Name of Science Teacher:

ST. HILDA'S PRIMARY SCHOOL
PRELIMINARY EXAMINATIONS, 2016
PRIMARY 6 SCIENCE

BOOKLET A

Date: 5 August 2016
Total number of pages: 17 pages
(Excluding Cover Page)

Duration: 1 h 45 min
(Booklets A & B)

Name : _____ ( )

Marks : 60

Class : P 6 /_____

Parent's signature : _____

30 Questions (30 X 2 marks)

For each question, four options (1, 2, 3 and 4) are given. Choose the most suitable answer and shade the correct oval on the Optical Answer Sheet provided.

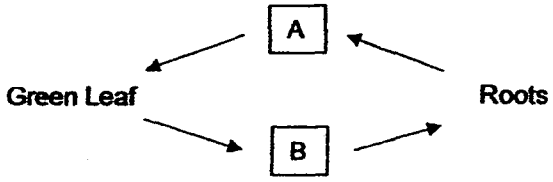
1. Ali, Bala, Chris and Daniel studied samples of a mushroom and bacteria and made the following statements about the similarities between the two samples.

Ali: Both are unicellular.
Bala: Both produce spores.
Chris: Both move from place to place.
Daniel: Both do not make their own food.

Whose statement(s) is/are correct?

1) Daniel only
2) Ali and Bala only
3) Bala, Chris and Daniel only
4) Ali, Bala, Chris and Daniel only

2. Study the diagram below.



Which of the following correctly represents A and B?

	A	B
1)	food carrying tube	food carrying tube
2)	food carrying tube	water carrying tube
3)	water carrying tube	water carrying tube
4)	water carrying tube	food carrying tube

3. Lisa conducted an experiment on Flower C which she had found in her garden.

Flower C

She took 3 similar flowers and removed some parts from each flower as shown below.

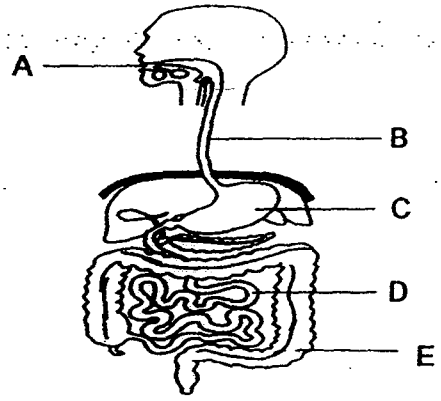
Flower 1 Flower 2 Flower 3

Next, she dusted pollen obtained from Flower C onto each of the above flowers 1, 2 and 3. She observed the flowers over a few weeks.

Which of the flower(s) will not develop into fruits?

1) Flower 2 only
2) Flower 3 only
3) Flowers 1 and 3 only
4) Flowers 1, 2 and 3

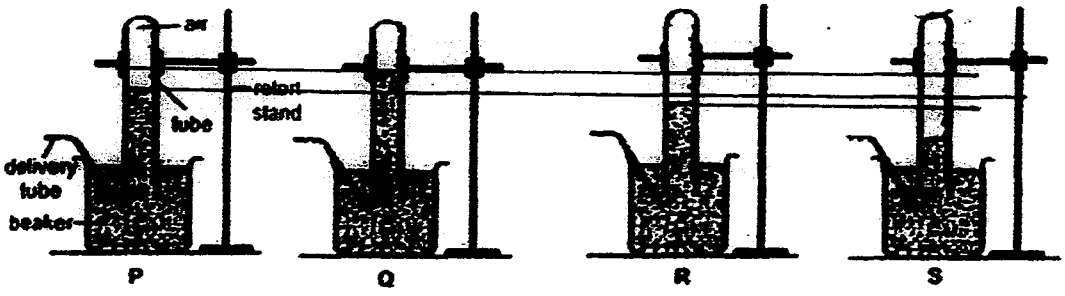
4. The diagram below shows the human digestive system.



Which of the following parts, A, B, C, D and E will have digestive juice produced?

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

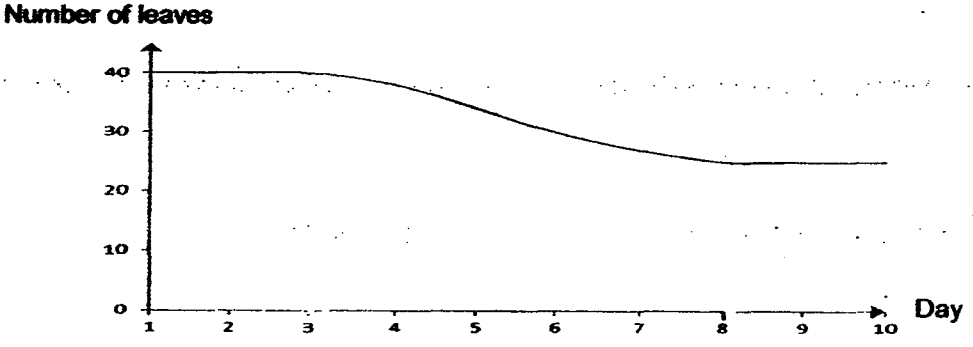
5. In class, Stanley learned that smoking affects a person's lung capacity. Stanley used the set-up below to record the changes in his father's lung capacity when his father stops smoking in January 2016. The set-up measures the amount of air a person exhales.



Which one of the following shows the change in his father's lung capacity from January to July 2016?

	January	March	May	July
1)	Q	R	P	S
2)	S	R	P	Q
3)	Q	P	R	S
4)	R	S	Q	P

6. David spotted an insect's egg on a plant and monitored its development. He ensured that the plant had sufficient sunlight and water. David counted the number of leaves on the plant as the egg developed through its life cycle and plotted the graph below.

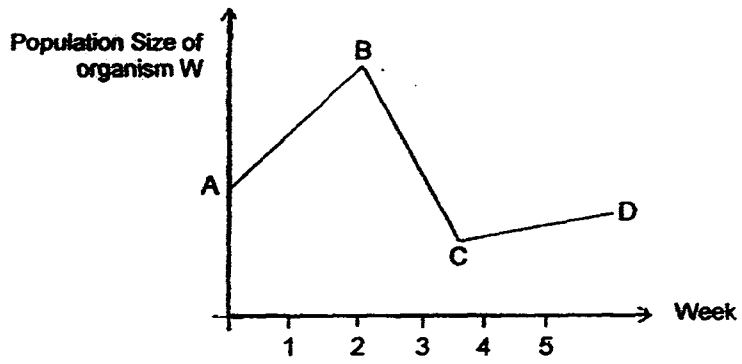


Based on the above graph, which of the following statement is likely to be **true**?

A. The eggs developed into a larva on day 1.
B. The eggs developed into a larva on day 3.
C. The eggs developed into a pupa on day 8.

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

7. The graph below shows the changes in population size of organism W over five weeks.

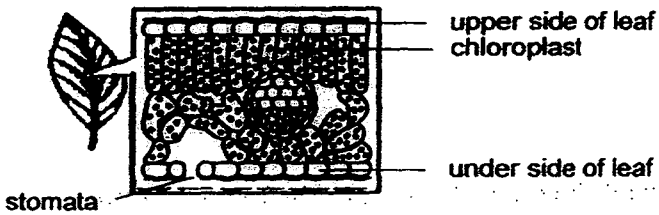


Which of the following statements could have caused the sharp decrease in the population of organism W at point B to C on the graph?

1) There was a fire in the habitat.
2) An organism was added into the habitat that W feeds on.
3) There was an increase in the population of organism W's prey.
4) There was a decrease in the population of organism W's predator.

8. The diagrams below show a root cell and the cross section of a leaf.

Root Cell



Cross-section of a Leaf

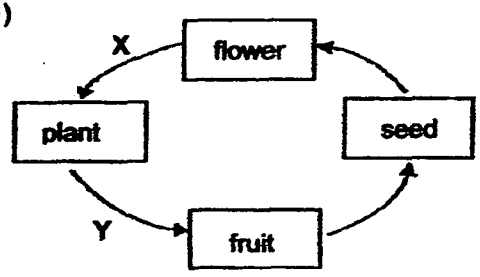
Both cells have adaptations to increase the rate of photosynthesis.
Which of the following correctly shows the adaptation and its function?

	Adaptation	Function
A	The root cell has an elongated structure.	To increase surface area for greater absorption of water.
B	The presence of stomata under each leaf.	To enable gaseous exchange with the environment.
C	More chloroplasts at the top of the cell.	To capture and store more light energy for photosynthesis.

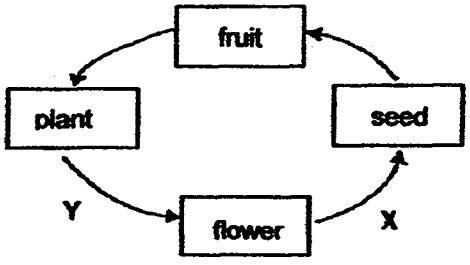
1) A only
2) A and C only
3) B and C only
4) A, B and C

9. The diagram below shows the development of a flowering plant. If X and Y represent the process of germination and fertilisation respectively, which of the diagrams is correct?

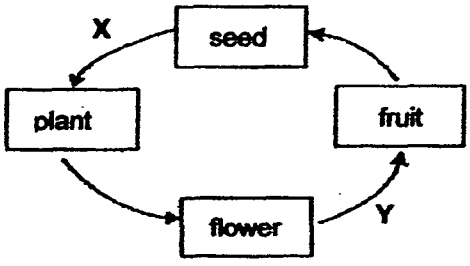
1)



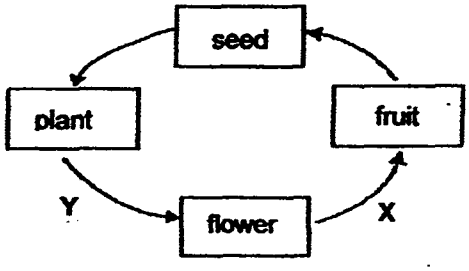
2)



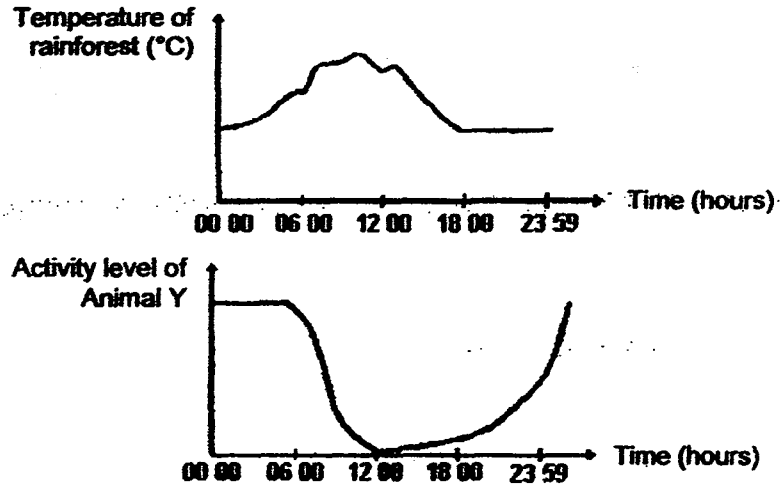
3)



4)



10. The two graphs below show the activity level of Animal Y in relation to the temperature of the rainforest where it lives, over a 24 hour period.

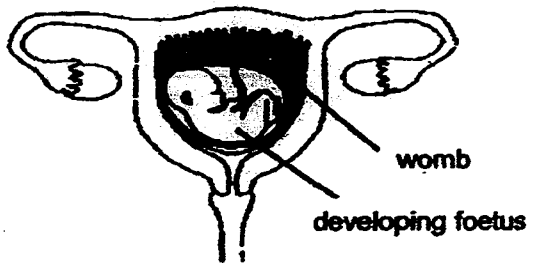


Based on the above graphs, what conclusion(s) can be made about Animal Y?

A: It hunts in groups.
B: It is most active in the day.
C: It will most likely hunt for food at night.
D: It is most likely to be resting during the day.

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

11. The diagram below shows a developing foetus in a woman's womb.

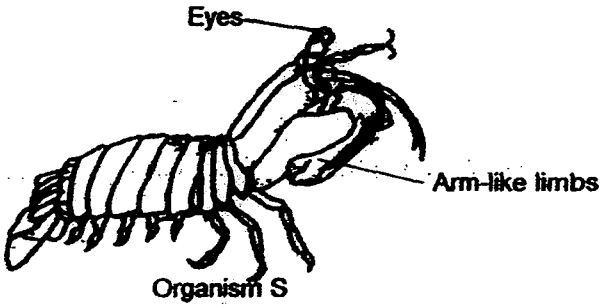


Which one of the following statements about the developing foetus is true?

The developing foetus _____.

1) is unicellular.
2) is formed from a fertilised ovary.
3) carries genetic information from both parents.
4) is formed when a sperm fuses with a female egg in the womb.

12. Organism S lives on the seabed and is an omnivore. To help it survive in its environment, S has eyes on eyestalks that move to observe more of its surroundings. S also has a pair of arm-like limbs which can spring outwards at great speed and great force.

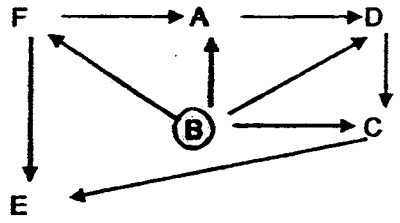


Which of the following explains how the two adaptations mentioned above help to ensure Organism S's survival in its environment?

A : The eyes on eyestalks allow organism S to spot its prey over a wider area.
B : The eyes on eyestalks enable organism S to see more clearly in the dark.
C : The arm-like limbs move at great force for organism S to smash its prey.
D : The arm-like limbs move at great speed for organism S to swim away from predators.

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

13. The food web below represents organisms living in a community.



Which of the following correctly represents organisms A, B, C, D, E and F in this community?

	Plant	Plant eater only	Animal eater only	Plant and animal eater
1)	B	A, C and D	E	F
2)	B	F	E	A, C and D
3)	E	F	B	A, C and D
4)	E	C and F	A and B	D

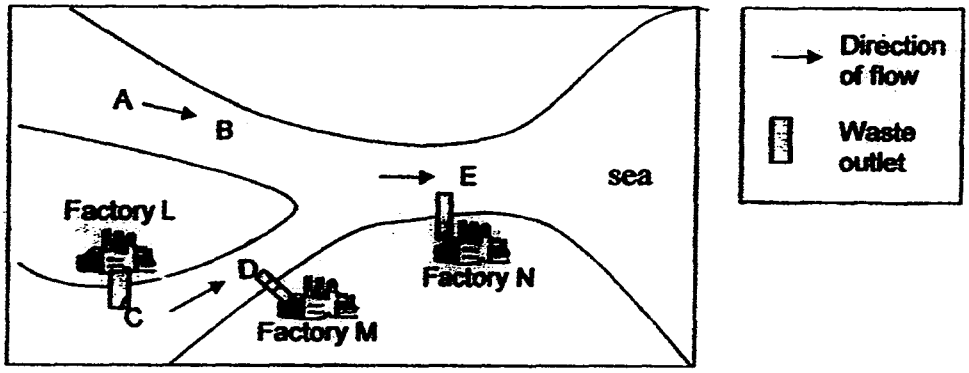
14. Emma conducted the following activities during her Physical Education class. The duration of each activity was recorded in the table below.

Duration (minutes)	Activity
10	Warm up
20	2.4km run
10	At rest

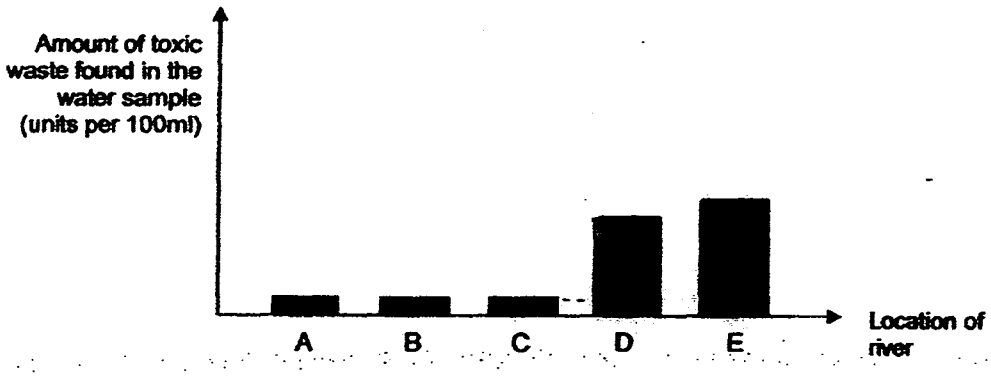
Which one of the following best represents what was happening in her body during the 2.4 km run?

	Rate of oxygen taken in	Rate of carbon dioxide released	Rate of blood flow	Rate of digested food used
1)	Decrease	Increase	Increase	Increase
2)	Decrease	Increase	Decrease	Decrease
3)	Increase	Increase	Increase	Increase
4)	Increase	Decrease	Decrease	Decrease

15. The diagram below shows a river flowing downstream towards the sea. 3 factories L, M and N are found along the river.



Scientists who monitored the quality of sea water suspected that the factories L, M and N are releasing toxic waste into the river. Water samples were collected from five locations of the river, A, B, C, D and E for analysis and the results were shown in the graph below.

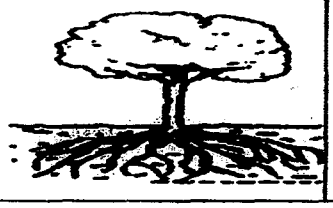
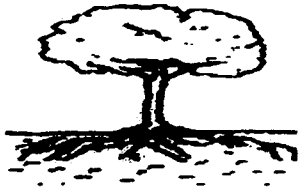


Based on the information above, which of the following statement(s) is/are correct?

A : Most amount of toxic wastes were found at E.
B : Factory N released the most amount of chemicals into the river.
C : Factory L released more chemical into the river than Factory M.

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

16. Scientists studied the roots of Tree K and noticed that the roots of the tree have changed structurally over the years.

	12 years ago	Present
Cross-section of the roots of Tree K		

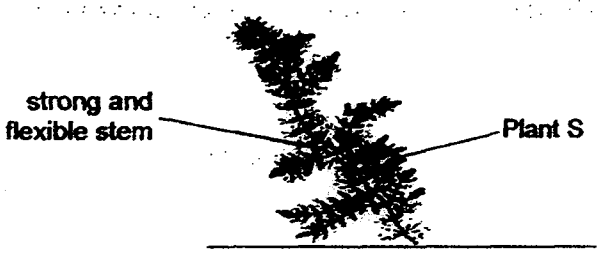
They made the following conclusions from their observations about the roots of the tree.

A: Tree K can be easily uprooted 12 years ago.
B : The soil around Tree K was held more firmly by the roots 12 years ago.
C : The roots of Tree K grew deeper 12 years ago as compared to at present.

Which of the following statements made by the scientists is/are <u>correct</u>?

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

17. The diagram below shows Plant S which is a submerged water plant growing in the sea. It has a strong and flexible stem which enables it to move in different directions.



Which of the following describe how Plant S can survive well in its environment?

A : The stem causes the plant to get trapped in fishing nets.
B : The stem can move easily and not break when hit by the waves.
C : The stem enables the plant to transport food to all parts of the plant.

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

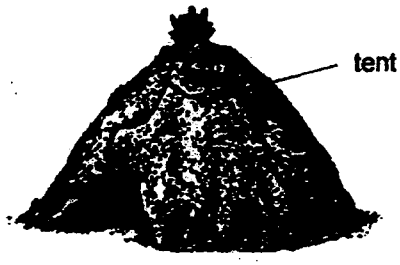
18. Mr Goh wanted to find out which material, A or B, was suitable for building houses in cold countries. He carried out a test and measured the temperature outside the house and the temperature inside the house which are made of material A or B respectively. He recorded the measurements taken in the table below.

Average temperature outside the house (°C)	Average temperature inside the house (°C)	
	Material A	Material B
28	30	26
31	33	29
34	36	30

Which one of the following correctly explains which material is more suitable for building houses in cold countries?

	Material	Reason
(1)	A	Better conductor of heat as heat will be conducted from the inside of the house to the outside of the house faster.
(2)	A	Poorer conductor of heat which will trap more heat inside the house.
(3)	B	Better conductor of heat which will trap more heat inside the house.
(4)	B	Poorer conductor of heat as heat will be conducted away from the inside of the house to the outside of the house faster.

19. People living in the Artic region live in very extreme cold weather. They live in temporary tents made of animal skin to protect them from the cold weather.



Which of the following explains how the tent protects the people from the cold?

1) The opening of the tent helps the cold air to escape.
2) As animal skin is warm, those in the tent will not feel cold.
3) As animal skin is a poor conductor of heat, the cold air cannot enter the tent.
4) As animal skin is a poor conductor of heat, heat from inside the tent is trapped.

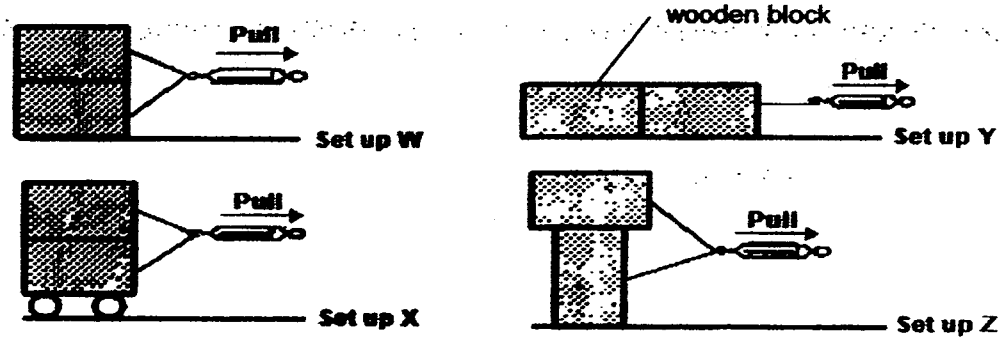
20. Nora noticed that rock climbers often dust their hands with powder as they make their way up the rock wall.

How does dusting their hands with powder help the rock climbers climb up the rock wall?

A : The powder increases friction between the climber's hands and the
B : The powder smoothens the climber's hands which reduces friction between the climber's hands and the
C : The powder dries sweat on the climber's hands which provides a better grip between the climber's hands and the

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

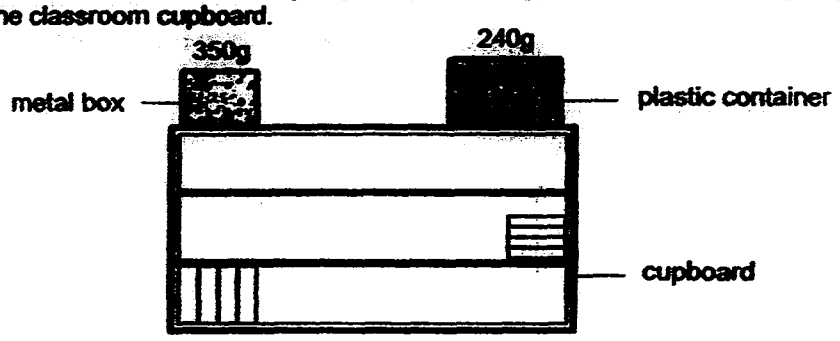
21. Sam prepared the following set-ups W, X, Y and Z as shown below.



Which set-up would require the least pulling force to move the 2 wooden blocks?

1) Set-up W
2) Set-up X
3) Set-up Y
4) Set-up Z

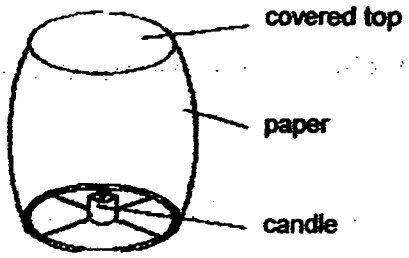
22. Aaron placed a small metal box weighing 350g and a big plastic container weighing 240g on top of the classroom cupboard.



Which of the following statements correctly explains the amount of gravitational potential energy the objects have?

1) As both objects are at rest, there is no gravitational potential energy.
2) The plastic container has more gravitational potential energy as it is bigger.
3) The metal box has more gravitational potential energy as it has greater mass.
4) Both objects have zero gravitational potential energy when they are placed on top of the cupboard.

23. Sky lanterns are made of paper and works like a hot air balloon. It has a covered top and an opening at the bottom. A candle is lit which allows hot air to rise causing the lantern to rise up into the air.



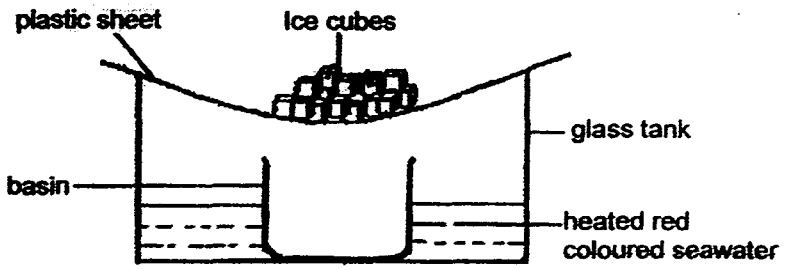
sky lantern

Which of the following shows the energy changes when the candle is burnt and the sky lantern rises up into the air?

1) Heat energy --> Kinetic energy --> Light energy
2) Heat energy --> Light energy --> Kinetic energy + Gravitational potential energy
3) Chemical potential energy --> Heat energy --> Kinetic energy+ Light energy
4) Chemical potential energy --> Light energy --> Gravitational potential energy

24. **Questions 24 and 25 are based on the set-up below.**

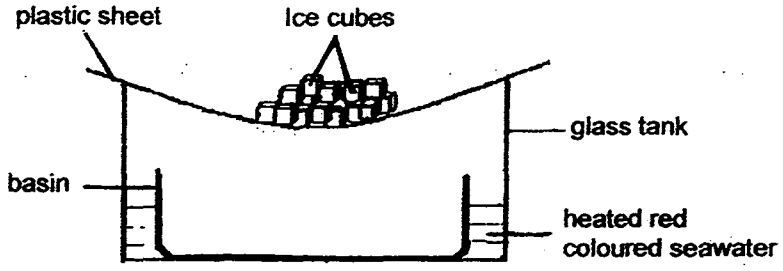
Lance prepared the following set-up to demonstrate the earth's water cycle. He then boiled some red coloured seawater before pouring it into the glass tank.



Lance made the following observation in the basin after placing the set-up out on an open field on a sunny day for three hours. Which of the option is true about his observation?

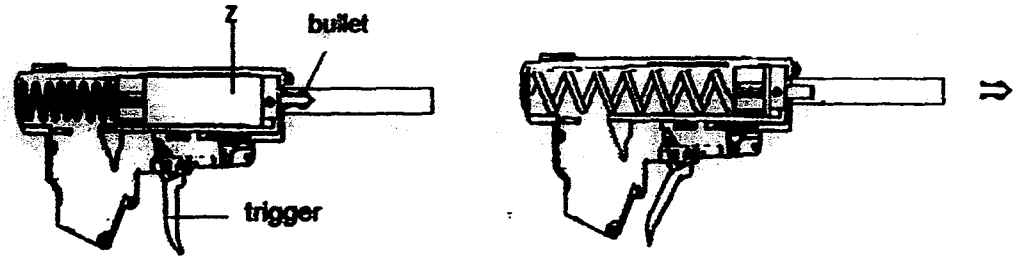
	Observation in the basin	Explanation
1)	Red salty liquid will be collected.	The red salty liquid in the tank evaporated and then condensed when it touched the underside of the plastic sheet.
2)	Red salty liquid will be collected.	The red salty liquid has a lower boiling point and evaporated first and then condensed when it touched the plastic sheet.
3)	Clear, tasteless liquid will be collected.	Only the pure water evaporated and condensed when it touched the underside of the plastic sheet.
4)	Clear, tasteless liquid will be collected.	The water droplets from the ice cube condensed on the underside of the plastic sheet and fell into the basin.

25. To collect more water, Lance suggested changing the basin to a wider basin as shown in the diagram below. Which option correctly shows the amount of water collected and the reason why?



	Amount of water collected	Explanation
1)	Increase	A bigger basin can collect more water.
2)	Increase	More water from the plastic sheet will fall into the basin
3)	Decrease	Less water will evaporate and condense into the basin.
4)	No Change	The size of the basin has no effect on the amount of water collected.

26. The diagram below shows a toy air gun before and after the trigger is pulled.



Before trigger was pulled

After trigger was pulled

Andy decided to put water in Z instead of leaving it empty. He noticed that the air gun does not work when replaced with water.

Which of the following properties of liquid explains why the gun did not work when water was placed in Z?

1) Liquids can be compressed.
2) Liquids have no definite volume.
3) Liquids cannot be compressed.
4) Liquids have no definite shape.

27. Sam hung an iron bar XY, and noticed that the bar XY always came to rest with end Y pointing in the North direction as shown in Diagram 1. Sam then hung another iron bar AB, and noticed that the iron bar AB did not settle in any particular direction as shown in Diagram 2.

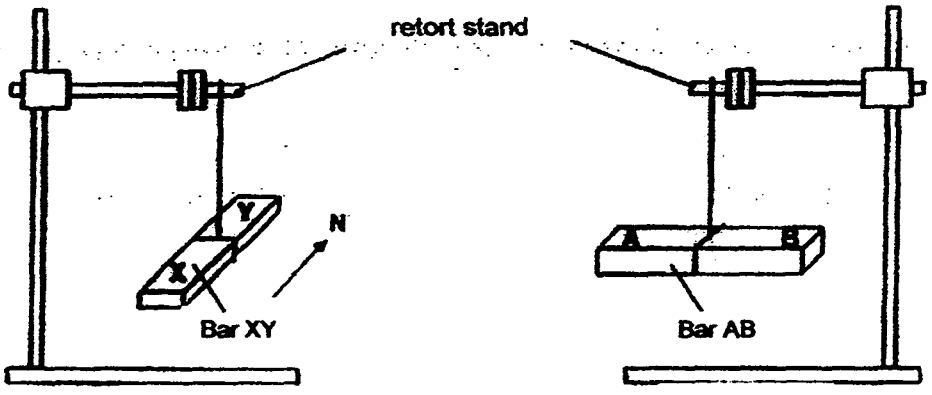


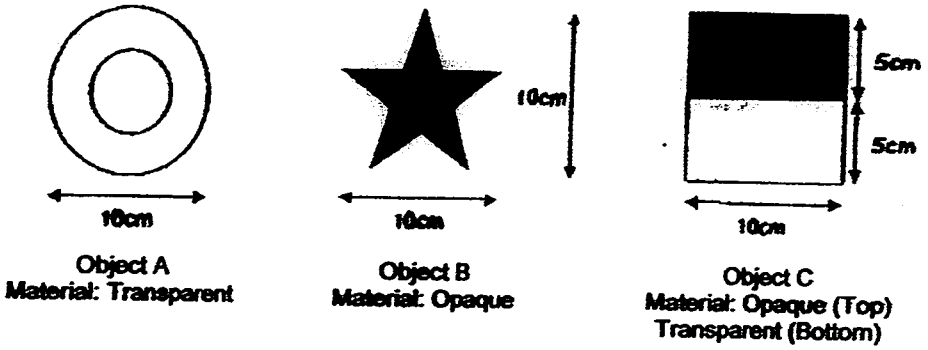
Diagram 1

Diagram 2

What would Sam observe if he brought Bar AB close to Bar XY?

1) End Y will repel both ends A and B.
2) End Y will attract end A but repel end B.
3) Bar XY does not interact with Bar AB at all.
4) Both ends of Bar XY will attract both ends of Bar AB.

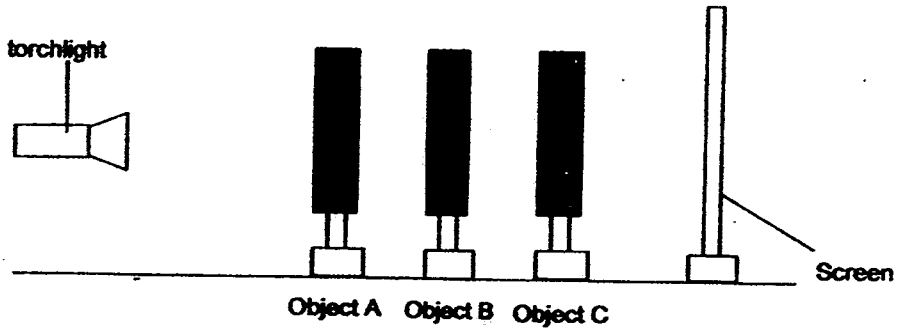
28. John carried out an experiment. He placed objects A, B and C below between a light source and a screen.



Object A
Material: Transparent

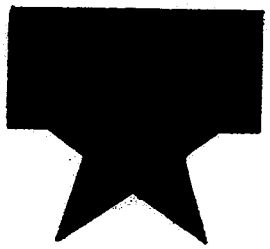
Object B
Material: Opaque

Object C
Material: Opaque (Top)
Transparent (Bottom)

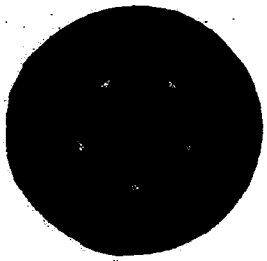


Which one of the following shows how the shadow would look like on the screen?

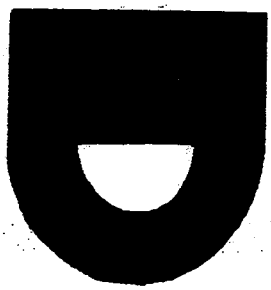
1)



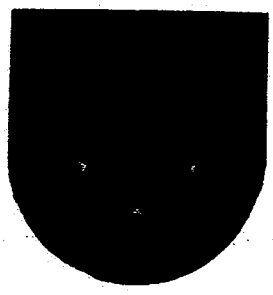
2)



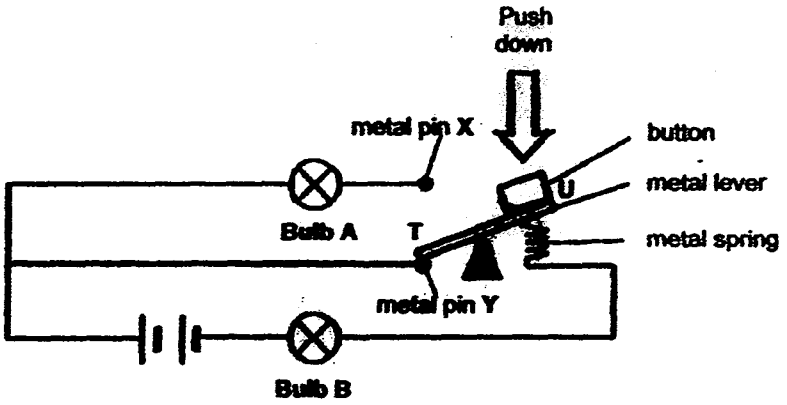
3)



4)



29. The electrical circuit below consists of 2 identical bulbs and 2 identical batteries. Matt used a data logger to measure the intensity of Bulb B. He noted that Bulb B is lit with a brightness of 35 units. Bulb A remains unlit.



What would be the reading on the datalogger when the button, U is pushed down and its end T touches metal pin X?

	Bulb A	Bulb B
(1)	Less than 35 units	Less than 35 units
(2)	35 units	0 units
(3)	35 units	35 units
(4)	More than 35 units	Less than 35 units

30. Mrs Lee placed a pot of plant in a dark cupboard for 2 days. After 2 days, she then selected a leaf and attached 2 pieces of black paper, one on the upper and one on the lower side of the leaf.

The plant was then placed in bright sunlight for several hours.

Mrs Lee then cut parts A, B, C and D out from the same leaf as shown in Diagram 1 below and tested each part for the presence of starch using iodine solution.

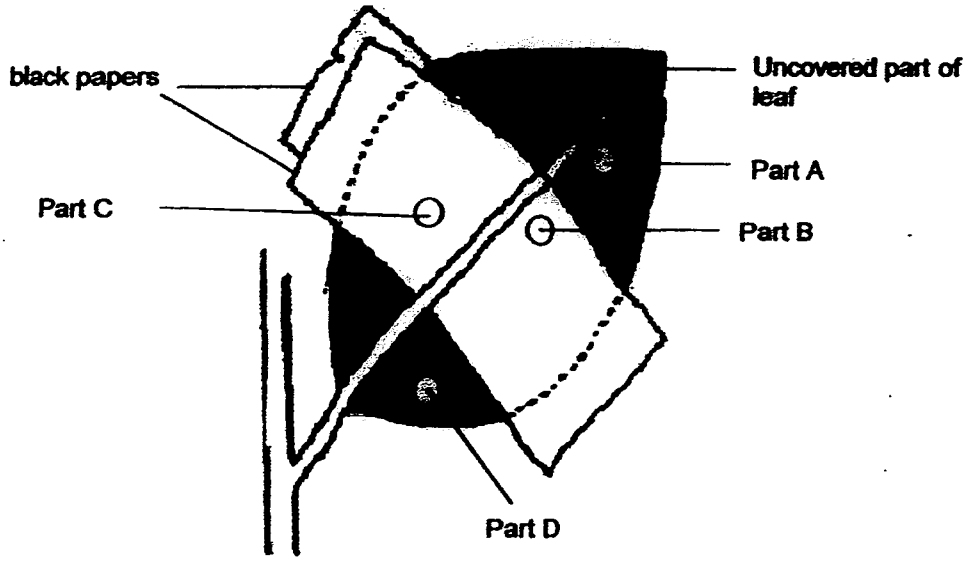


Diagram 1

Which parts A, B, C and D of the above leaf, will the iodine solution turn dark blue?

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

End of Booklet A

Name of Science Teacher:

ST. HILDA'S PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2016

PRIMARY 6

SCIENCE

Booklet B

Date: 5 August 2016 **Duration: 1h 45 min**

(Booklets A & B)

Name : _____ ( ) Marks : 40

Class : P 6/ _____

Marks obtained in Booklet A	60
Total Marks obtained	100

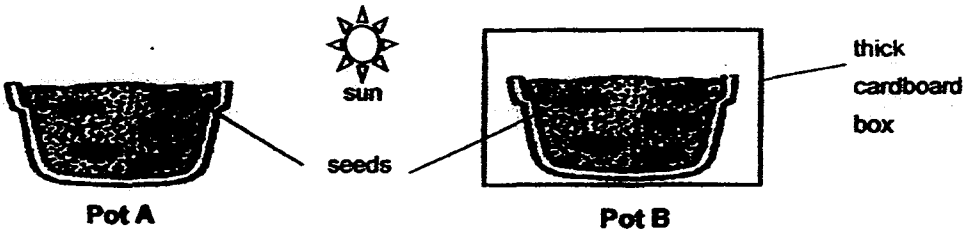
Parent's signature : _____

Number of printed pages: 13 (excluding cover page)

Booklet B : 14 questions (40 marks)

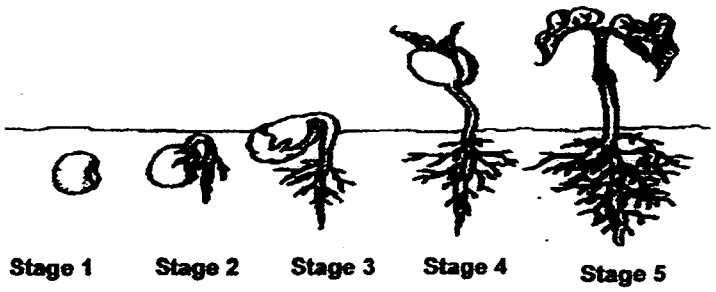
Study all the given diagrams and read each question carefully. Write your answer in the space provided. The number of marks given is shown in brackets ( ) at the end of each part.

31 The diagram below shows two pots, A and B, filled with the same amount of soil and same number of seeds. Both pots were given the same amount of water daily. Pot A is placed outside in the garden, while Pot B is placed inside a thick cardboard box in the garden.



(a) Will the seeds in both pots germinate? Give a reason for your answer. (1m)

The diagram below shows the different stages in the growth of a seed.



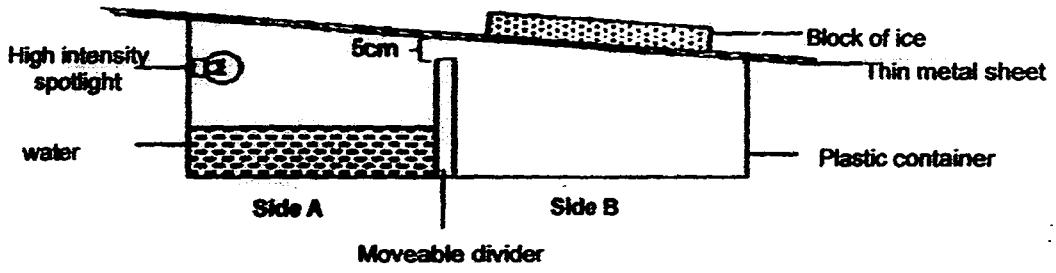
The table below shows the total mass of the plant and the amount of stored food present in the seed leaves at each stage.

Stage	Total Mass of Plant (g)	Amount of stored food in seed leaves (g)
1	0.3	0.21
2	2.4	0.16
3	3.8	0.03
4	5.6	0.01
5	8.8	0

(b) What do you observe about the change in the amount of stored food in the seed leaves from stage 1 to stage 5? Explain the reason why. (1m)

SCORE 2

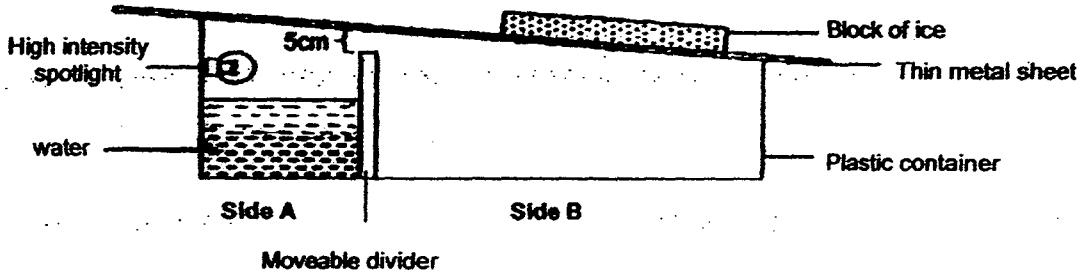
32 Joshua set up an experiment as shown below with a 5cm opening between side A and side B.



He switched on the high intensity spotlight and after 3 hours, some water could be found on side B of the plastic container.

(a) Explain how the water get to side B of the container. (2m)

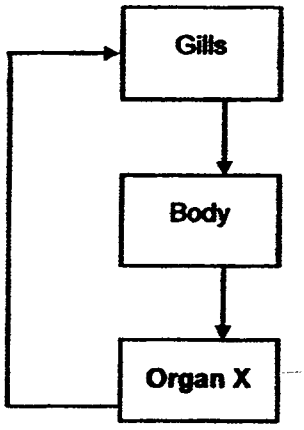
Joshua set up the above experiment again with similar amount of water in side A. He wanted to change the amount of water collected in side B of the container. He then moved the divider to the left such that there was more space in side B as shown in the diagram below.



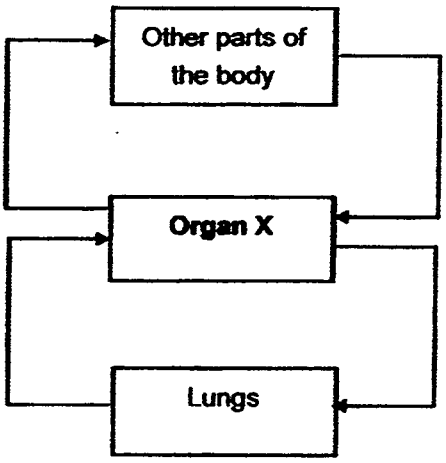
(b) Will the amount of water collected in side B **increase, decrease** or **remain the same** after the change? Explain your answer. (2m)

SCORE	/4

33 The diagrams below show the circulatory system of a fish and a human respectively.



Blood Circulatory system in a fish



Blood Circulatory system in a human

(a) Identify the organ labelled Organ X for both organisms. (½m)

_____

(b) Based on the diagrams above, state the difference between the two blood circulatory systems. (1½m)

Fish Circulatory System	Human Circulatory System
Has a **single** loop circulation	Has a _____ loop circulation
Blood flows in _____ direction.	Blood flows in _____ directions.

(c) Fill in the blanks to describe the difference between the type of air taken in and the organs used in the gaseous exchange of a fish and in a human respectively. (1m)

Blood Circulatory System in:	**Fish**	**Human**
Type of air taken in	_____	Oxygen from atmospheric air
Organ used in gaseous exchange	**Gills**	_____

SCORE	3

34 Abraham observed 3 cells, A, B and C, under a microscope. His teacher told him that two of the specimens came from different parts of a plant while the other is an animal cell. He then recorded his observations in the table below.

Cell Part	Cell A	Cell B	Cell C
nucleus	present	present	present
cell wall	absent	absent	present
chloroplast	absent	present	absent
cell membrane	present	present	present

(a) Abraham's teacher told him that he had recorded one observation wrongly. Which cell did he record wrongly? (1m)

_____

(b) Explain why the observation for the cell you identified in (a) is wrong. (1m)

_____

_____

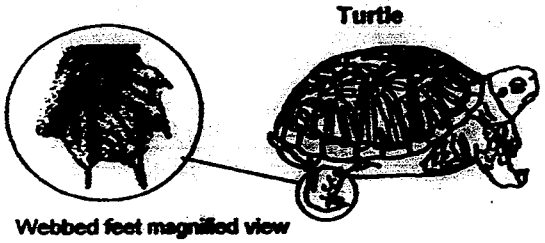
(c) Which of the 3 cells, A, B and C are plant cells and identify which parts of the plant do they come from? (1m)

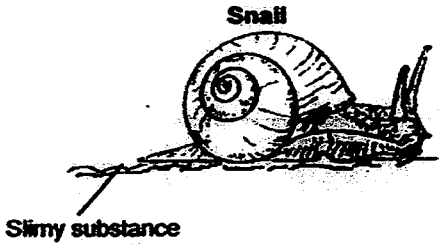
_____

_____

SCORE 3

35 The diagrams below show a turtle and a snail.





(a) Based on your observation of the diagrams above, state one **structural adaptation** that are similar for both these animals and describe its function. **(1m)**

_____

_____

(b) How does having webbed feet enable the turtle to propel itself in water? **(1m)**

_____

_____

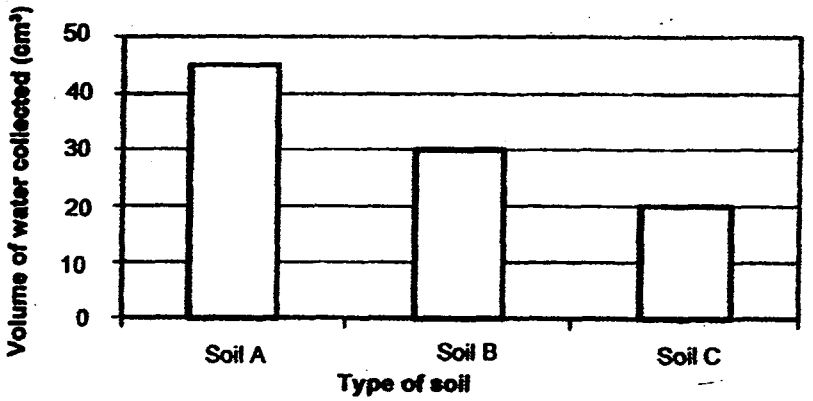
(c) A snail produces a slimy substance as it moves on the ground. **(1m)**
How does the slimy substance help in its movement on the ground?

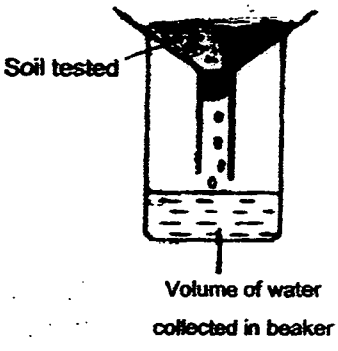
_____

_____

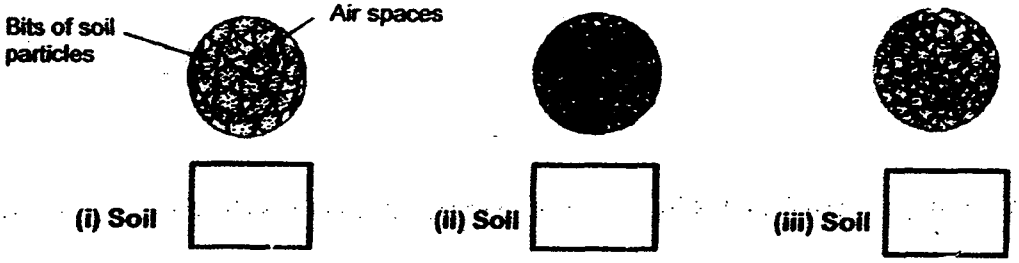
SCORE	/3

36 Sarah wanted to find out how well different types of soil are able to retain water. She poured 50 cm^3 of water into Soil A, B and C each. She then measured the amount of water collected in the beaker. Her results are shown below.





(a) The diagrams below show how each type of soil looks like under the microscope. Based on the results above, identify the different types of soil by writing the letters, A, B and C, in the boxes provided below. (1m)



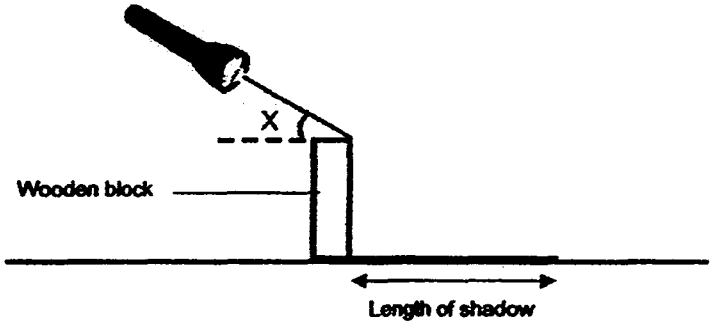
(b) Which type of soil, A, B or C, would you use to plant a cactus plant? (1m)
Explain your answer.

_____

_____

SCORE	/ 2

37 Joel carried out an experiment to find out if the position of the light affects the length of the shadow formed. He positioned his torch at an angle, X, as shown in the diagram below. He shone it at a wooden block and measured the length of the shadow formed.



He repeated the experiment, increasing the size of the angle X each time. He recorded his observation as shown in the table below.

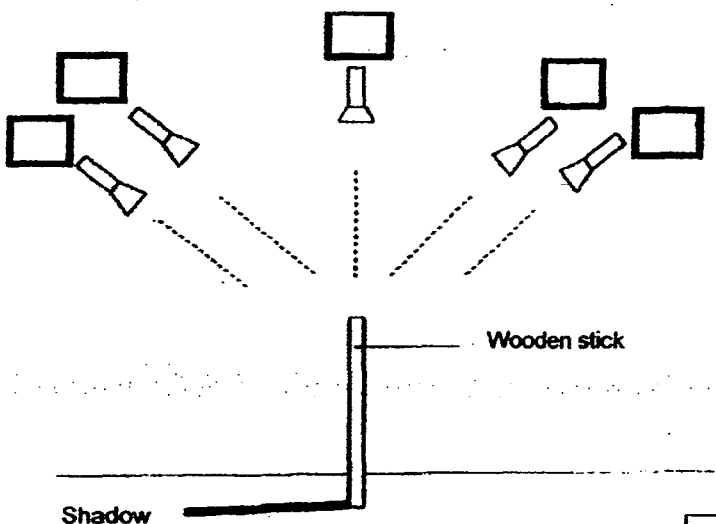
Size of angle X (°)	Length of shadow (cm)
50	12
60	9
70	6
80	3
90	0

(a) Based on his observation, what is the relationship between the angle X and the length of the shadow formed? (1m)

_____

_____

(b) A wooden stick is placed on the ground. Which is the correct light source from the torch to produce the shadow formed on the ground? Put a tick (✓) in the correct box. (1m)



SCORE 2

38 James records the properties of some materials as shown in the table below.

Material	Hard	Breakable	Sink	Flexible	Waterproof
X	✓		✓		✓
Y	✓	✓	✓		
Z				✓	✓

(a) Based on the above table, describe the properties of Material Y. (1m)

_____

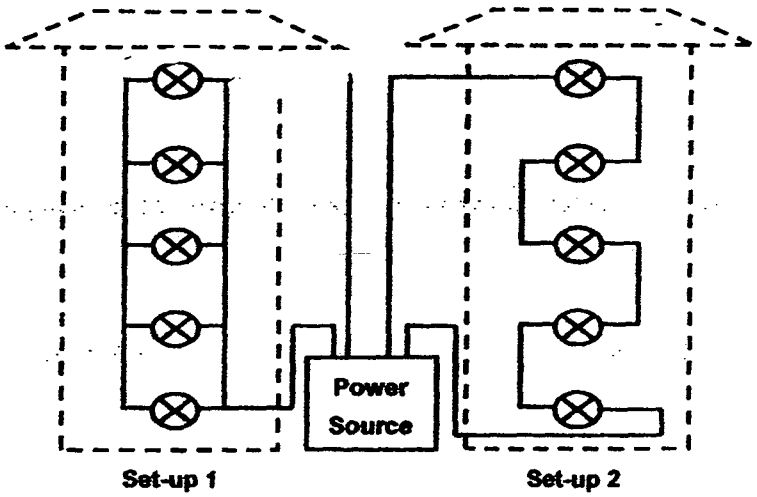
_____

(b) James wants to choose a material to make a toy for his younger brother to play when bathing in the bath tub. Based on the table above, which material is most suitable to be used? Explain your answer. (1m)

_____

_____

39 The diagram below shows the wiring of lights on the different floors in two 5-storey block of flats.



(a) Identify the way the lights are arranged in the two set-ups. (1m)

(i) Set-up 1: _____

(ii) Set-up 2: _____

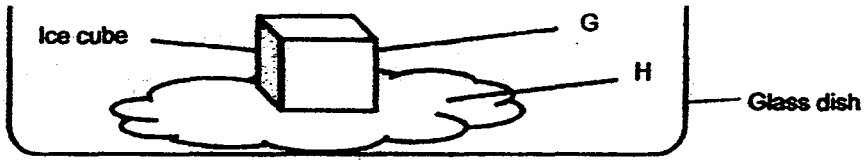
(b) State one advantage set-up 1 has over set-up 2. (1m)

_____

_____

SCORE ___/4

40 (a) An ice cube was left on a glass dish. The temperature of the room is 30°C. After 5 minutes, the ice cube is as shown in the diagram below.



(i) Name the states of matter G and H as shown above. (1m)

G: _____

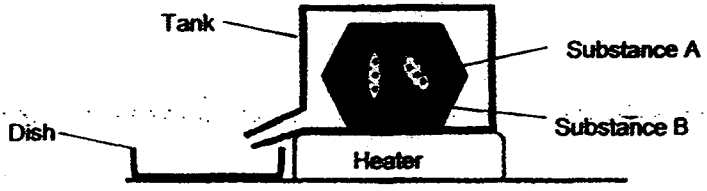
H: _____

(ii) What will happen to the above ice cube after 30 minutes? Describe 2 changes you would observe. (1m)

_____

_____

(b) Gabriel placed a solid made of substances A and B in the set-up as shown below. Substance A had a higher melting point than substance B.



Based on the above setup, explain how Gabriel can obtain a solid made of substance B only. (2m)

_____

_____

_____

_____

SCORE	/4

41 Evan conducted an experiment by pushing a big hoop along a smooth surface. He recorded the distance the hoop travelled before coming to a stop. Using the same amount of force, he repeated the experiment on an uneven surface as shown in the diagram below.

The table below shows the results.

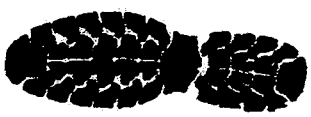
	Distance travelled on a smooth surface (m)	Distance travelled on an uneven surface (m)
1st try	8	6
2nd try	9	4

(a) What is the aim of the above experiment? (1m)

(b) Explain why the hoop travelled a shorter distance on an uneven surface. (1m)

Evan wanted to buy a pair of slippers to be used in the bathroom. The diagrams below show the soles of two slippers, A and B, made of rubber.

A

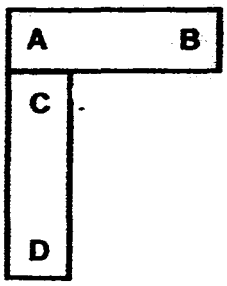


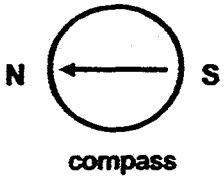
B

(c) Based on his experiment, which slipper, A or B, should he buy? (1m)
Explain your answer.

SCORE / 3

42 The diagram below shows what happens when a compass and two bar magnets are placed together.





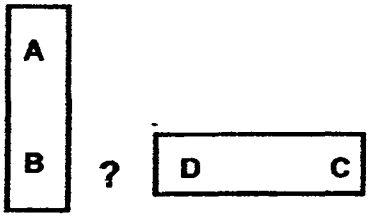
compass

(a) Identify the poles of the following ends. (1m)

(i) A : _____

(ii) C : _____

(b) What would happen if the same 2 bar magnets were brought together as shown below? (1m)



_____

_____

Jeanette conducted an experiment using a bar magnet. She placed some objects close to the bar magnet and noticed the following effects:

Object	Effect
X	Object did not move
Y	Object moved closer to the magnet
Z	Object moved away from the magnet

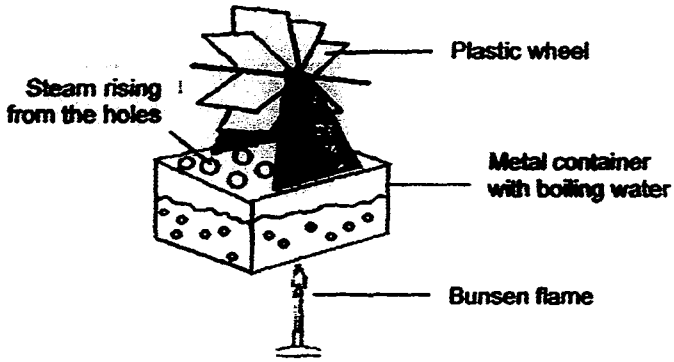
(c) Only one of the objects (X, Y, Z) is a magnet. (1m)
Which object is a magnet? Explain your answer.

_____

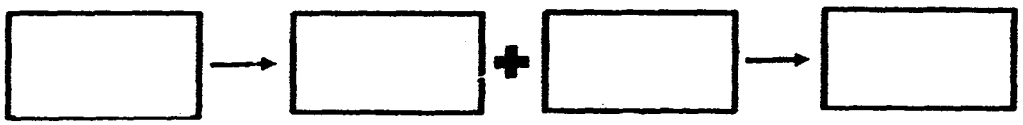
_____

SCORE 3

43 Look at the diagram below. A bunsen flame is used to heat up the water in the metal container until it boils. After a while, the plastic wheel turns.



(a) Write down the energy conversion that has taken place. (2m)



(b) Jonathan decided to add another bunsen flame to the above set-up. (1m)

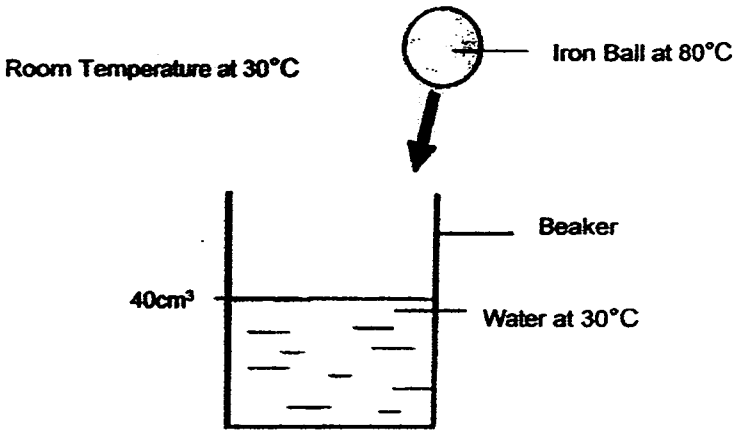
Would the speed of the turning wheel **increase**, **decrease** or **remain the same**? Explain your answer.

_____

_____

SCORE	/ 3

44 Matthew conducted an experiment using an iron ball of volume 25cm^3. He heated the iron ball to 80°C. He then put it into a beaker of water at room temperature of 30°C.



(a) State the <u>new water level</u> (cm^3) in the beaker when the iron ball is inside. **(2m)**

State the **property** of the iron ball that caused that change in the new water level.

(b) What would happen to the temperature of the water immediately after Matthew had put in the iron ball? Explain the change. **(1m)**

(c) What would be the estimated range of temperature in the beaker of water after the iron ball was added in? Put a tick (✓) in the correct box. **(1m)**

☐	☐	☐
30°C - 35°C	40°C - 50°C	75°C - 80°C

End of Booklet B

SCORE	/ 4

YEAR : 2016
LEVEL : PRIMARY 6
SCHOOL : : ST. HILDA'S PRIMARY
SUBJECT : : SCIENCE
TERM : PRELIMINARY EXAMINATION

Booklet A

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

Booklet B

Q31a Yes. Both the seats in Pot A and B will germinate. The seeds in Pot A and B have warmth, water and oxygen which are the things needed for germination, hence seeds in both pots will germinate.

Q31b The stored food in the seed leaves was being used up by the plant and as such the amount of stored food in the seed leaves decreased as the stored food is used for the germination of the seed.

Q32a Water from side A gained heat from the light of the high intensity spotlight and evaporated into water vapour. The water vapour then came into contact with the cooler surface of the thin metal sheet, last heat and condensed into water droplets. The water droplets then dripped into side B.

Q32b Decrease. There was less exposed surface area for the water in side A to evaporate and as such less water evaporated and less water condensed into water droplets that fell into side B.

Q33a Heart.

Q33b

Fish Circulatory System	Human Circulatory System
Has a **single** loop circulation	Has a **double** loop circulation
Blood flows in **one** direction	Blood flows in **two** directions

Q33c

Blood Circulatory System in:	Fish	Human
Type of air taken in	**Dissolved oxygen from water**	Oxygen from atmospheric air
Organ used in gaseous exchange	Gills	**Lungs**

Q34a Cell B.

Q34b Cell B has chloroplasts which are only found in plant cells. All plant cells have cell walls but the recording shows that it does not have a cell wall and thusitis wrong.

Q34c B and C. B comes from the leaf of the plant while C comes from the root of the plant.

Q35a Both have shells. Shells protect the animals from predators.

Q35b The webbed feet increases the surface area in contact with water so the turtle can push a larger amount of water to propel it forward.

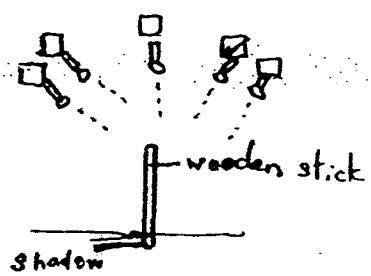
Q35c The slimy substance acts as a lubricant and reduces friction between the snail's body and the ground so it is easier to move on the ground.

Q36a (i) Soil A (ii) Soil C (iii) Soil B.

Q36b Soil A. Since a cactus plant grows in a very dry environment where there is little water present, soil A retains the least water at the soil surfaces hence, allowing water to flow downwards to the roots.

Q37a The greater the angle X, the shorter the length of the shadow formed.

Q37b



Q38a Material Y is hard, breakable and can sink.

Q38b Material Z. Material Z is waterproof, flexible, floats in water, strong & soft which is suitable for a toy for James' younger brother to play with when bathing in the bath tub.

Q39a (i) Set-up 1: Parallel (ii) Set-up 2: Series

Q39b If one light bulb fuses, the other bulbs would still be able to light up..

Q40a (i) G: Solid
H: Liquid

(ii) 1) Ice will melt to water/liquid
2) Ice loses its shape

Q40b Heat the solid below A's melting point but above B's melting point, so B will melt first. There will be liquid B flowing into the dish. Then, freeze the liquid and there will be a solid of substance B.

Q41a To find out if the texture of the surface affects the distance travelled by the ball travelling on it.

Q41b There was more bumps on the uneven surface compared to the smooth surface and as such more friction between the hoop and the surface so the friction slowed the hoop slowed down faster.

Q41c B. B has more surface area to create more friction between the slippers and the floor so the person wearing the slippers would not slip and fall, which is important in the wet bathroom.

Q42a (i) A: North
(ii) C: South

Q42b B would be attracted to D.

Q42c Z. The force of repulsion is a test if an object is a magnet. Since Z repelled a magnet, it is a magnet.

Q43a Heat energy → Kinetic energy + Heat energy → Kinetic energy

Q43b Increase. There would be more heat energy to produce more kinetic energy of the steam and as such increase the kinetic energy in the plastic wheel and increase the speed.

Q44a $65cm^3$. The iron ball has a definite volume.

Q44b The temperature would rise immediately. The water would have gained heat from the ball and as such the temperature would rise.

Q44c

√

40°C - 50°C

End