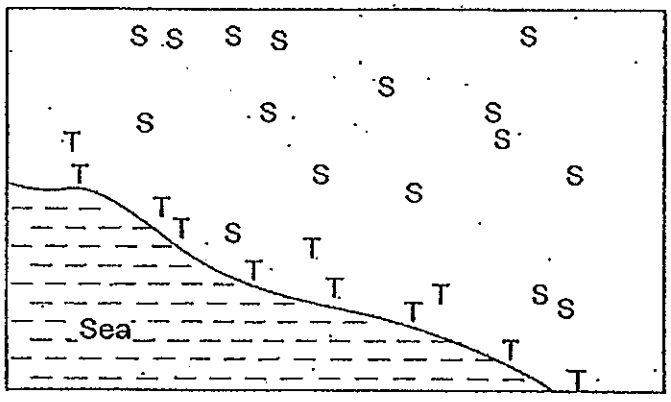
5. The diagram below shows the cross section of a flower.



Which part of the human reproductive system has the similar function as A?

(1) penis
(2) ovary
(3) testis
(4) sperm

6. The diagram below shows part of a shoreline where two types of plants, S and T are growing.



What are the likely characteristics of Plants S and T?

	Characteristics of fruits	
	Plant S	**Plant T**
(1)	Hard and heavy	Wing-like structure
(2)	Sweet and fleshy	Fibrous husk
(3)	Dry with hard pods	Small, light and has fine hairs
(4)	Edible with small digestible seeds	Covered with hooks

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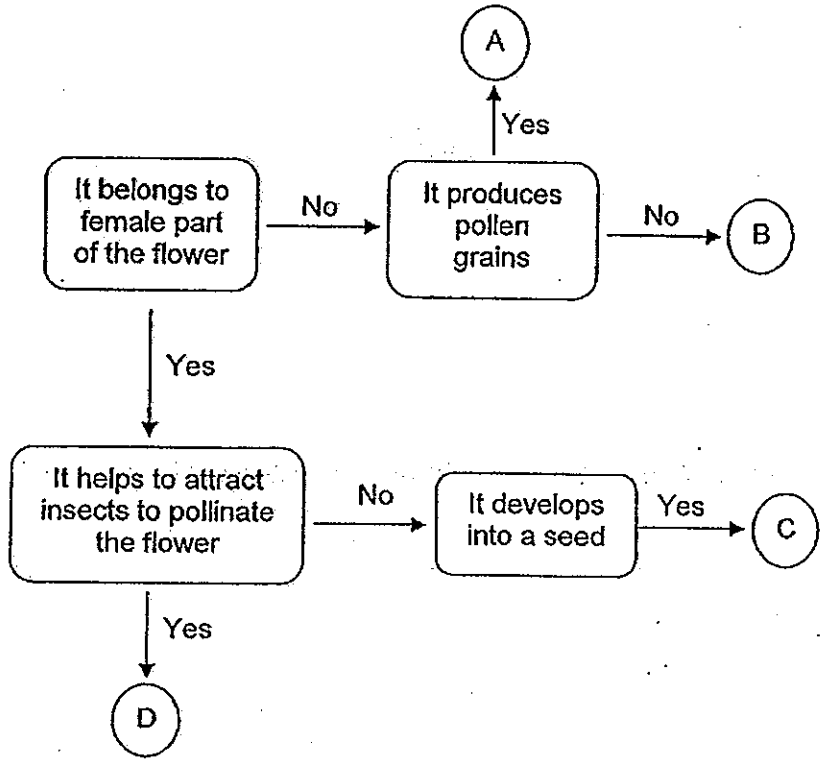
7. The flow chart below describes various parts of a flower, labelled A, B, C and D.



Which of the following correctly identifies the parts A, B, C and D?

	A	B	C	D
(1)	Filament	Anther	Ovary	Ovule
(2)	Filament	Anther	Ovule	Ovary
(3)	Anther	Filament	Ovary	Petal
(4)	Anther	Filament	Ovule	Petal

(Go on to the next page)

8. Study the following table carefully. Young Plants P and Q are the offspring of Parent Plant Z. One of the young plants is reproduced sexually while the other is reproduced asexually.

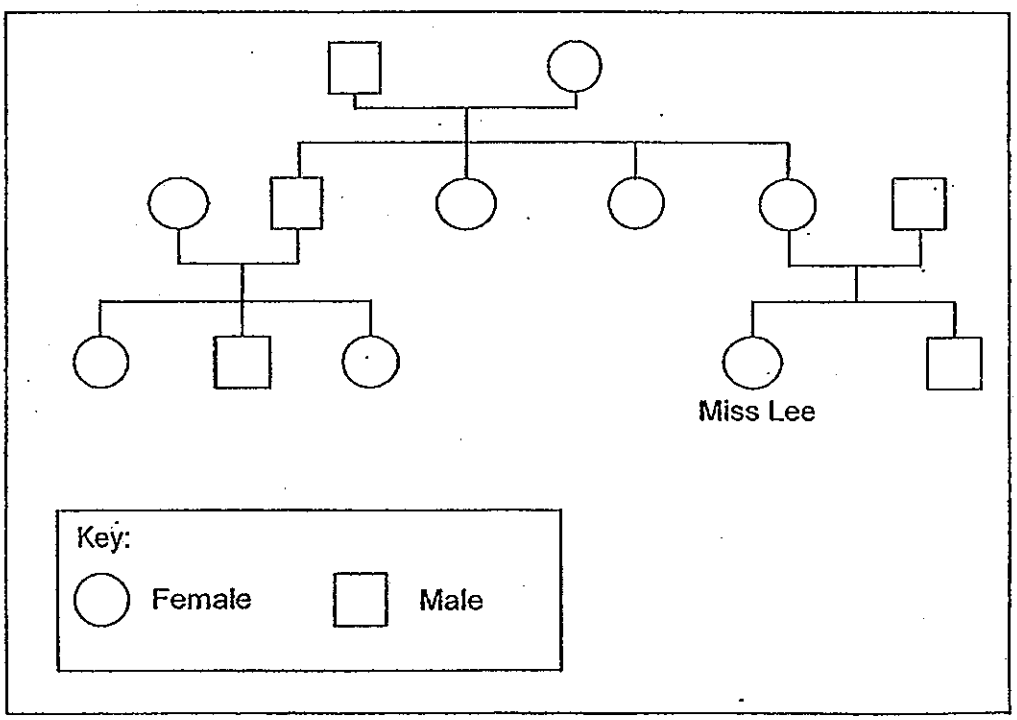
Features	Parent Z	Young Plant P	Young Plant Q
Height	Short	Short	Short
Colour of fruit	Light orange	Dark orange	Light orange
Size of fruit	Big	Small	Big

Which of the following statement(s) about Young Plants P and Q is/are correct?

A: Plant Q will produce juicer fruits than its Parent Plant Z
B: Plant P is reproduced sexually while Plant Q is reproduced asexually.
C: Plant Q is genetically identical to Parent Plant Z while Plant P is genetically different from Parent Plant Z.

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

9. Study the family tree below carefully.



How many nieces does Miss Lee's mother have?

(1) 1
(2) 2
(3) 3
(4) 4

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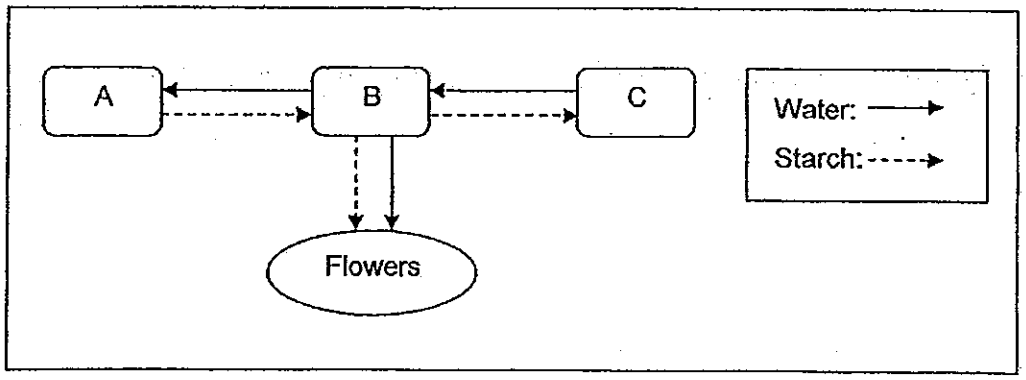
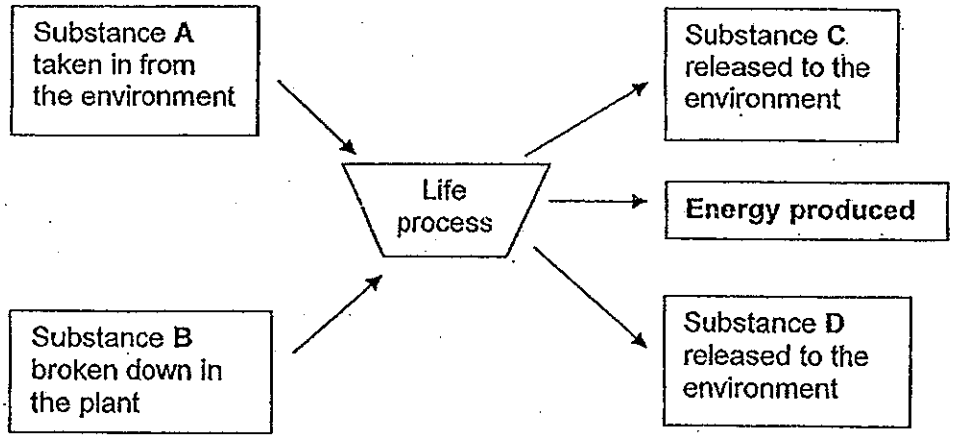
10. The diagram below shows how water and starch are transported in a plant.



Which one of the following shows the parts of the plant correctly?

	A	B	C
(1)	leaves	stem	roots
(2)	roots	stem	leaves
(3)	stem	leaves	roots
(4)	leaves	roots	stem

11. The diagram represents a certain life process that takes place in green plants.

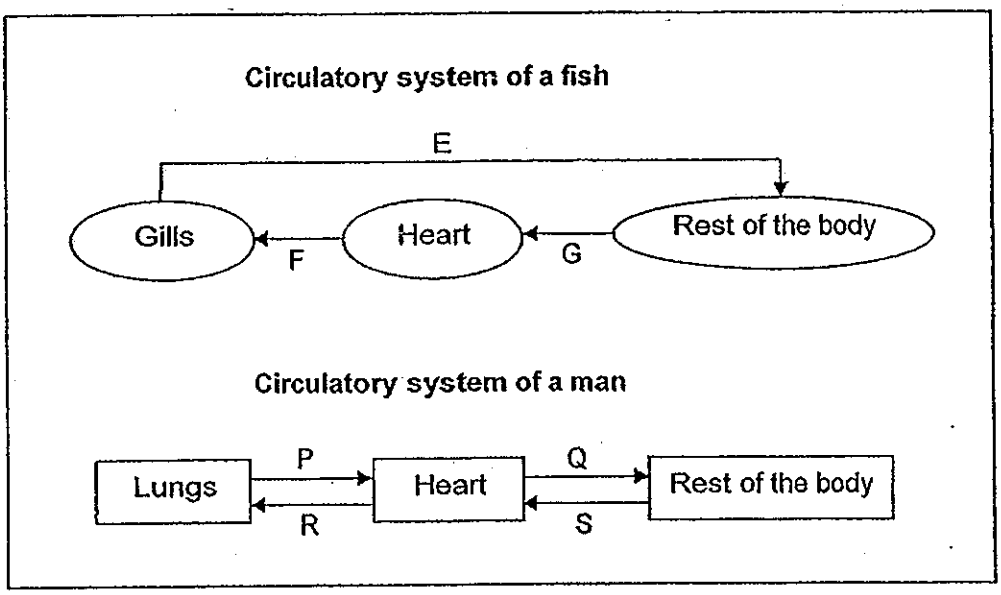


Which one of the following correctly identifies Substances A, B, C and D?

	A	B	C	D
(1)	carbon dioxide	food	oxygen	water vapour
(2)	water	food	oxygen	carbon dioxide
(3)	food	water	water vapour	oxygen
(4)	oxygen	food	water vapour	carbon dioxide

(Go on to the next page)

12. The diagrams below show how gases are transported in the circulatory systems of a fish and a man.

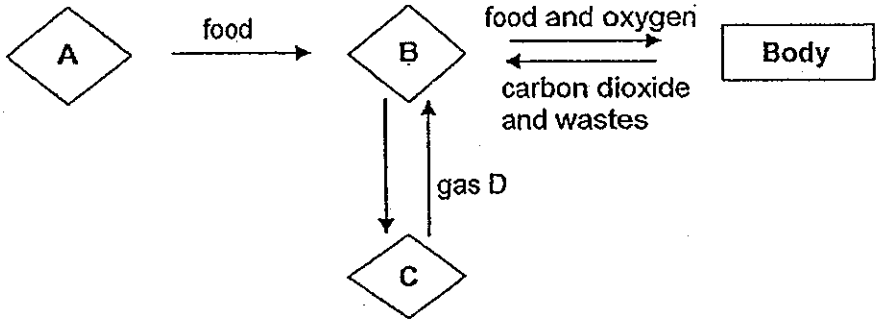


Based on the diagrams above, which of the following statement(s) is/ are correct?

A: F, G, P, and Q carry blood rich in oxygen.
B: Both systems require a heart to pump the blood in the body.
C: Oxygenated blood flows from the gills to the rest of the body in the fish.

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

13. The diagram below shows the different systems working together in the human body.



Based on the diagram above, which systems do A, B and C represent and what is gas D?

	System A	System B	System C	Gas D
(1)	digestive	circulatory	respiratory	oxygen
(2)	circulatory	digestive	respiratory	oxygen
(3)	digestive	respiratory	circulatory	carbon dioxide
(4)	circulatory	respiratory	digestive	carbon dioxide

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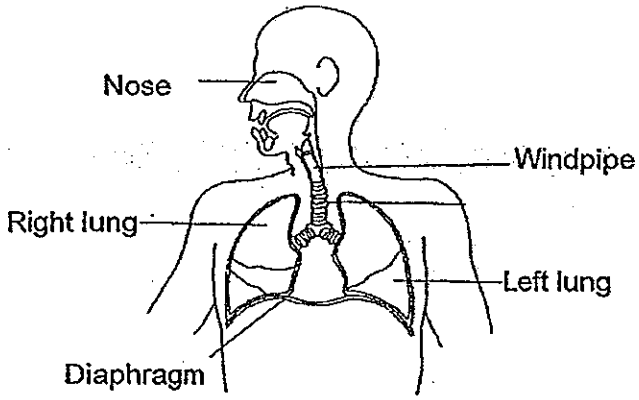
14. The diagram below shows the respiratory system in a human body.

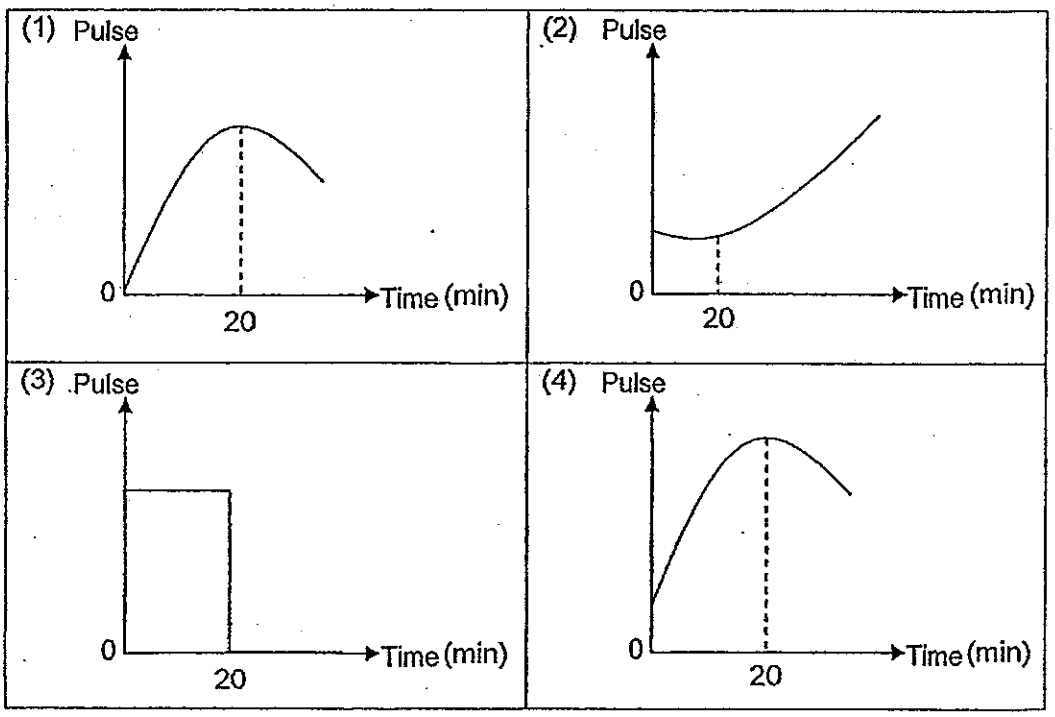


A: The diaphragm supports the lungs.
B: The nose absorbs oxygen for the body.
C: The lungs enable exchange of gases with the surrounding air.
D: The windpipe allows air to travel to the lung and food to the stomach.

Which of the above statement(s) is/ are correct?

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

15. An athlete jogs continuously up the hill for twenty minutes and then took a rest. Which graph shows his pulse rate during the training session?



End of Booklet A1

METHODIST GIRLS' SCHOOL

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PRIMARY 5
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BOOKLET A2

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

INSTRUCTIONS TO CANDIDATES

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Name: _____ ( )

Class: Primary 5._____

Date: 16 May 2013

This booklet consists of 13 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 and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

[60 marks]

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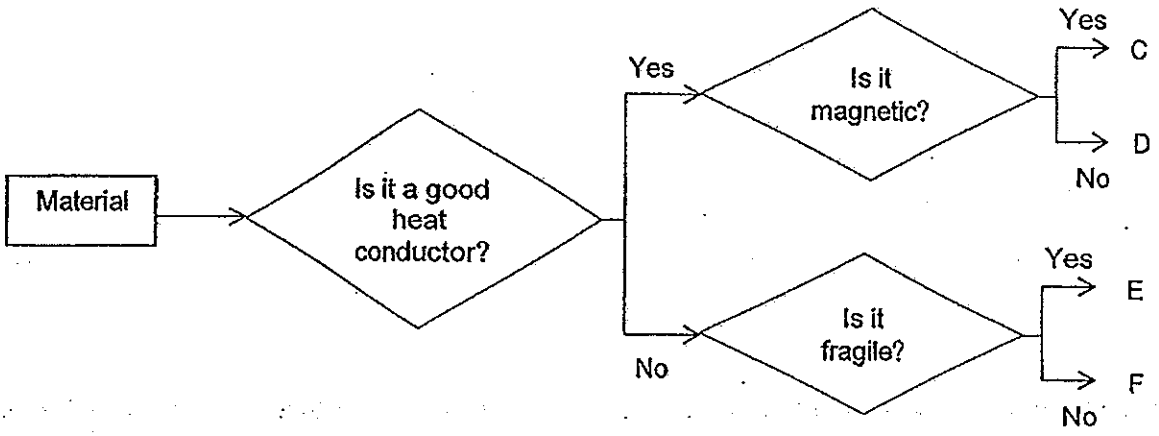
16. The diagram below shows how materials C, D, E and F can be classified.



What do C, D, E and F represent?

	C	D	E	F
(1)	Iron	Steel	Wood	Rubber
(2)	Nickel	Copper	Glass	Wood
(3)	Aluminium	Silver	Clay	Plasticine
(4)	Steel	Cobalt	Ceramic	Fabric

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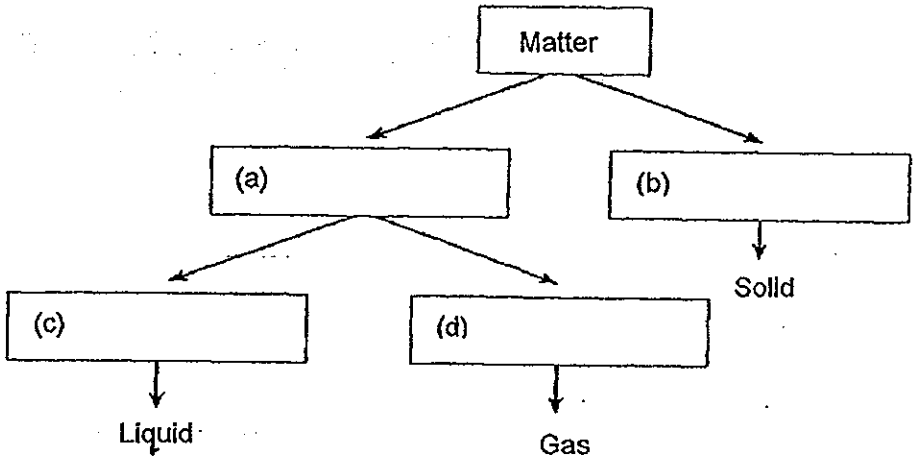
17. Matter has mass and occupies space. However, some have definite shapes and volumes while others do not.



What are the answers for the boxes above?

	(a)	(b)	(c)	(d)
(1)	No definite shape	Definite shape	Definite volume	No definite volume
(2)	No definite shape	Definite shape	No definite volume	Definite volume
(3)	Definite shape	No definite shape	Definite volume	No definite volume
(4)	Definite shape	No definite shape	No definite volume	Definite volume

18. A student wanted to find out how different volume and temperature of the water would affect the amount of heat transfer. He filled four similar beakers with water of different volume and temperature as shown below.

Beaker	Volume (ml)	Temperature (°C)
A	30	70
B	30	37
C	80	70
D	25	37

The four beakers were placed in the freezer overnight. Which beaker lost the greatest amount of heat to become ice?

(1) A

(2) B

(3) C

(4) D

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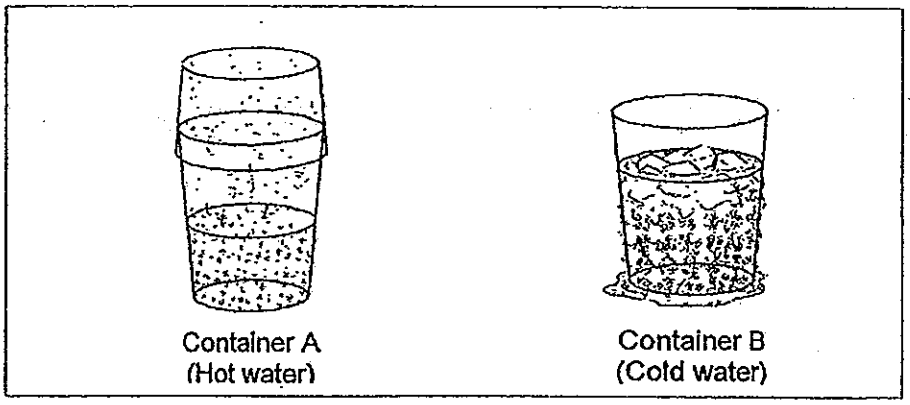
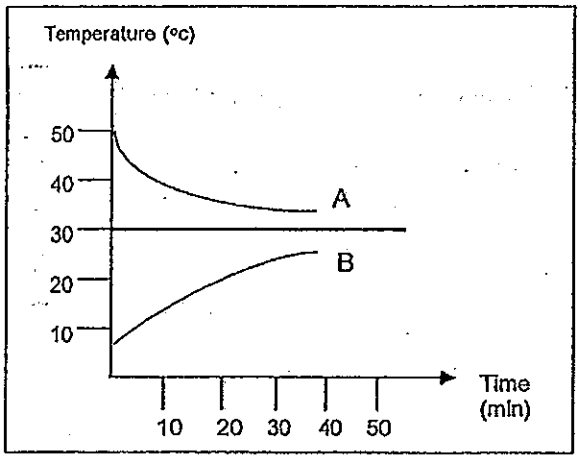
19. Two containers were filled with water at different temperatures.

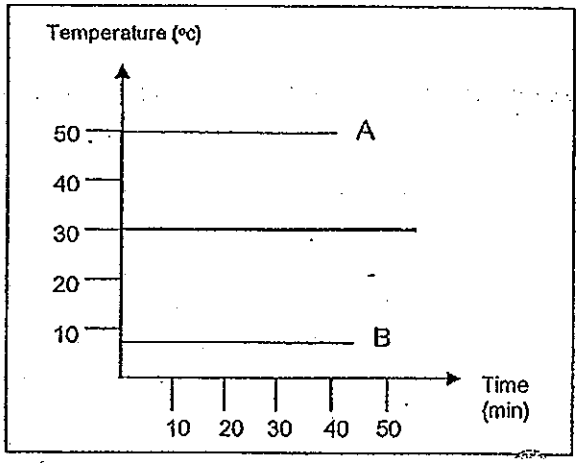


Which one of the following graphs correctly shows the temperature of the water in the containers after a period of time?

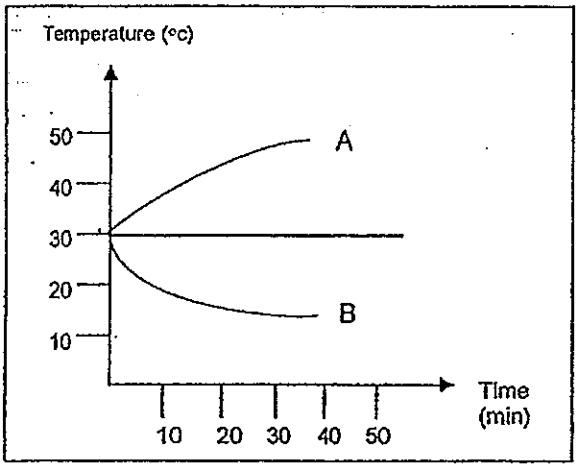
(1)



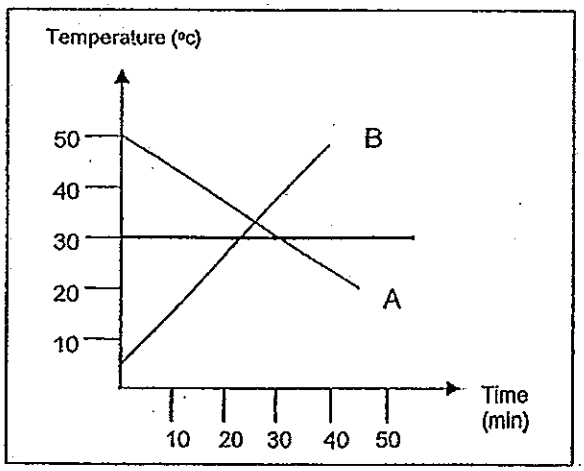
(2)



(3)



(4)



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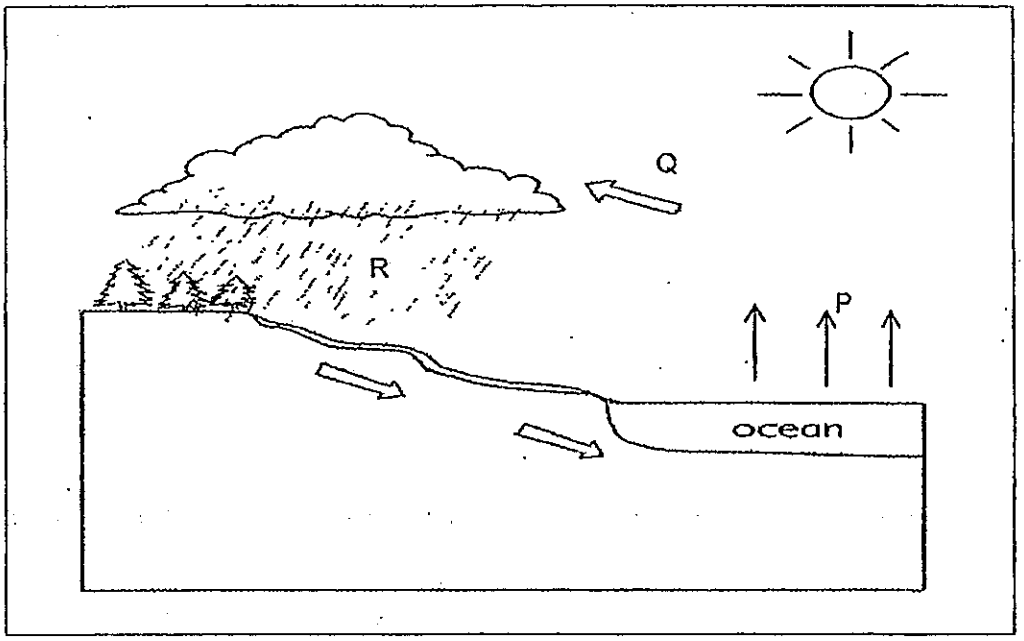
20. The following diagram shows a water cycle.



There is heat transfer at each process in the water cycle. What is the heat gain and heat loss at different parts of the water cycle?

	P	Q	R
(1)	No change	Heat gain	Heat loss
(2)	Heat loss	Heat gain	No change
(3)	Heat gain	No change	Heat loss
(4)	Heat gain	Heat loss	No change

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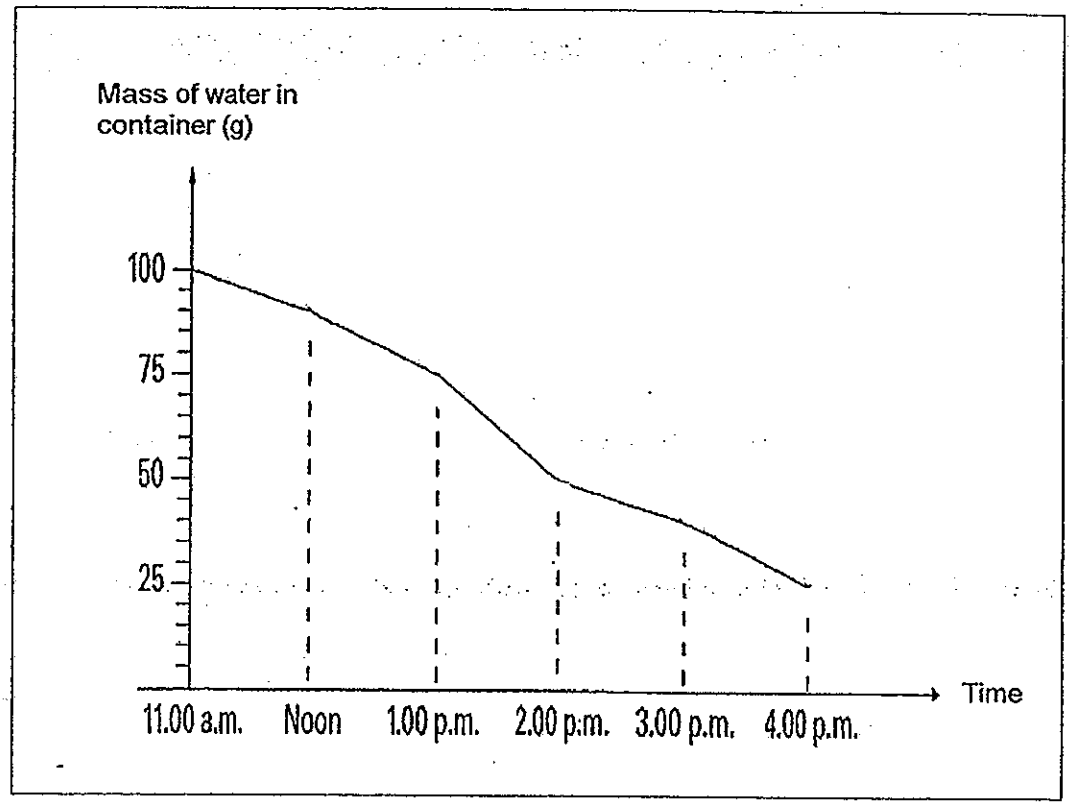
21. The graph below shows the change of mass of water in a container placed under the sun.



The rate of evaporation is the highest between _____.

(1) 12.00p.m. and 1.00p.m.

(2) 1.00p.m. and 2.00p.m.

(3) 2.00p.m. and 3.00p.m.

(4) 3.00p.m. and 4.00p.m.

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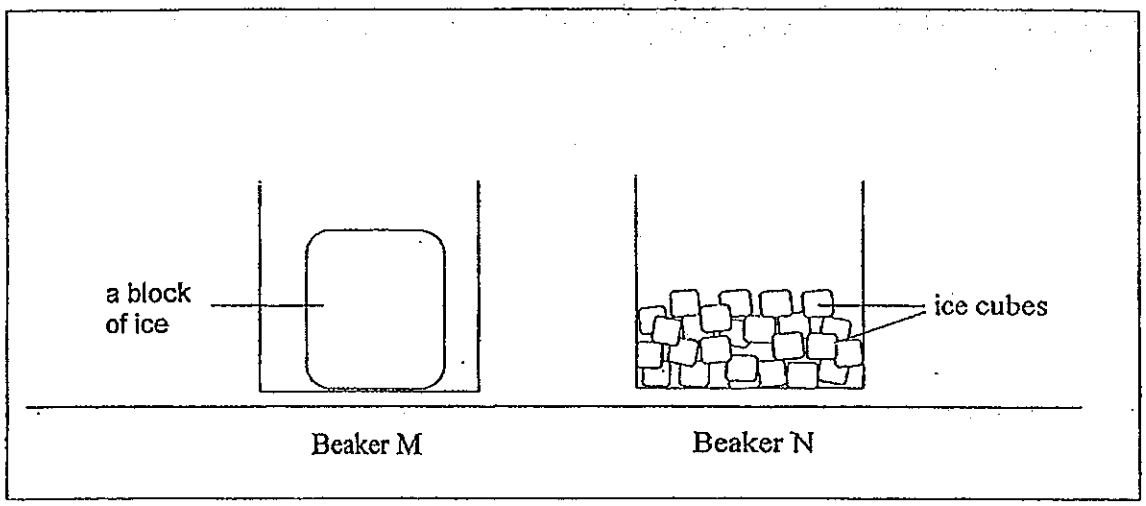
22. Sam would like to know whether the size of the ice would affect its rate of melting. He set up an experiment as shown below and left the beakers in the laboratory for 30 minutes.



After 30 minutes, Sam poured out the water that was found in each beaker into a measuring cylinder. What would Sam observe after 30 minutes?

(1) Both beakers of ice melted at the same rate
(2) The ice cubes melted faster than the block of ice
(3) The block of ice melted faster than the ice cubes
(4) Both beakers of ice melted but he was not able to tell which one melted faster

23. On a hot and humid day, Fatimah feels warm and 'sticky'. What is the reason for this observation?

(1) The perspiration on her skin cannot evaporate at all.
(2) The stickiness on her skin is due to the air pollutants around her..
(3) The heat from the sun speeds up the rate of evaporation of her perspiration.
(4) The higher amount of water vapour in the air slows down the rate of evaporation.

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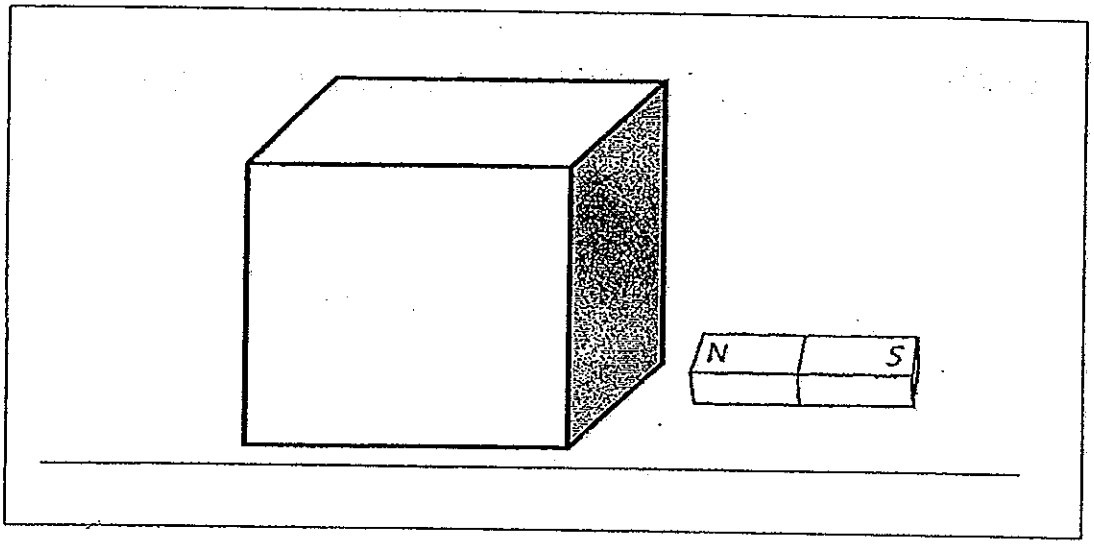
24. The diagram shows a box which is made of a certain material and a magnet. When the magnet is brought close to the box, the magnet experienced repulsion.

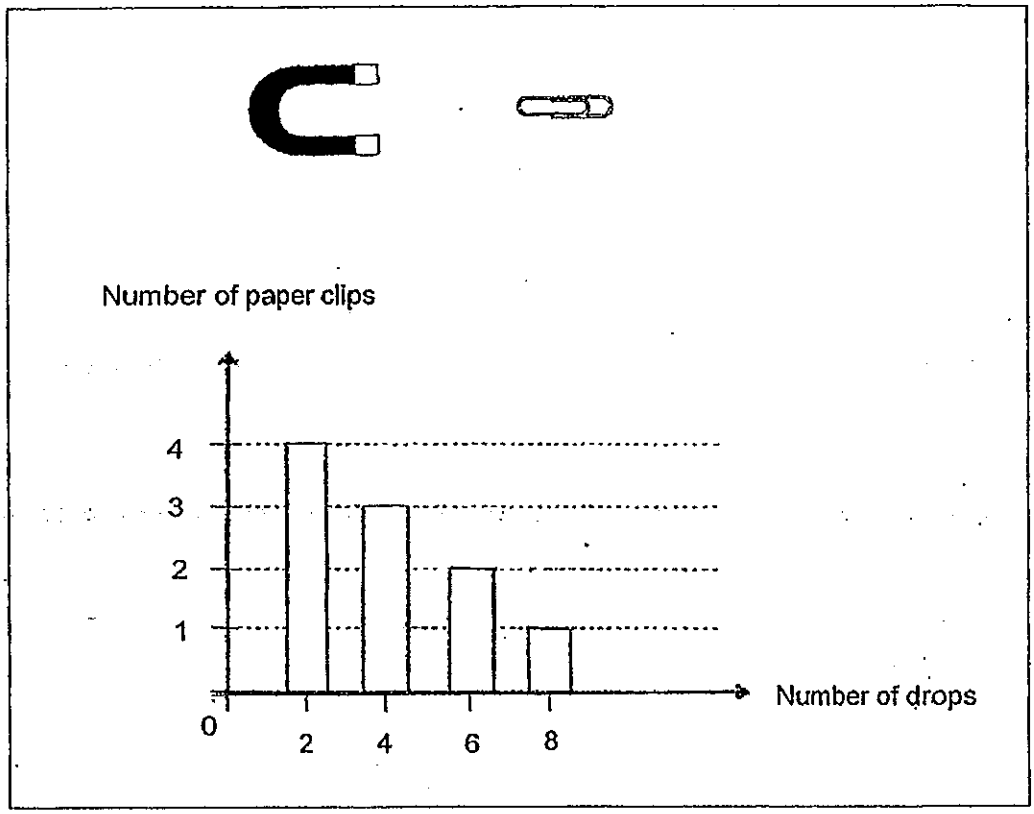


Which one of the following statements below is true?

(1) There is a magnet in the steel box.
(2) There is a magnet in the wooden box.
(3) There is a steel nail in the copper box.
(4) There is a nickel nail in the plastic box.

(Go on to the next page)

25. Jane conducted an experiment to find out how the strength of a magnet was affected by the number of times the magnet was dropped on the ground. She dropped the magnet from the same height and then recorded how many paper clips it could attract when the clips were placed near it. The graph below showed the results of the experiment.



Based on the graph above, which one of the following statements is a likely conclusion?

(1) Before dropping, the magnet could attract 4 paper clips
(2) After dropping it 2 times, the magnet could attract 3 paper clips
(3) After dropping it more than 8 times, the magnet could not attract any paper clips
(4) After dropping it more than 3 times, the magnet attracted less than 4 paper clips

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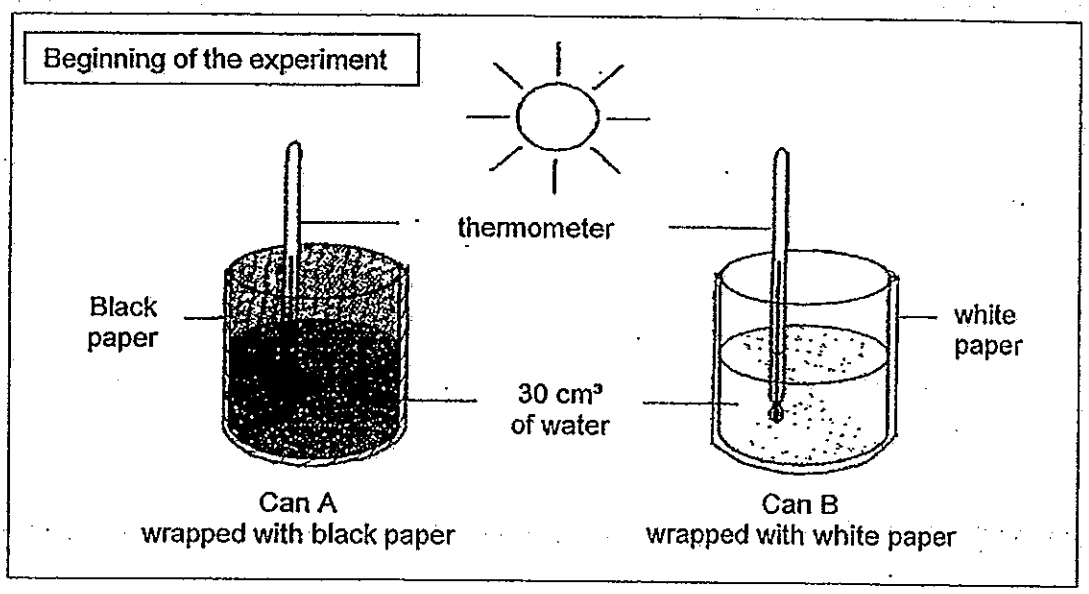
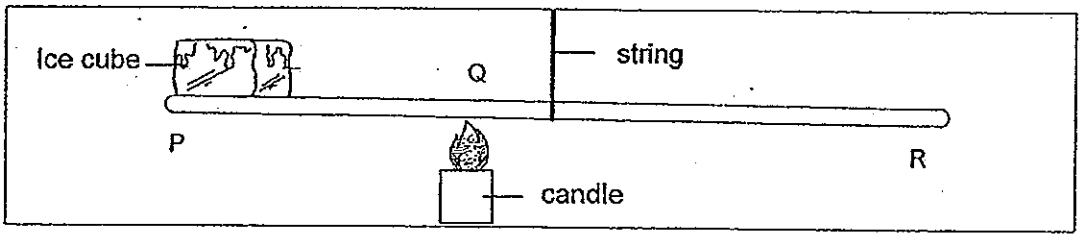
26. Shannen wrapped two cans of water with paper of the same quality but of different colours as shown below. She then placed them under the sun for 1 hour.



What would Shannen observe at the end of the experiment?

(1) Both cans had the same temperature.
(2) Can A had a higher temperature than Can B
(3) Can B had a higher temperature than Can A
(4) Both cans remained at the temperature of 25°c

27. A metal rod PR was suspended in the air by a string. An ice cube was placed at P while a burning candle was placed under Q as shown below.



After a short while, the ice started to melt. Which one of the following statements is true?

(1) P is the coldest point, followed by Q, then R
(2) P is the coldest point, followed by R, then Q
(3) Q is the hottest point, followed by P, then R
(4) R is the hottest point, followed by Q, then P

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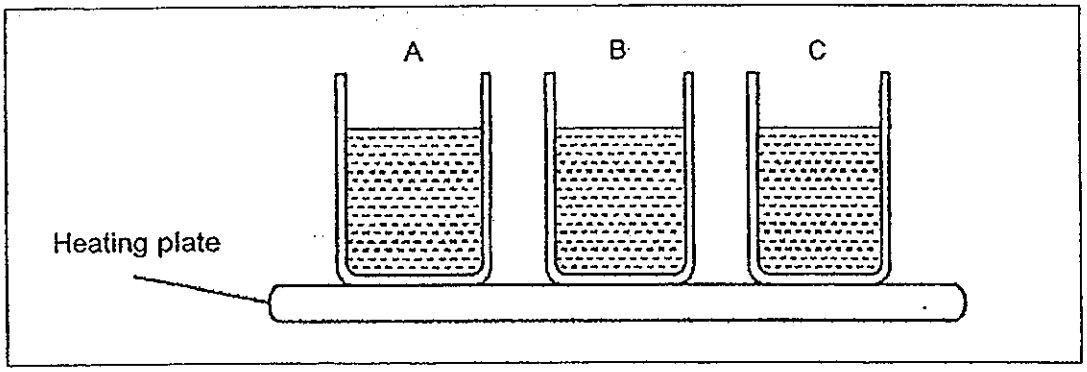
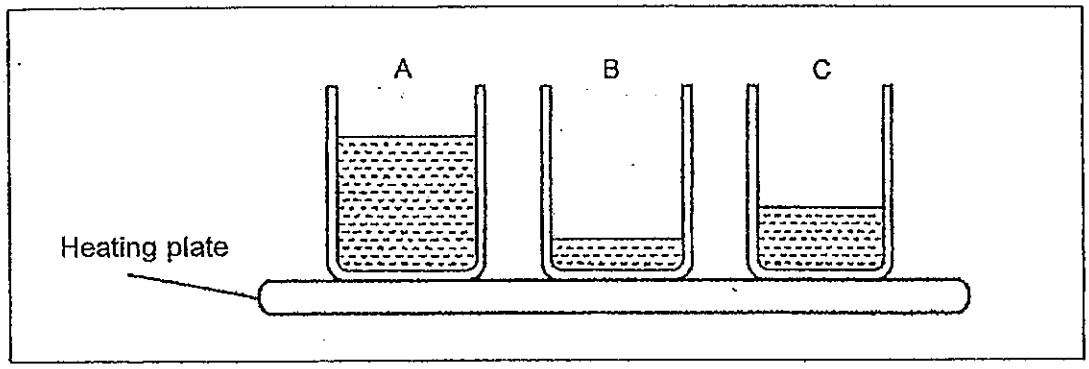
28. Three similar containers A, B and C contained the same amount of water of the same temperature. They were placed on a heating plate as shown in the diagram below.



After 30 minutes, the water level in the containers dropped as shown below.



What is the reason for this observation?

(1) Container A is the best conductor of heat
(2) Container B is the poorest conductor of heat
(3) Container C is a better conductor of heat than A
(4) Container B is a poorer conductor of heat than C

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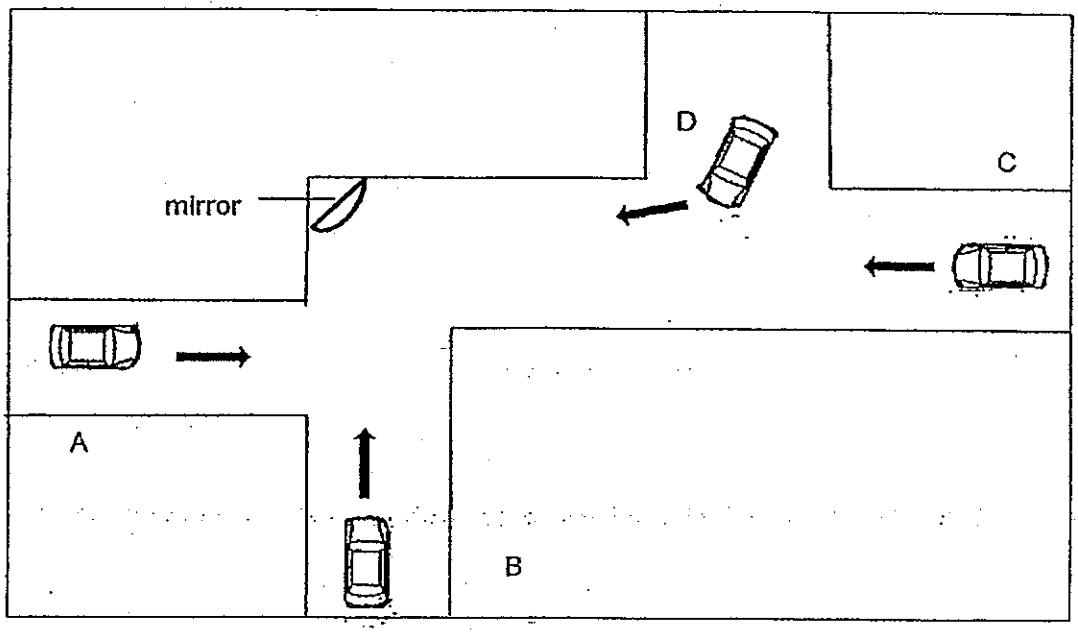
29. Four cars, A, B, C and D are moving on the road in the directions as shown in the diagram. There is a mirror installed at the corner of the roads.



Which two drivers are <u>not</u> able to see each other in the mirror while driving?

(1) A and B

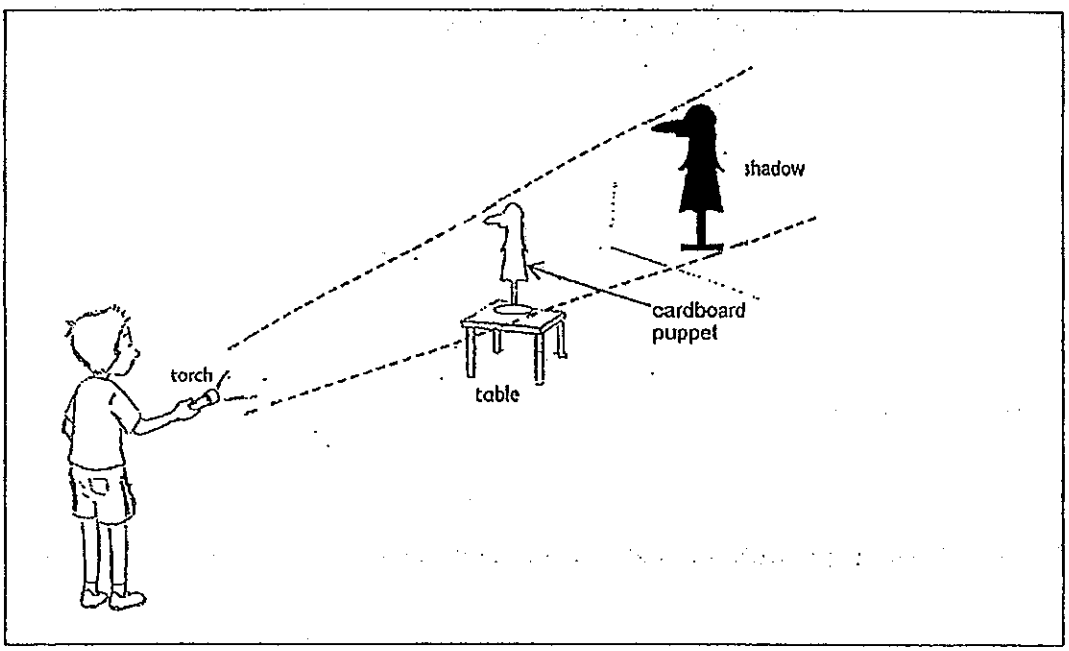
(2) B and C

(3) C and D

(4) B and D

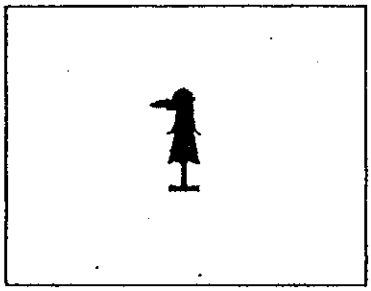
(Go on to the next page)

30. Raju shone his torchlight onto a cardboard puppet which cast a shadow on the wall as shown.

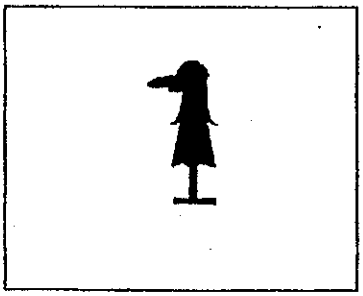


Which of the following correctly represents the shadow formed when Raju moved closer to the puppet?

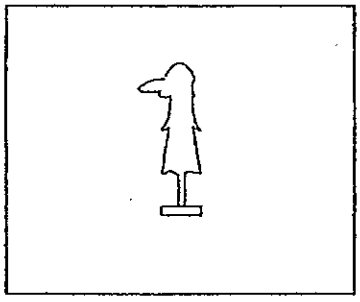
(1)



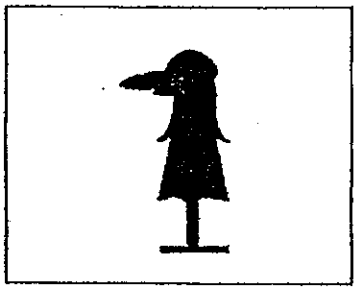
(2)



(3)



(4)



METHODIST GIRLS' SCHOOL

Founded in 1887

MID-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: 16 May 2013

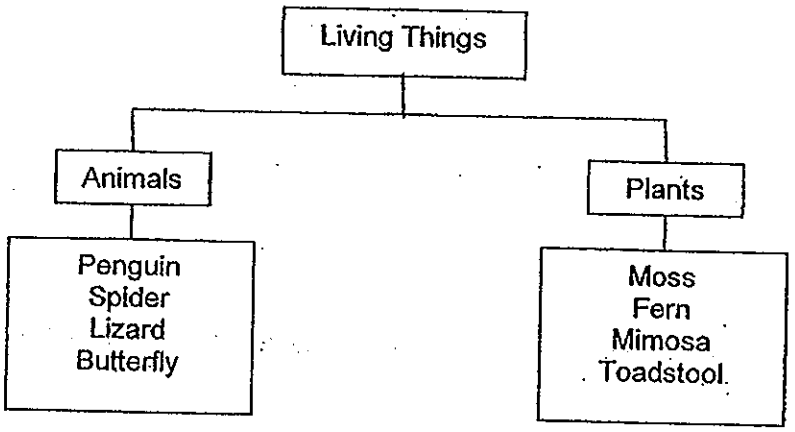
Booklet A	**/ 60**
Booklet B1	**/ 20**
Booklet B2	**/ 20**
TOTAL	**/ 100**

This booklet consists of 8 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 classification chart below carefully:



(a) Based on the chart above, which of the living things is **wrongly** grouped? [1]

(b) Give a reason for your answer. [1]

(c) Name an organism which is in the same group as your answer in (a). [1]

3

(Go on to the next page)

32. Diagram 1 shows two reproductive cells of humans.
Diagram 2 shows the life cycle of a frog.

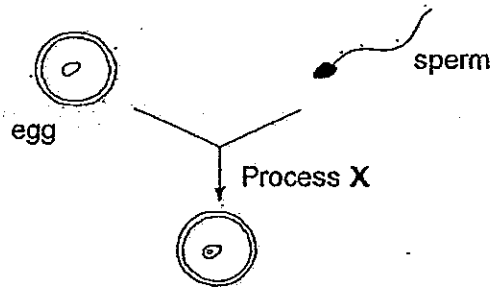


Diagram 1

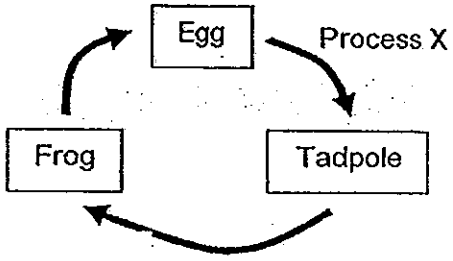


Diagram 2

(a) Which process in animal reproduction occurs at X? [1]

_____

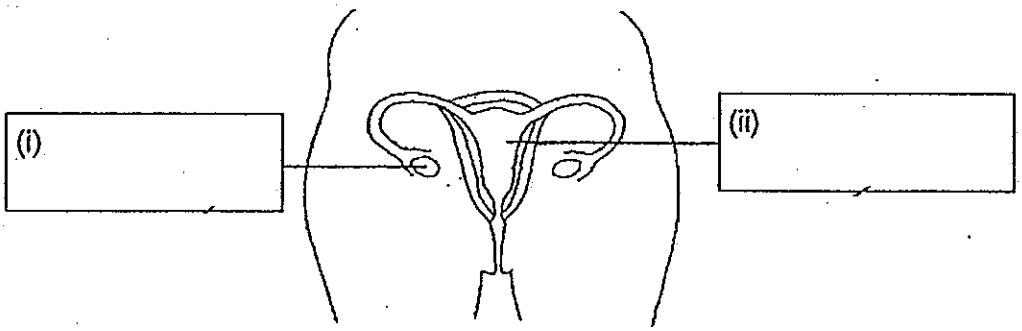
(b) The frog lays many eggs at one time. Why do frogs lay many eggs at one time? [1]

_____

_____

_____

33. The diagram below shows a female human system.



(a) <u>Label</u> the parts (i) and (ii) of the female reproductive system. [1]

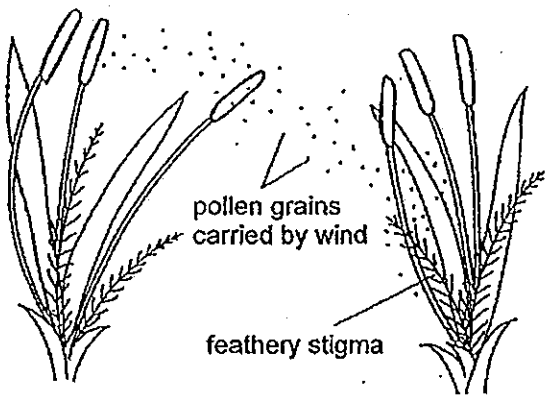
(b) What is the function of part (i) as shown above? [1]

_____

_____

4

34a. Study the diagram below carefully.



(i) The diagram above shows a process in plant reproduction. Describe the process. [1]

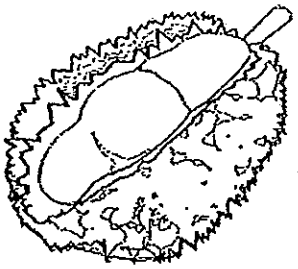
(ii) How are the male parts adapted to carry out the process shown in the diagram above? [1]

2

(Go on to the next page)

34b. The diagrams below show how the fruits are dispersed by animals.

Fruit Y



Fruit Z

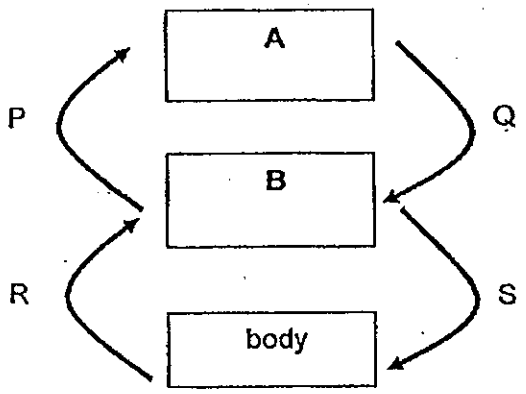
(i) State the difference between the methods of seed dispersal of Fruit Y from Fruit Z. [1]

(ii) Compared to fruit Z, explain how the method of dispersal of the seed of Fruit Y is more advantageous to the seed. [1]

2

(Go on to the next page)

35. The diagram below shows how blood flows in the human circulatory system. Boxes A and B each represents a different organ. Arrows P, Q R and S represent the movement of blood.



(a) Identify Organ A and Organ B [1]

Organ A: _____

Organ B: _____

(b) State one difference between the gases found in the blood flowing at P and Q. [1]

_____

_____

_____

(c) Name the type of blood vessels carrying blood flowing at R and S. [1]

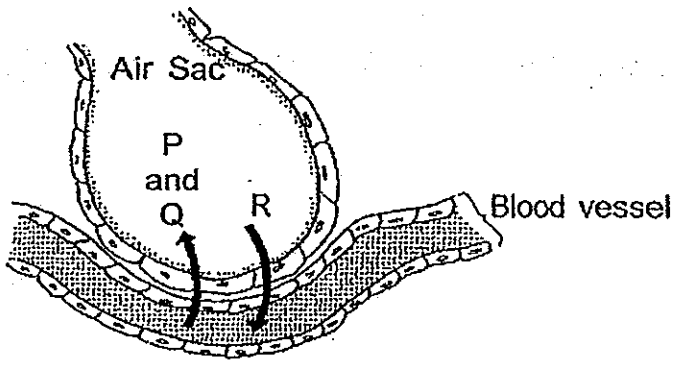
R: _____

S: _____

3

(Go on to the next page)

36. The diagram below shows the exchange of gases between the blood in an air sac and a blood vessel.



(a) P, Q and R represent gases that enter and leave the air sac respectively. Identify gases P, Q and R. [2]

Gas P: _____

Gas Q: _____

Gas R: _____

(b) What happens to gas R after it enters the blood vessels? [1]

_____

_____

_____

_____

(c) There are many air sacs in our lungs. Explain why this is necessary. [1]

_____

_____

_____

_____

4

(Go on to the next page)

37. A research was conducted to find out about the breathing rates of young children. The results are presented in the table below.

Age	Average breathing rate (breaths per minute)
4	23
5	22
6	22
7	21
8	20
9	20
10	19
11	18
12	17
13	16
14	15
15	14
16	14

(a) What is the relationship between the age of the children and breathing rate? [1]

(b) John is a ten year old boy who loves to jog. Explain how his breathing rate would differ from the table above if he jogs continuously for thirty minutes. [1]

2

End of Booklet B1

METHODIST GIRLS' SCHOOL

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MID-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: 16 May 2013

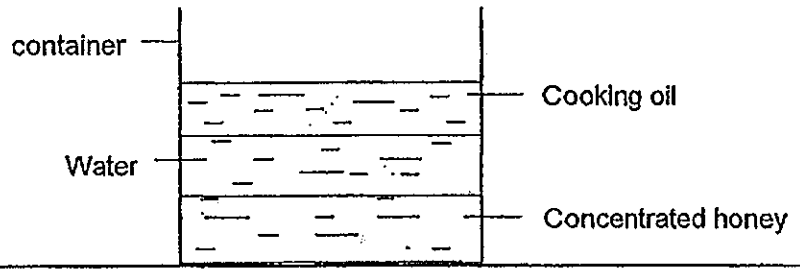
Booklet B2	**/ 20**

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.

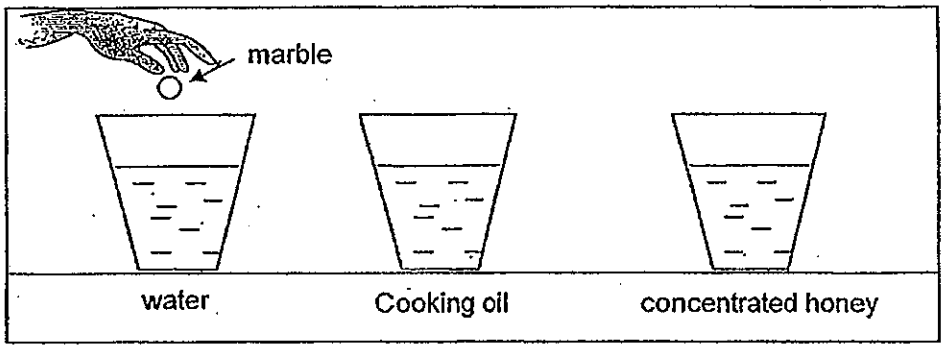
[20 marks]

38. When Raine poured an equal amount of 3 different types of liquids into a container, she found that they formed 3 separate layers as shown below.

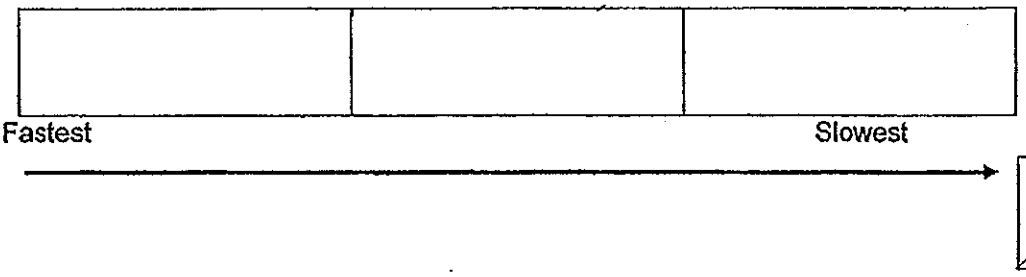


(a) Explain the above observation. [1]

Raine then filled three glasses with the above liquids. Then she dropped a marble into the water and timed how long it took the marble to fall to the bottom. She repeated the same procedure for the other two glasses.



(b) Raine observed that marble fall the fastest in water. Rank the order of how quickly the marble sinks in the three liquids in the space below. [1]



2

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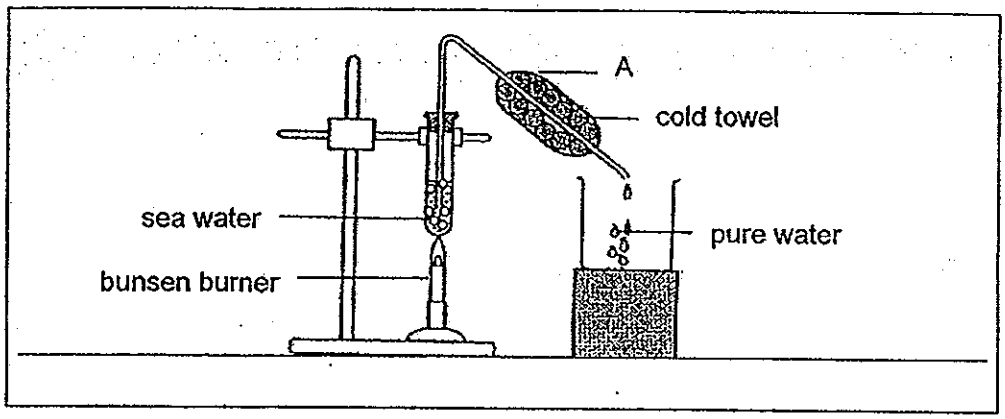
39. In a Science laboratory, pure water can be obtained from sea water as shown in the set-up below.



(a) Name the 3 processes involved in the above experiment. [1½]

(b)

(a) What is the purpose of the cold towel in the set-up of A? [1]

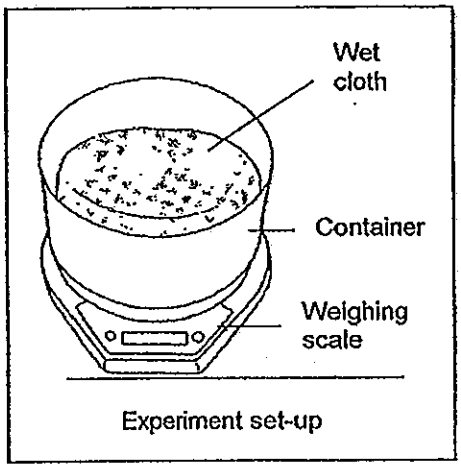
(c)

(b) If the ~~bunser~~ bunsen burner continues to heat up the sea water for a length of time, water would stop dripping into the beaker. Explain why this is so? [1]

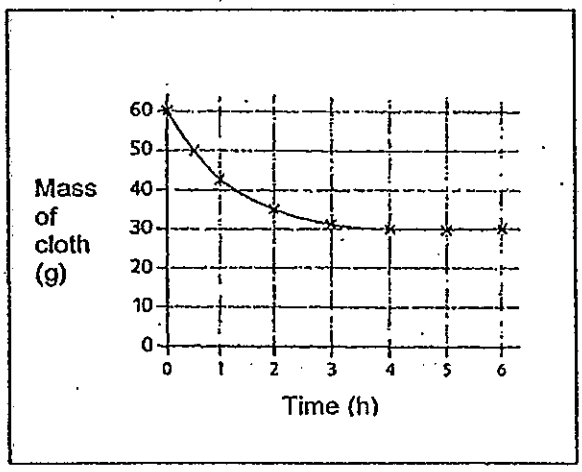
3½

(Go on to the next page)

40. Jasmine wanted to find the change in mass of a piece of wet cloth. She placed the wet clot in a container on a weighing scale and left them in the room for a few hours. She then charted a graph as shown below.



Experiment set-up



(a) Based on the graph, what could have caused the mass of the wet cloth to change? [1]

_____

_____

(b) What is the mass of the cloth when it is dry? [1]

_____

_____

(c) What could be done so that she could dry the cloth faster? [1]

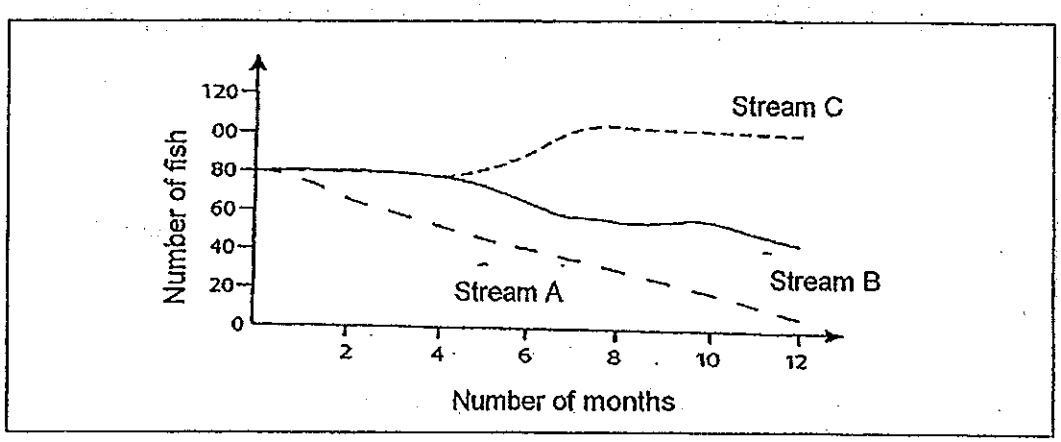
_____

_____

3

(Go on to the next page)

41. A group of fishermen catches fish for a living along the streams in the village. Unfortunately, an incident of oil spill happened and affected one of the streams. The number of fish found in the streams for the past 1 year was charted as shown below.



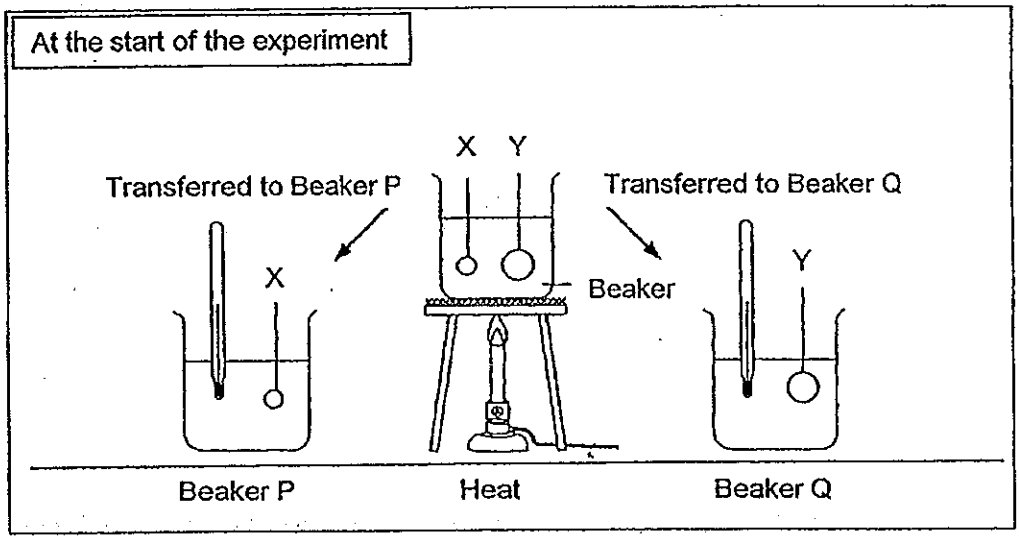
Based on the graph, indicate whether the following statements are **'True'**, **'False'** or **'Not possible to tell'**. Put a tick (√) in the correct box. [2½]

	Statement	True	False	Not possible to tell
(a)	Stream A was polluted.			
(b)	There was a drop in the number of fish in Stream B due to a disease among the fish.			
(c)	Stream C is not affected by the oil spill.			
(d)	Stream C is always found with more fish than the other 2 streams.			
(e)	From the 4th month to the 8th month, the death rate of fish in Stream B is lower than its birth rate.			

2½

(Go on to the next page)

42. X and Y are two steel spheres of different sizes. They were heated in a beaker of water for 30 minutes as shown in the diagram. After that, the 2 spheres were transferred to two separate beakers, P and Q. Beakers P and Q are similar and contained equal volumes of water at room temperature.



(a) What could be observed in both beakers, P and Q, after 5 minutes? [1]

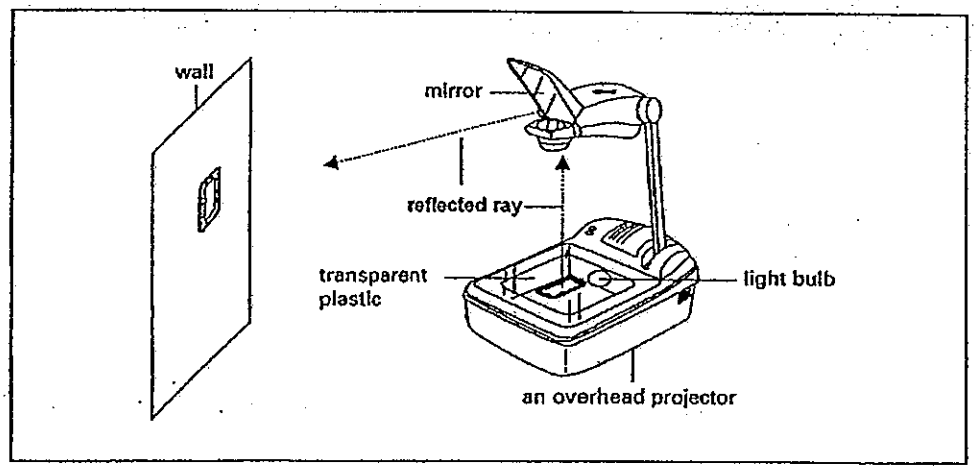
(b) What is the relationship between the size of the steel sphere and the temperature of the sphere? [1]

(c) Give a reason for your answer in (b). [1]

3

(Go on to the next page)

43. The picture below shows an overhead projector. It is used to form an image on the wall.



(a) What is the purpose of the light bulb? [1]

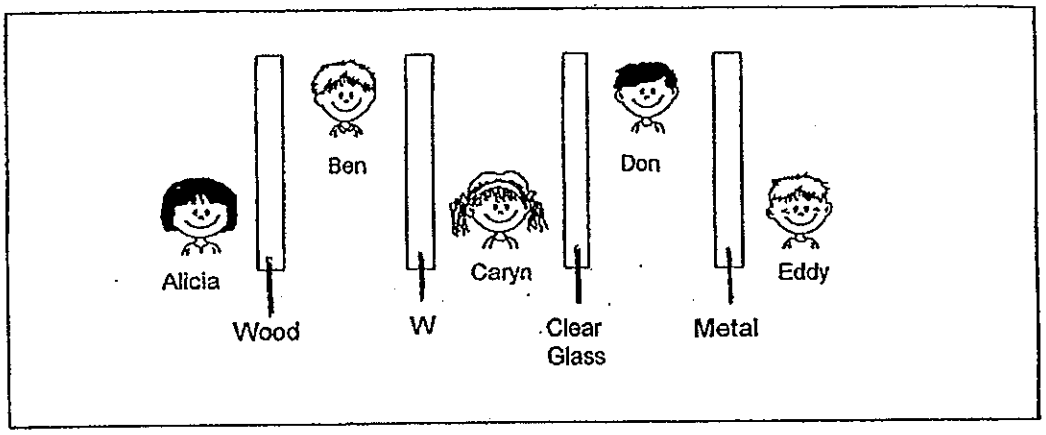
(bi) What is the property of light in this set-up? [1]

(bii) What happened if the mirror is shattered? [1]

3

(Go on to the next page)

44. In a carnival, there was a 'Guess Who?' game where the players could choose to stand behind a wall that would prevent their friends from seeing them. The walls were made of different materials as shown below.



(a) Who were able to see each other? [1]

(bi) Ben claimed that he could only guess that Caryn was beside him but he was not sure. What possible material could W be? [1]

(bii) What property of the material W allows Ben to make this guess? [1]

3

End of Booklet B2

ANSWER SHEET

EXAM PAPER 2013
SCHOOL : MGS
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA1

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

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

31)a)Toadstool.
b)Toadstool is not a plant as it does not have the characteristics and parts of a plant.
c)Mushroom.

32)a)Fertilisation.
b)Predators might eat up their eggs and laying many eggs increases the chance that at least one will survive and to ensure the continuity of their kind.

33)a)i)Ovary ii)Womb
b)It produce egg cells which fertilises with the male cells.

34)a)i)The process is pollination by which pollen grains from the anther land on the stigma by wind and a pollen tube grows down from the pollen grains to the ovary.
ii)The anther and filament are long, tall and light so they can reach out and pollen grains can easily be carried away wind for dispersal.
b)i)Seeds of Fruit Y are swallowed with the fruit and passed out with droppings of the animal while the animal eats the flesh of Fruit Z and discards its seed.

34)b)ii)The seeds of Fruit Y has nutrients from the droppings to help them grow well as a seedling.

35)a)A: Lungs B: Heart
b)The blood flowing in Q is rich in oxygen while the blood in P is rich in carbon dioxide.
c)R: Veins S: Arteries

36)a)P: Water vapour
Q: Carbon dioxide
R: Oxygen
b)It will be transported to by blood to the heart which pumps it to every cell in our body through the blood vessels for respiration.
c)Air sacs increase the surface area of the lungs for exchange of gases.

37)a)The greater the age of the children, the lower the breathing rate.
b)His breathing rate would be faster than his normal breathing rate as his body needs to take in oxygen faster to respire so that he can jog.

38)a)Oil is less dense than water. Water is less dense than concentrated honey.
b)Water cooking oil concentrated honey

39)a)Evaporation, boiling and condensation.
b)To cool the hot water vapour so that condensation can take place.
c)All the water has evaporated.

40)a)Water, which has mass, has evaporated and thus the mass of the wet cloth has decreased.
b)30g.
c)She could put the cloth a place with a lot of wind.

41)a)T b)Not c)T d)F e)F

42)a)The temperature of both beakers would rise.
b)The greater the size of the steel sphere, the higher the temperature of the sphere.
c)A bigger sphere contains more heat energy than a smaller sphere, causing the temperature to be higher.

43)a)To provide a light source and light rays for the mirror to reflect.
b)Light travels in straight lines and can be reflected by mirrors.
c)I mage reflected will be irregular.

44)a)Caryn and Don.
b)Frosted glass.
c)It is translucent.