Name: _____ ( )

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

纯 义 坚 德

Primary 6
Preliminary Examination
SCIENCE

BOOKLET A

24 August 2018

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

28 questions
56 marks

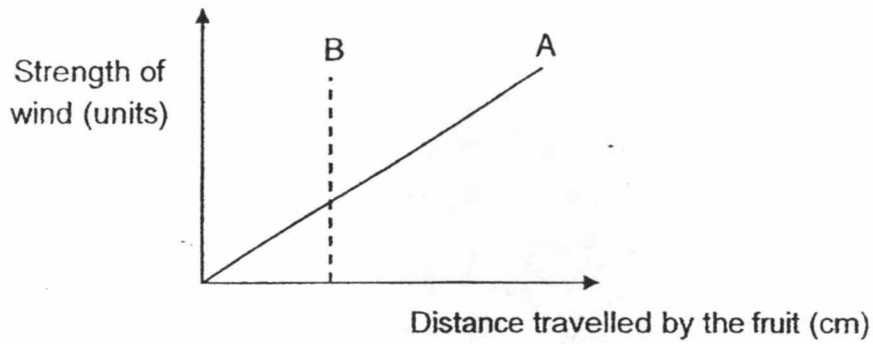
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This booklet consists of 21 printed pages.

Section A (28 x 2 marks = 56 marks)

For each question from 1 to 28, 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 provided.**

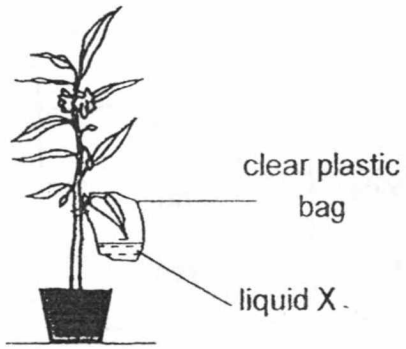
1. The graph below shows the effect of wind on the distance travelled by the fruits A and B.



Based on the graph above, what could fruits A and B most likely be?

	A	B
(1)		
(2)		
(3)		hooks 
(4)	hooks 	

2. The diagram below shows a potted plant in the garden. One of the leaves is placed in a clear plastic bag containing liquid X.



The table below shows the changes in the colour of liquid X with different amounts of oxygen present in the bag.

Colour	Amount of oxygen
blue	less than the amount in the air
red	same as the amount in the air
orange	more than the amount in the air

What would be the colour of liquid X at 11 am and 11 pm respectively?

	11 am	11 pm
(1)	orange	blue
(2)	orange	red
(3)	blue	orange
(4)	red	orange

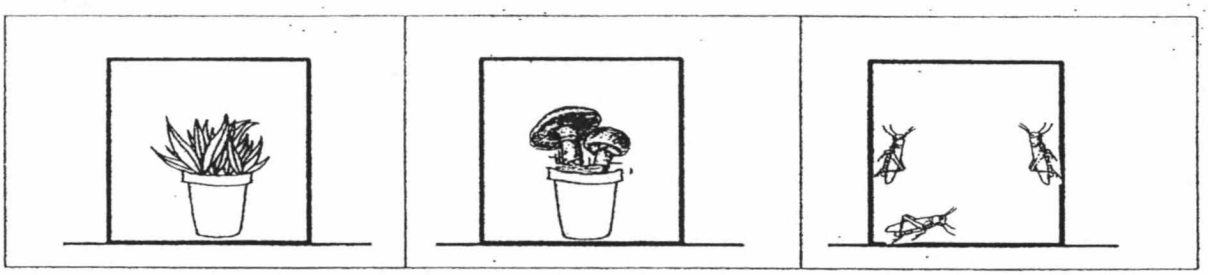
3. Which of the following about photosynthesis is correct?

	gas taken in	gas given out	light needed
(1)	carbon dioxide	oxygen	no
(2)	carbon dioxide	oxygen	yes
(3)	oxygen	carbon dioxide	no
(4)	oxygen	carbon dioxide	yes

4. Hummingbirds visit flowers. The hummingbirds benefit directly by_____.

(1) dispersing the seeds
(2) pollinating the flowers
(3) feeding on the nectar
(4) laying eggs on the flowers.

5. The diagram below shows three glass tanks A, B and C each containing different organisms. There was same amount of carbon dioxide in each tank.

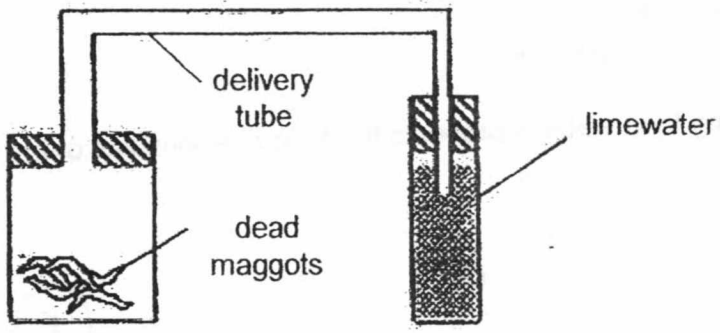


A B C

The three glass tanks were sealed and placed in the garden on a sunny day for five hours. In which of the tanks would there be an increase in carbon dioxide after five hours?

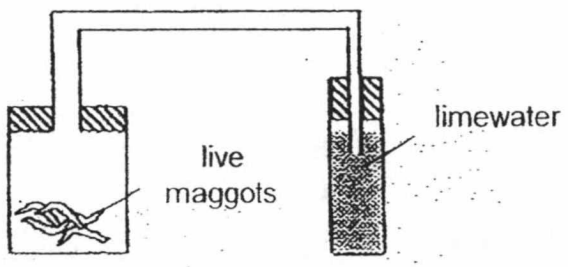
(1) A only
(2) C only
(3) A and B only
(4) B and C only

6. Sally wanted to find out if dead maggots produce carbon dioxide. She placed some dead maggots in a container and attached a delivery tube to a test-tube of limewater as shown below.

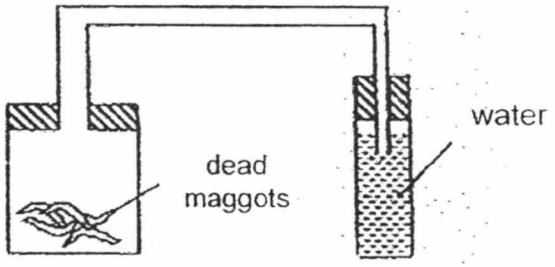


Which one of the following set-ups could be used as a control for her experiment?

(1)



(2)



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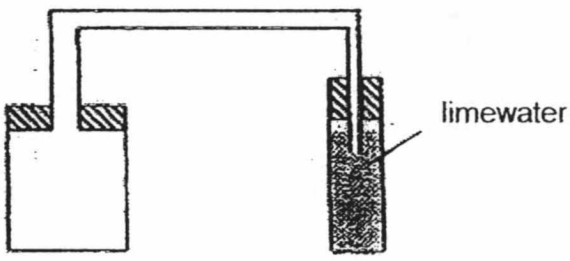

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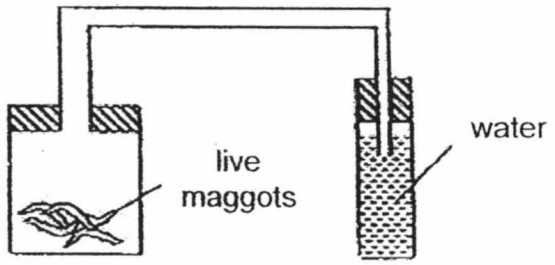
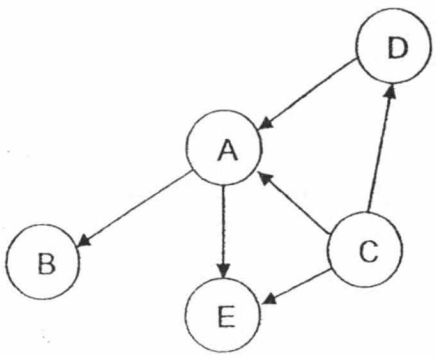


7. There are five organisms A, B, C, D and E in a food web.

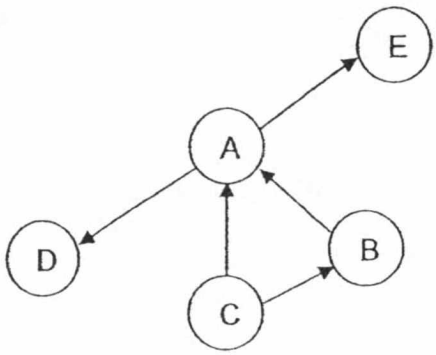
B is the prey of A
B is a plant eater
D is a meat eater
C is a food producer
D and E are predators of A
A and E are plant and animal eaters

Which one of the following food webs represents the food relationships of the five organisms?

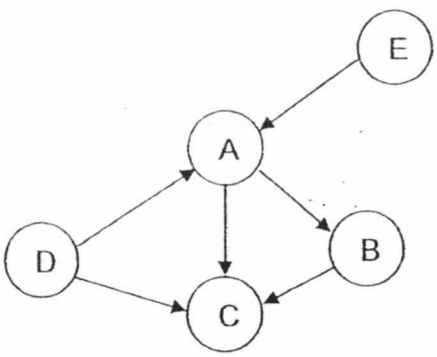
(1)



(2)



(3)



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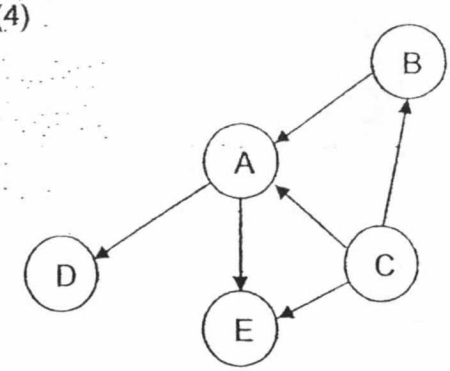
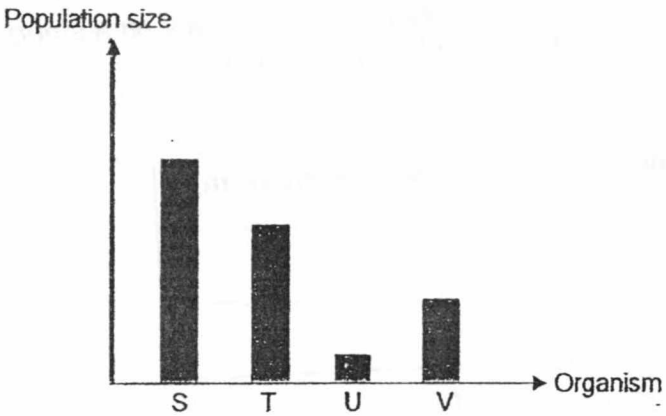


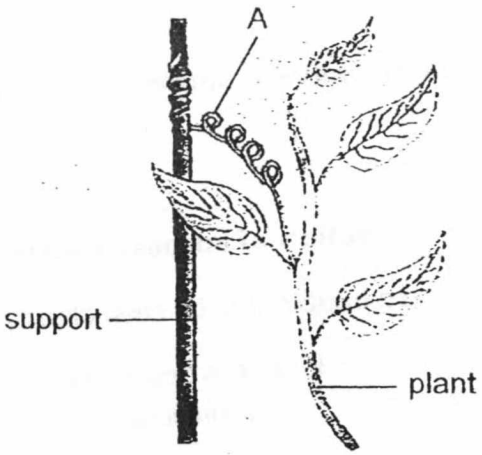
8. The graph below shows the populations of different organisms found in a food chain.



Based on the information above, which one of the following is most likely a predator of organism V?

(1) S
(2) T
(3) U
(4) V

9. The diagram below shows a plant with an adaptive feature labelled A.



Which one of the following statements about the adaptive feature shown above is correct?

(1) Part A helps the plant to absorb water.
(2) Part A helps the plant to attract pollinators.
(3) Part A helps the plant to reach for more sunlight.
(4) Part A helps the plant to transport food and water to all parts of the plant.

10. Feathers from four different birds were dipped into water and hung on a string to dry. The table shows the time taken for each feather to dry completely.

Feather	Time taken to dry completely (min)
A	12
B	8
C	1
D	4

Bird Z spends most of its time in the water looking for food. Which one of the above feathers most likely belong to bird Z?

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

11. Which one of the following adaptive features of the various organisms is correctly matched to its function?

	Organism	Adaptive feature	Function of adaptive feature
(1)	Polar bear	White fur	To enable it to be seen clearly
(2)	Arctic fox	Small ears	To lose less heat to the surroundings
(3)	Camel	Hump on the back	To store water
(4)	Eagle	Sharp claws	To tear the flesh of its prey

12. Which of the following are positive benefits brought about by the developments in science and technology?

A Production of sweeter and juicier fruits.
B Increase in the amount of carbon dioxide in the air.
C Production of new medications to fight dangerous viruses.
D Communicate with people from other countries more quickly and efficiently.

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

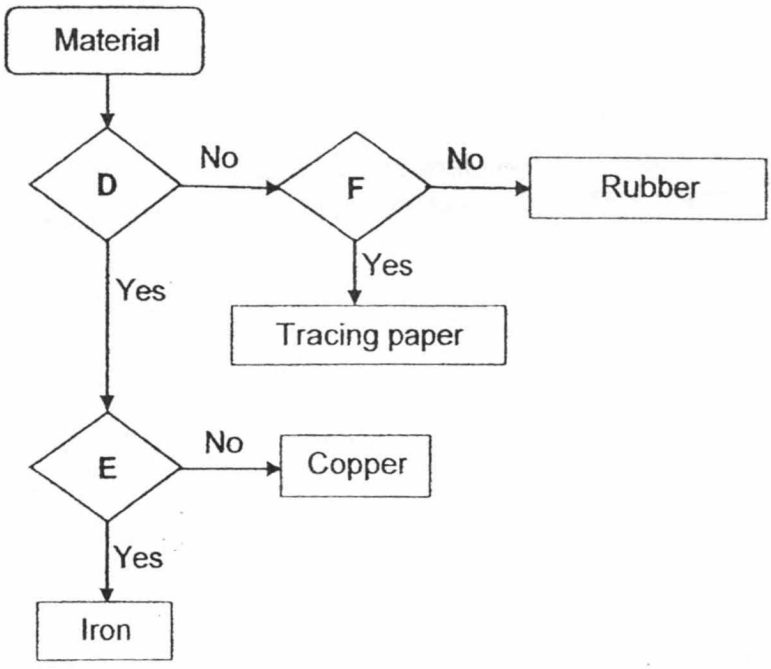
13. A scientist observed that the temperature of the air on Earth has increased over the last ten years.

Which of the following activities could have caused the increase in the temperature?

A An increase in the planting of trees.
B An increase in the use of air-conditioners.
C An increase in the use of solar energy.
D An increase in the number of vehicles on the road.

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

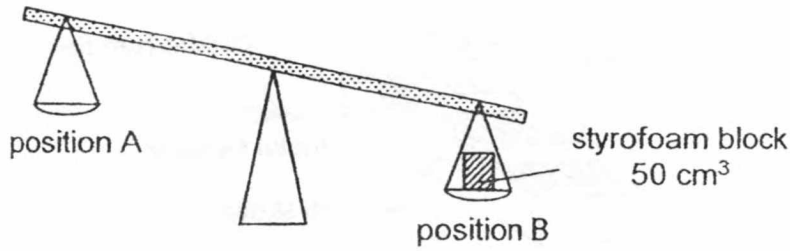
14. The flow chart below shows the classification of some materials.



Which one of the following is correctly represented by D, E and F in the chart above?

	D	E	F
(1)	Conducts electricity	Magnetic	Allows light to pass through
(2)	Flexible	Conducts heat	Non-magnetic
(3)	Allows light to pass through	Magnetic	Electrical insulator
(4)	Electrical insulator	Allows light to pass through	Waterproof

15. The diagram below shows a lever balance with a styrofoam block placed on a pan at position B.

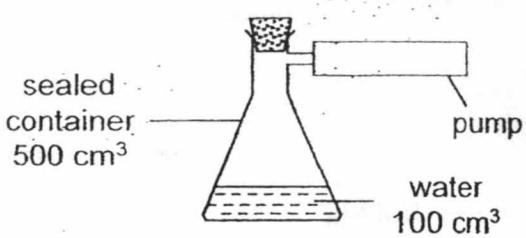


A lever balance

What would happen to the lever balance when a metal block of the same mass is placed on the pan at position A?

(1) Both pans will move up and down continuously.
(2) The pan at position A will be lower than the pan at position B.
(3) The pan at position B will be lower than the pan at position A.
(4) The pan at position A will be of the same height as the pan at position B.

16. Jerome poured 100 cm^3 of water into a sealed container as shown below. He then used the attached pump to remove 150 cm^3 of air from the container.

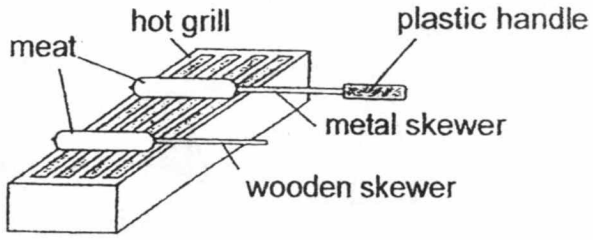


Which of the following statements is/are true of the set-up at the end of his experiment?

A The water level will increase..
B 250 cm^3 of air is left inside the container.
C Some water took the place of the air that was pumped out.
D The volume of air inside the container remains the same as before.

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

17. The diagram below shows some meat being cooked using a wooden skewer and a metal skewer.



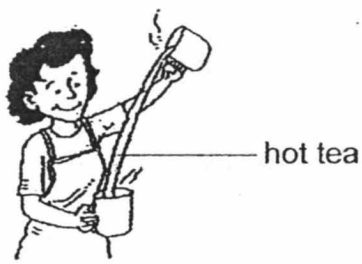
After some time, part of the wooden skewer was burnt but not the metal skewer.

Based on the observation above, which of the following best explain(s) this difference?

A Metal skewer is stronger than wooden skewer.
B Wooden skewer is shorter, thus it absorbs heat faster.
C Metal skewer is a better conductor of heat than wooden skewer.
D Wooden skewer does not have a handle to protect it from the heat.

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

18. The diagram below shows a drink stallholder pouring hot tea from one mug to another several times before serving it to the customer.



How does her action help to cool the tea?

(1) The tea loses heat faster when the mug is lifted higher.
(2) When the tea flows from one mug to another, it reduces heat loss.
(3) The tea has a bigger surface area to lose heat to the surroundings.
(4) The tea loses heat faster when it flows from a higher to a lower position.

19. The table below shows 3 steel balls X, Y and Z of different sizes and temperatures.

Ball	Volume (cm^3)	Temperature of the ball (°C)
X	50	45
Y	90	45
Z	50	80

The three balls are left in a room to cool down.

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

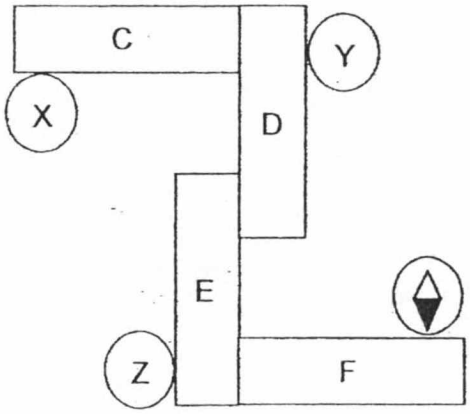
A Ball X has the least amount of heat.
B Ball Z takes a longer time to cool down to room temperature than ball X.
C Ball Y takes a longer time to cool down to room temperature than ball X.
D Balls X and Z take the same amount of time to cool down to room temperature.

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

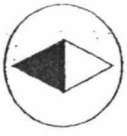
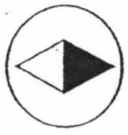
20. The diagram below shows a compass.

compass

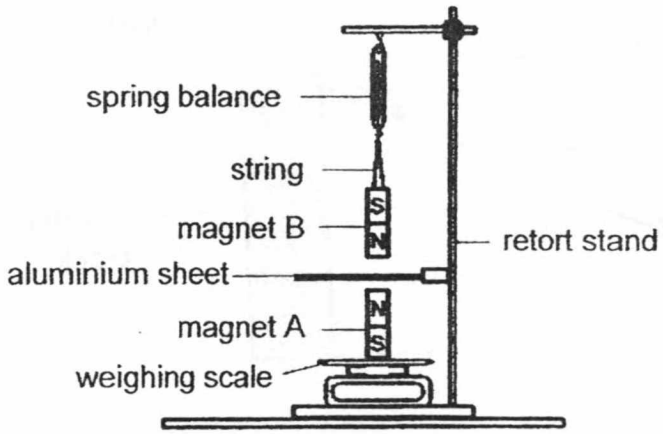
Four bar magnets C, D, E and F were positioned as shown in the diagram below.



Which one of the following shows the correct position of the needle when the compass is placed at positions X, Y and Z?

	X	Y	Z
(1)			
(2)			
(3)			
(4)			

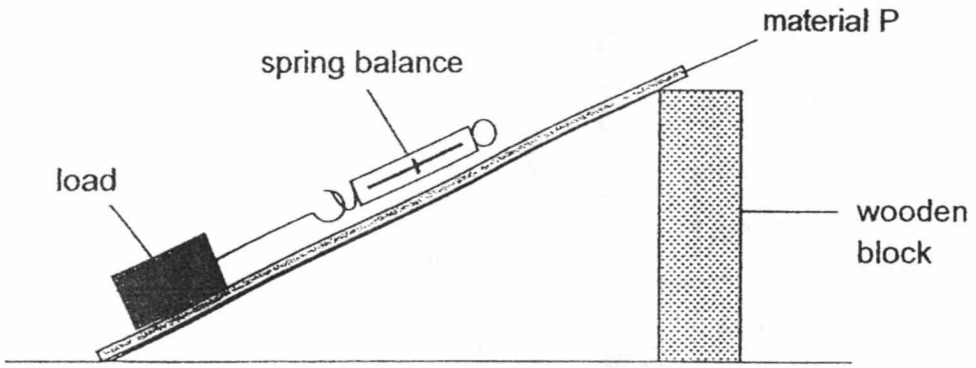
21. Malek set up an experiment using two identical bar magnets as shown below. Both magnets have a weight of 300 g each.



Which one of the following sets of readings on the weighing scale and spring balance is most likely to be the results that Malek had recorded?

	Reading on spring balance	Reading on weighing scale
(1)	More than 300 g	Equal to 300 g
(2)	More than 300 g	More than 300 g
(3)	Less than 300 g	Less than 300 g
(4)	Less than 300 g	More than 300 g

22. Donny set up a ramp with a piece of material P and a wooden block as shown below.



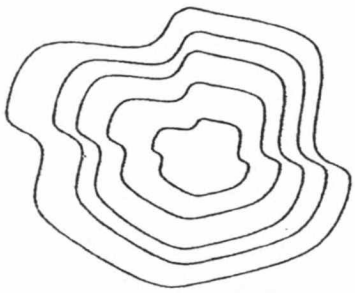
He pulled a load up the ramp using a spring balance.
He repeated the experiment using three different types of materials Q, R and S. The results obtained are shown in the table below.

Material	Amount of force used to pull the load (g)
P	55
Q	70
R	25
S	40

Based on the results, which material P, Q, R or S would be most suitable for making playground slides?

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

23. Harry created two puddles of water on a concrete floor using the same volume of water. After each hour, he used a marker to draw a line on the floor around the perimeter of each of the puddles until all the water had evaporated. The concrete floor did not absorb any water. The diagrams below show the results of his experiment.



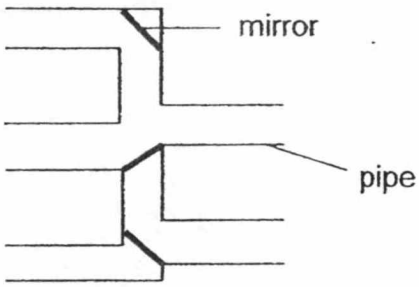
water puddle X

water puddle Y

Based on the results of his experiment, what conclusion can he draw?

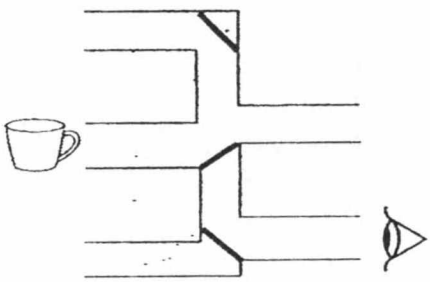
(1) The water from puddle X and puddle Y evaporated at the same rate.
(2) The greater the volume of water in the puddle, the slower it will evaporate.
(3) The greater the surface area of the puddle, the faster the water will evaporate.
(4) The water from puddle X evaporated at a slower rate than the water from puddle Y.

24. The diagram below shows some pipes connected to each other. Three mirrors are positioned inside the pipes.

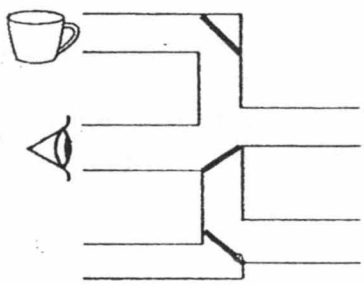


In which one of the following set-ups would Tom be able to see the cup?

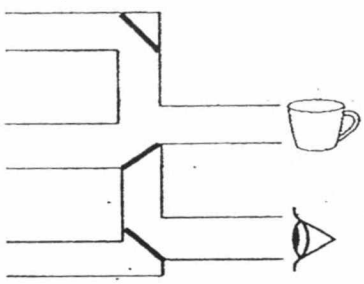
(1)



(2)



(3)



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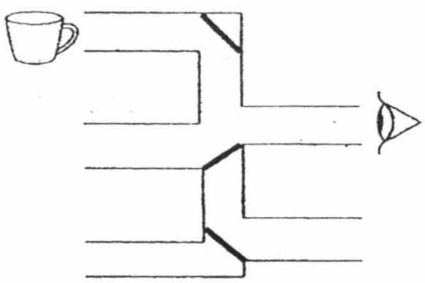
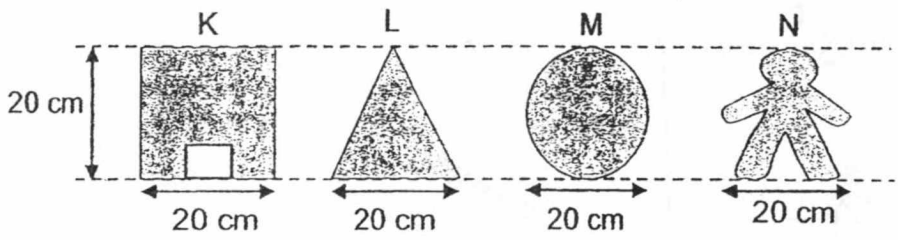
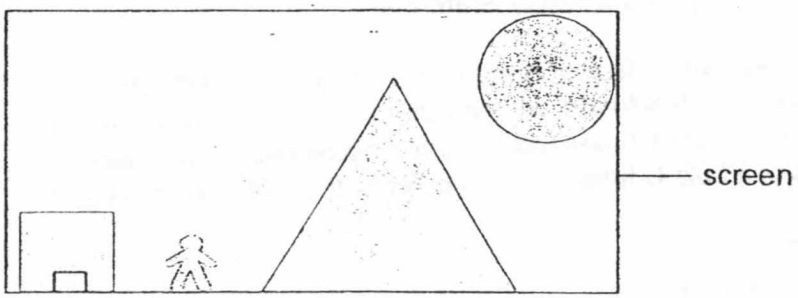


25. The diagram shows four cut-outs K, L, M and N from a piece of cardboard.



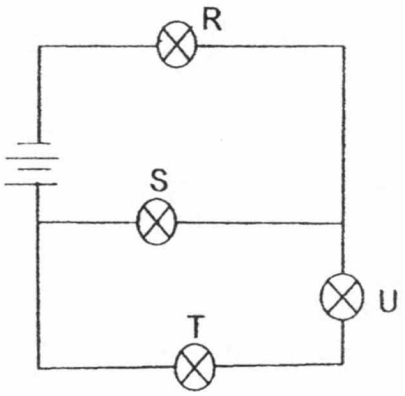
The shapes were then used to create a scene in a shadow puppet show as shown below. The positions of both the light source and the screen were fixed.



Which one of the following shows the correct order of the shapes starting from the one nearest to the screen to the one furthest from the screen?

	Nearest ⟶ Furthest			
(1)	M	L	N	K
(2)	L	M	K	N
(3)	N	K	M	L
(4)	K	N	L	M

26. A circuit is set up using four bulbs R, S, T, U and two batteries.



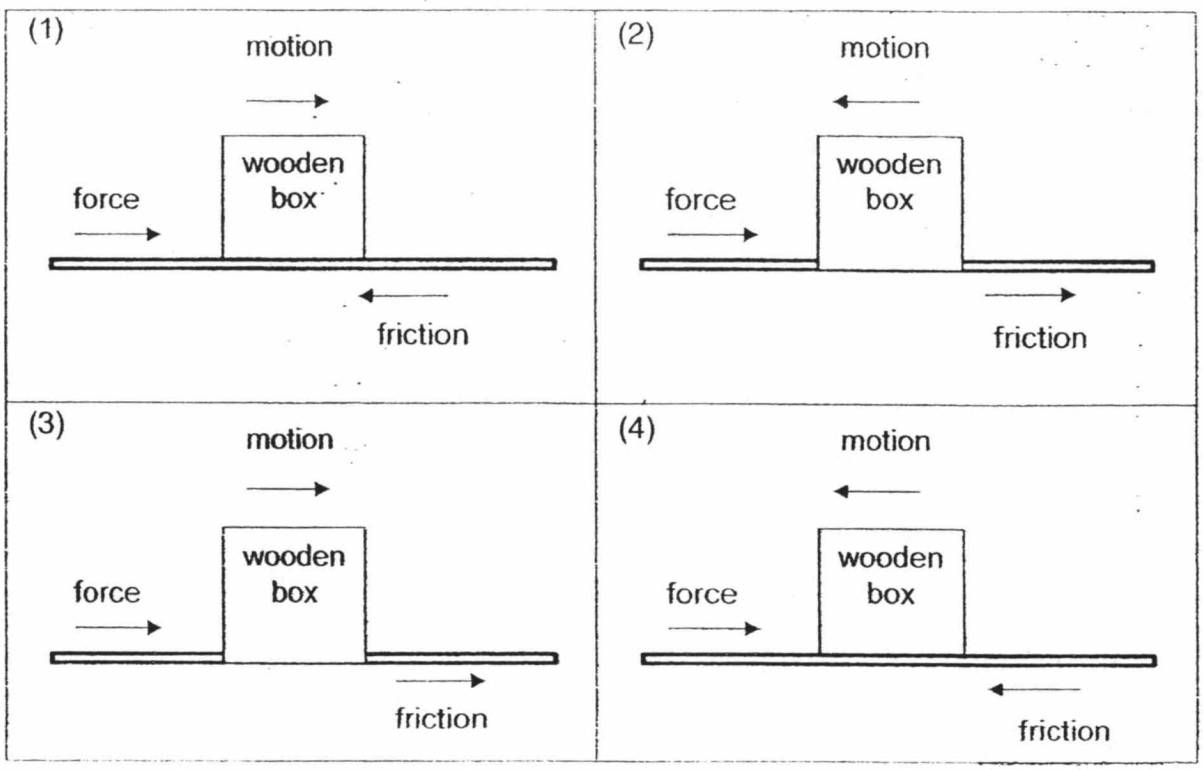
Parallel

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

A When bulb R fuses, none of the other bulbs will light up.
B When bulb S fuses, all the other bulbs will remain lighted.
C When bulb T fuses, all the other bulbs will remain lighted.
D When bulb U fuses, all the other bulbs will remain lighted.

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

27. A force was applied to move a wooden box.
Which of the following shows the direction of motion and the direction of friction acting on the wooden box?

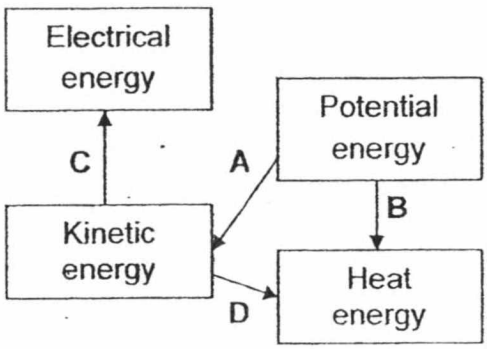


28. Some processes involving energy changes are listed below.

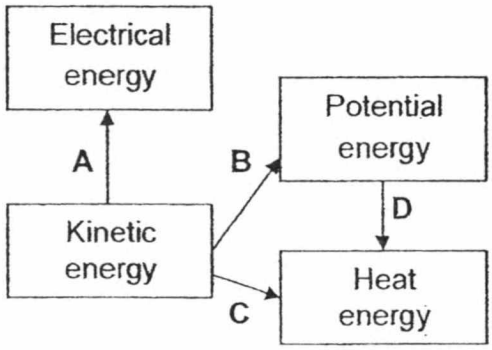
A Burning of natural gas
B A coconut dropping from a tree
C Polishing a piece of wood with sandpaper
D Using running water to spin a turbine connected to a generator

Which one of the following diagrams correctly shows the energy changes in the processes above?

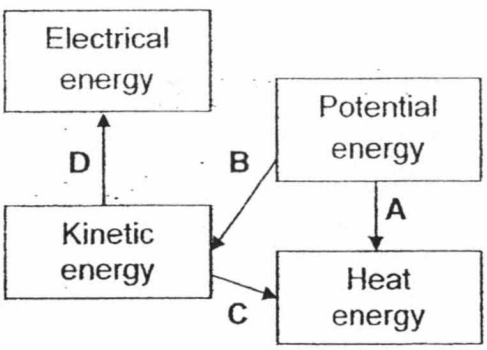
(1)



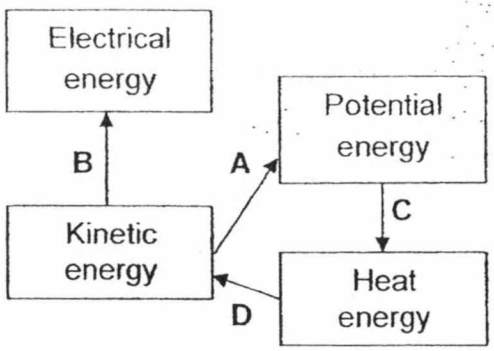
(2)



(3)



(4)



~~ End of Section A ~~

Name : _____ ( )

Class : Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

纯 义 坚

Primary 6

Preliminary Examination
SCIENCE

BOOKLET B

24 August 2018

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

13 questions
44 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 17 printed pages.

Booklet A	56
Booklet B	44
Total	100

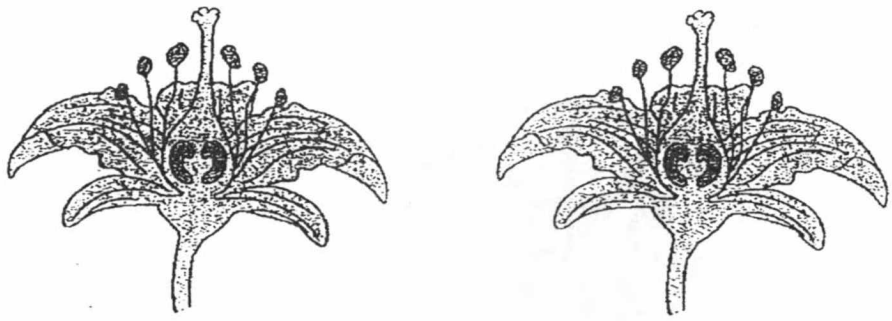
_____

Parent's Signature

Section B (44 marks)
For questions 29 to 41, write your answers in this booklet.

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

29. The diagram below shows two flowers from plant Q.



flower S flower T

(a) On the diagram above, draw an arrow (⟶) to show how pollination can take place between flowers S and T. [1]

(b) Based on your answer in (a), which one of the flowers can develop into a fruit? Explain your answer. [1]

_____

_____

_____

(c) Fruits produced by plant Q contain many seeds. Birds help to disperse the seeds of plant Q by eating its fruits and passing the undigested seeds out through their droppings.

Suggest and explain **two** benefits for plant Q to disperse its seeds this way. [2]

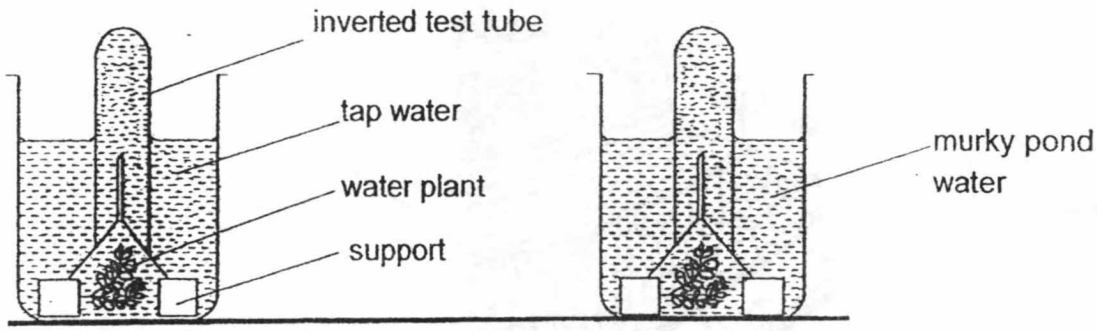
Benefit 1: _____

_____

Benefit 2: _____

_____

30. Nicole conducted an experiment to find out how murky pond water affects the rate of photosynthesis in a water plant. She placed the two set-ups in a bright room for a period of time.



(a) What would Nicole observe in terms of the number of bubbles produced by the two water plants? [1]

_____

_____

(b) Explain the observation in (a). [1]

_____

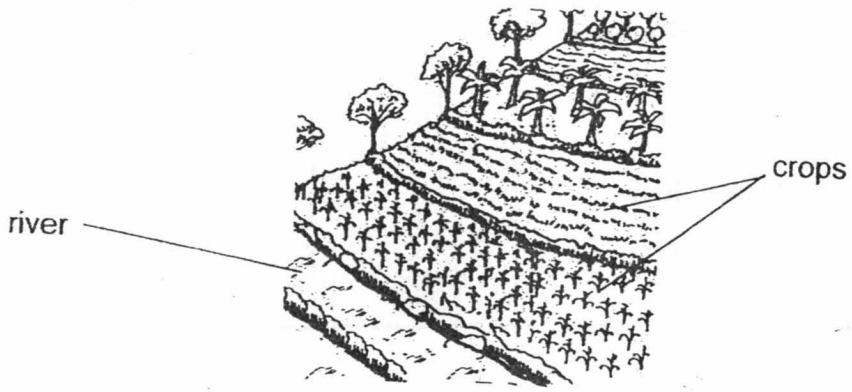
_____

(c) State two variables Nicole must keep constant to ensure that the experiment is a fair one. [2]

Variable 1: _____

Variable 2: _____

31. Farmer Y planted his crops on a slope as shown below.



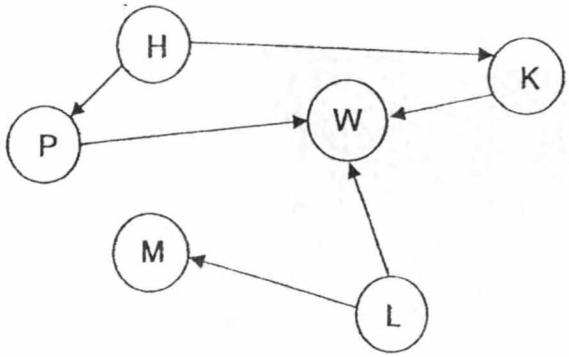
He used excessive amount of pesticides to increase his harvest and to have better quality crops. Pesticides are substances used to kill the pests and insects which attack crops.

(a) Explain how the aquatic life in the river would be affected by Farmer Y's excessive use of pesticides on his crops?

[1]

(b) Explain how planting crops on the slopes helps to prevent soil erosion. [1]

32. The food web below shows the organisms in community A.



(a) Based on the food web above, identify the producer(s). Explain your answer. [1]

_____

_____

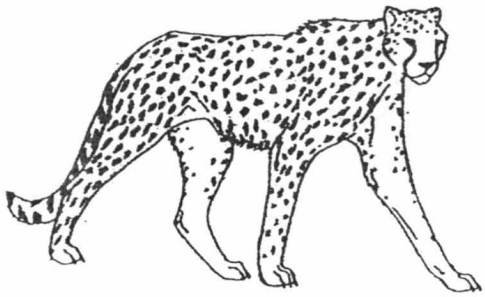
(b) Organism D which feeds on organism W was introduced into the community. How will this affect the population of organism H? Explain your answer. [2]

_____

_____

_____

33. Organism P lives in the grasslands. It has patterns on its body to blend in with its surroundings. It has strong, long limbs to run very fast but can only do so for less than a minute. As such, it usually tries to get closer to its prey before chasing it. It has keen eyesight and hunts during the day.



organism P

(a) Based on information above, state one structural and one behavioural adaptation of organism P that allows it to hunt for food. [2]

Structural adaptation: _____

_____

Behavioural adaptation: _____

_____

(b) After a speedy chase, organism P will not be able to move much and needs to rest for about half an hour. Explain why this could be a disadvantage for organism P. [1]

_____

_____

_____

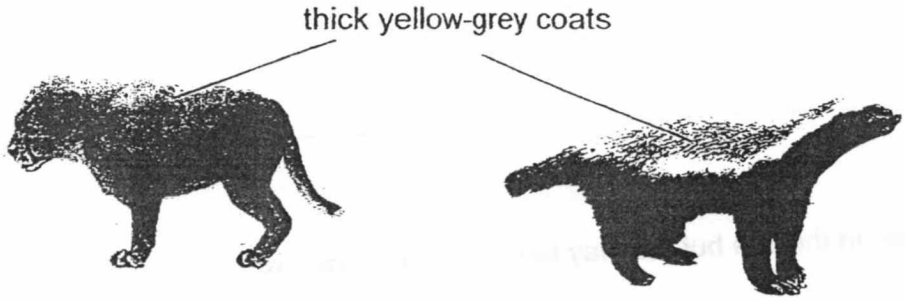
(c) Organism P sometimes hunt for prey in a group. State one advantage of hunting for food in this manner. [1]

_____

_____

_____

(d) The young of organism P is not able to run as fast as the adult but it has a thick yellow-grey coat on its back which resembles that of organism Q. Organism Q is known to be very aggressive when provoked. The young of organism P is often left alone when the adults go hunting for food.



young of organism P

young of organism Q

Suggest a reason why having a thick yellow-grey coat is an advantage for the young of organism P. [1]

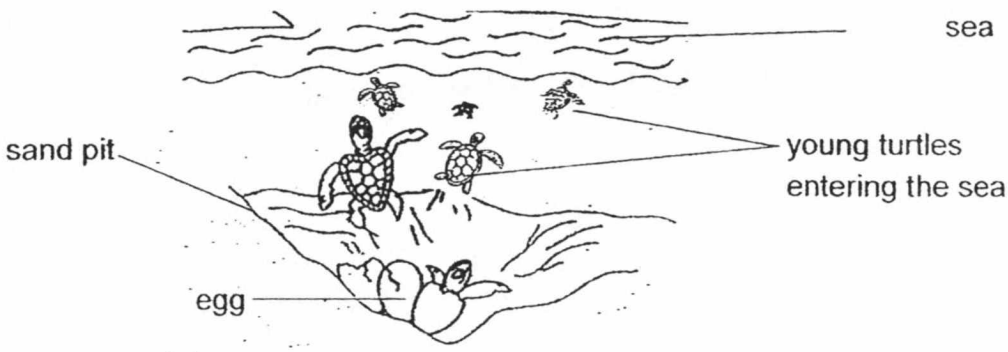
34. The ice sheets in Antarctica are melting increasingly faster as a result of global warming.

(a) Describe one negative impact of the melting of the ice sheets. [1]

_____

_____

Sea turtles live in the sea but they lay their eggs on beaches.



(b) Explain how the negative impact in (a) affects the population of the turtles. [1]

_____

_____

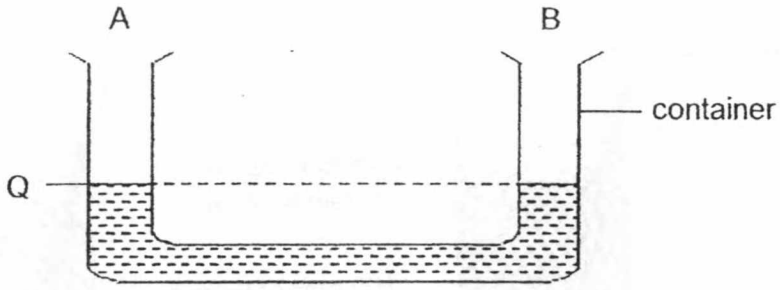
Dumping of litter, especially plastics, into the sea affects many marine organisms, including the sea turtles.

(c) Give an example of how the marine organisms will be affected by the dumping of plastics into the sea. [1]

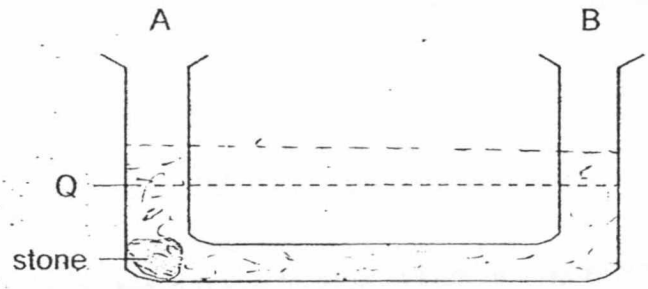
_____

_____

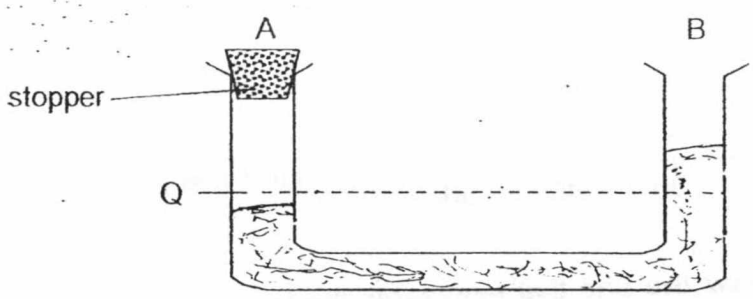
35. Li Min poured 500 ml of water into a container until the water level reached point Q as shown below.



(a) She then lowered a stone into the container through the opening at A. Draw in the diagram below to show the water level in the container after the stone was lowered into the container. [1]



(b) Next, she emptied the container and placed a stopper at opening A of the container. Then she poured 500 ml of water into the container through opening B. Draw in the diagram below the water level in the container. [1]



(c) Explain your answer for part (b). [1]

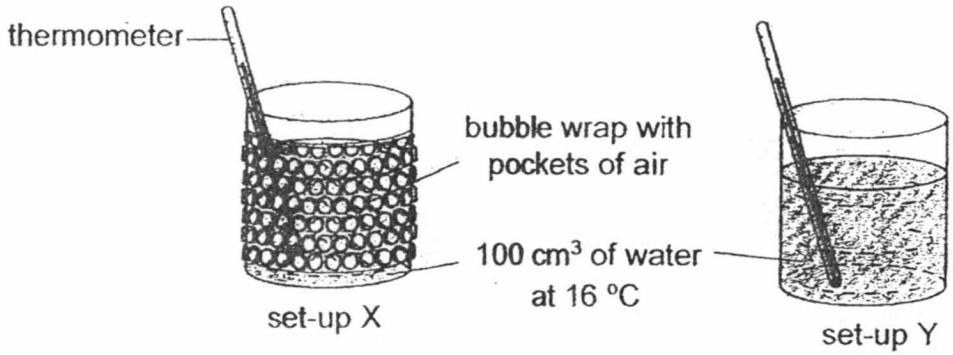
_____

_____

_____

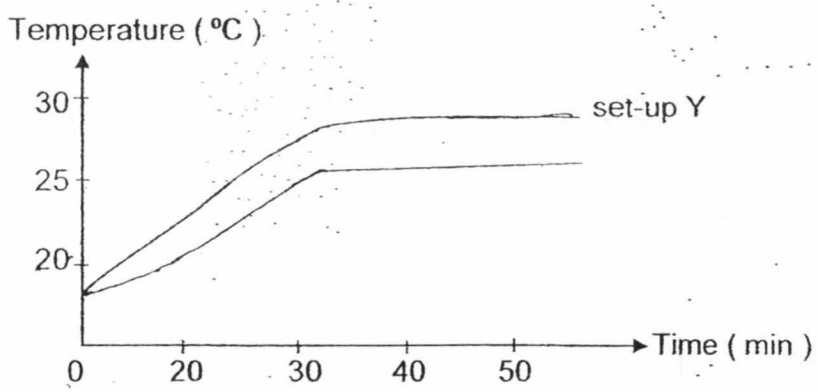
_____

36. Shi En conducted an experiment in a classroom as shown below.



(a) What is the aim of Shi En's experiment? [1]

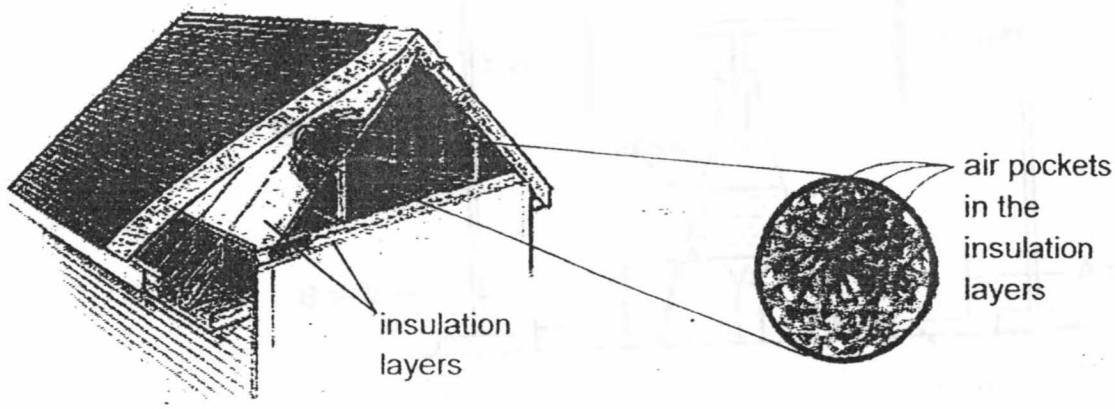
The graph below shows the changes in temperature of water in set-up Y.



(b) In the graph above, **draw the line** that represents the temperature changes in the water in **set-up X.** [1]

(c) Shi En replaced the water in both set-ups with 100 cm³ of water at 100 °C. In which set-up will the water be warmer after 30 minutes? Explain your answer. [1]

Houses in countries where there are four seasons usually install insulation layers between their inner roof and ceilings as shown below.

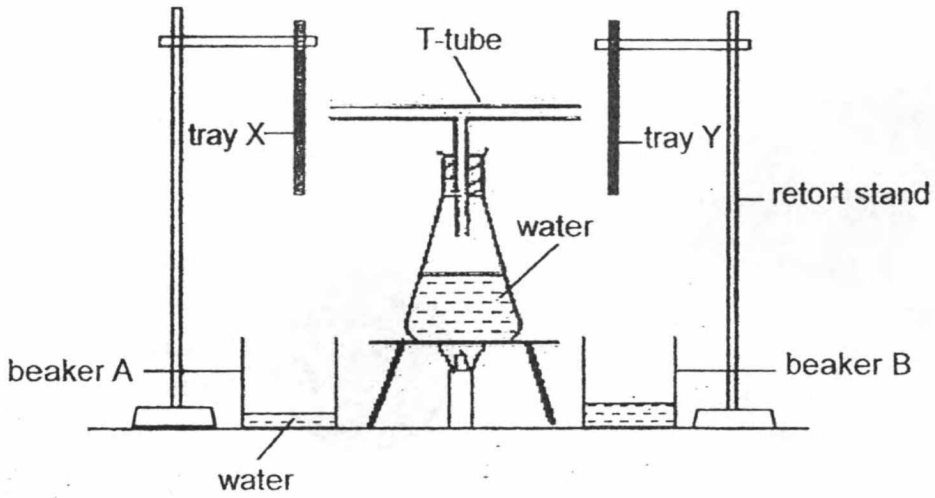


(d) Explain how these air pockets benefit the people living in the house during the hotter and colder months of the year. [2]

Benefit for the people during **cold** weather.	

Benefit for the people during **hot** weather.	

37. Jane suspended two trays X and Y of the same size at the same distance from the ends of a T-tube. The T-tube is attached to a conical flask which contains some water.

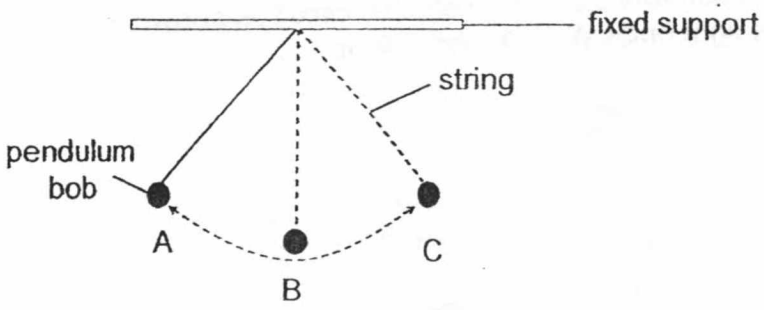


The two beakers were empty at the start of the experiment. Jane heated up the water in the conical flask until it came to a boil. After 5 minutes, she observed that more water was collected in beaker B than in beaker A as shown above.

(a) What could have caused more water to be collected in beaker B than in beaker A? [2]

(b) At the end of 10 minutes, Jane noticed fewer water droplets forming on both trays X and Y. Give a reason for her observation. [1]

38. The diagram below shows a swinging pendulum bob.

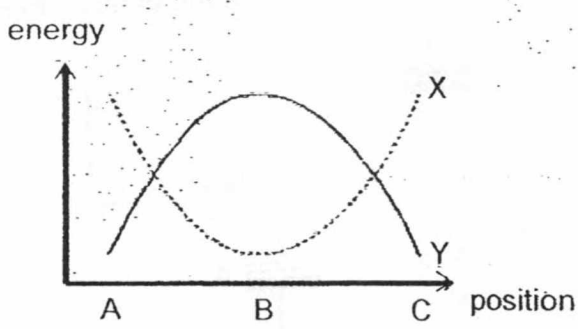


When the pendulum bob is released, it swings from A to B to C and back again to A.

(a) What is the force that causes the pendulum bob to swing back and forth? [1]

_____

The graph below shows how the amount of kinetic and gravitational potential energy changes as the pendulum bob moves from A to C.



(b) Based on the graph above, what type of energy, gravitational potential energy or kinetic energy, do X and Y represent? [1]

X : _____

Y : _____

39. Xue Fei conducted an experiment on four objects made of different materials A, B, C and D. She positioned them in different parts of an electric circuit as shown in diagram 1 and observed if the light bulbs W, X, Y and Z lit up.

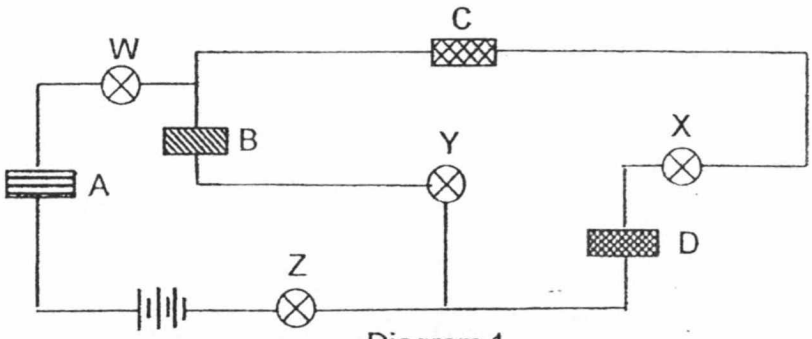


Diagram 1

The table below shows the results.

Bulb(s) lit up	W, Y and Z
Bulb(s) did not light up	X

She then rearranged the four objects in different parts of the electric circuit as shown in diagram 2 below.

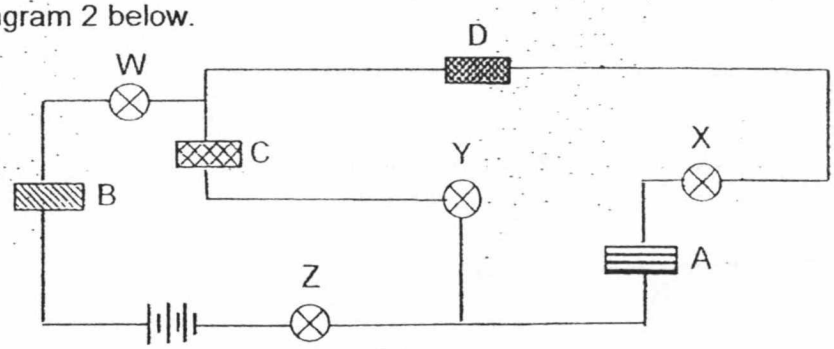


Diagram 2

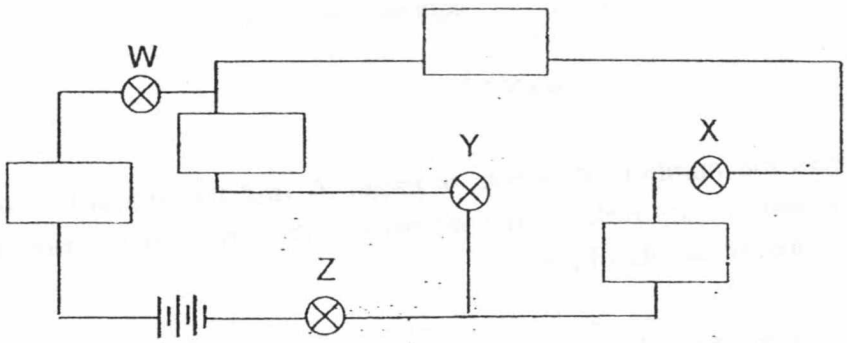
The table below shows the results.

Bulb(s) lit up	W, X and Z
Bulb(s) did not light up	Y

(a) Based on the results of her experiment, what conclusion can Xue Fei draw about the electrical conductivity of materials A, B, C and D? [1]

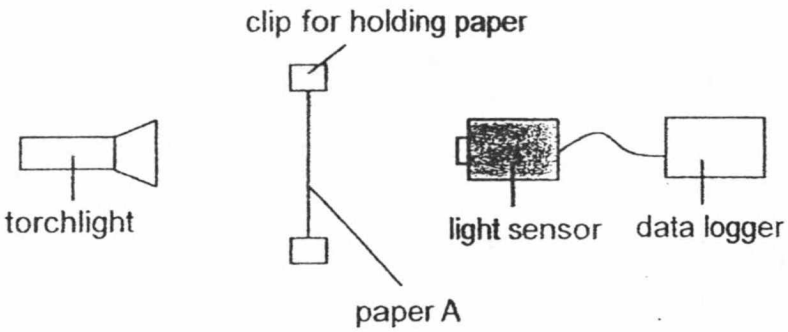
(b) When Xue Fei rearranged materials A, B, C and D the third time on the circuit, she found that **none** of the bulbs light up.

Write in the boxes shown in the circuit below how Xue Fei may have arranged the materials A, B, C and D the third time. [1]



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

40. The diagram below shows a paper counting system made up of a data logger and a light sensor. Paper A is placed at a fixed distance between the light source and the light sensor. Light passing through the paper is measured by the light sensor and the number of sheets of paper A is shown on the data logger.



The table below shows the number of sheets of paper A and the amount of light measured by the light sensor. The data logger will display the word 'error' when it is unable to count the number of sheets of paper.

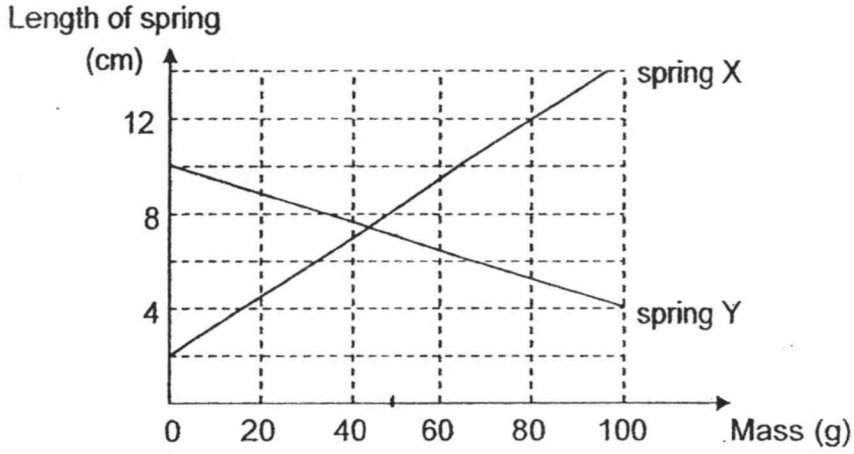
No. of sheets of paper A counted by the data logger	Amount of light measured by the light sensor (lux)
0	120
1	80
3	35
5	10
*error	0

(a) State a property of paper A. [1]

(b) Explain why it is not possible for the data logger to count more than 5 sheets of paper A at a time? [1]

(c) Other than keeping the distance between the light source and the light sensor fixed during counting, state another constant variable such that the counting system is fair. [1]

41. The graphs below show the changes in the length of two springs X and Y, when various weights are attached to them.



(a) From the graph, what will be the extension of spring X when a 50g-weight is attached to the spring? [1]

_____

The diagram below shows a spring balance.

(b) Which spring X or Y is used in the spring balance above? Explain your answer. [2]

_____

_____

(c) For spring Y, what is the relationship between the length of the spring and the mass hung on the spring? [1]

_____

_____

~~ End of Paper ~~

ANSWER KEY

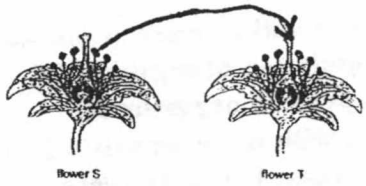
YEAR	:	2018
LEVEL	:	PRIMARY 6
SCHOOL :	:	CHIJ ST NICHOLAS GIRLS'
SUBJECT :	:	SCIENCE
TERM	:	PRELIMINARY EXAMINATION

Booklet A

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

Booklet B

Q29 (a)



(b) **Flower T. Flower T will receive pollen grains on its stigma from the anther of flowers. These pollen grains will travel down the style to the ovary to fuse with the ovules, thus, fertilization would have occurred, enabling flower T to develop into a fruit.**

(c) **Benefit 1:** **The droppings of the bird will enrich the soil that the seeds land on, giving the young plant a better chance to grow.**

Benefit 2: **The seeds in the droppings are dispersed far away from parent plant, preventing competition between parent plant and young for space, water, sunlight and nutrients.**

Q30 (a) **She will observe that more bubbles will be produced by the water plant in tap water compared to the water plant in murky pond water.**

(b) **The tap water allows more light to pass through to reach the water plant so the water plant photosynthesizes more.**

(c) **Variable 1: Amount of water in both set-ups must be the same.**

Variable 2: Number of water plants.

Q31 (a) **The** excessive pesticides may be washed down fo the river by rain and cause water pollution. This will kill the fish in the river.

(b) **The** roots of all the crops will hold the soil together so the soil will not be easily removed thus preventing soil erosion.

Q32 (a) **Organisms H and L. They do not prey on other organisms indicating that they can make their own food.**

(b) **The population of H will decrease. There will be more organism D to feed on organism W, resulting in population of organism W decreasing, with lesser organism W to prey on organism K, population of organism K will increase, with more organism K to prey on organism H, population of organism H will decrease.**

Q33 (a) **Structural adaptation: The patterns on organism P's body helps it to stay unnoticed by its prey.**

Behavioural adaptation: Organism P will get closer to its prey before chasing it since it can only chase it for less than a minute.

(b) **During the half hour that P is resting, P's predators will hunt it down since P cannot move to escape its predators so P will be eaten by its predators.**

(c) **Hunting in groups increases the chances of catching prey compared to only 1 hunting for a group of prey.**

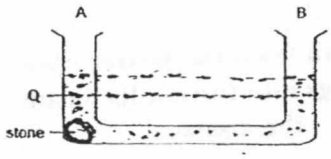
(d) **Predators of the young of organism P may mistake them as organism Q and would not hunt it thus they have a higher chance of survival.**

Q34 (a) **The ice sheets will melt into a lot of water, flooding the seas of different countries.**

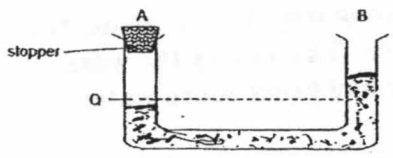
(b) **The sea will be flooded and water will enter the sand pits, washing the turtle eggs away so the eggs may get destroyed and population of turtles will decrease as lesser young survives.**

(c) **Some marine organisms will swallow litter, thinking that it is food and the litter may clog up its respirator system hence the marine organisms cannot respire and thus die.**

Q35 (a)



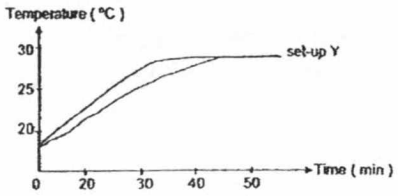
(b)



(c) **The air inside the container could not escape through the opening at A as it was sealed with a stopper. Since air occupies space, the water level was lower at A than B.**

Q36 (a) **To find out if air in the bubble wrap affects temperature of water.**

(b)



(c) **Set-up X. The rate of heat lost from the hot water to the surroundings is slower as the layer of bubble wrap has air in it and air is a poor conductor of heat.**

(d)

Benefit for the people during cold weather	**The warmth inside the house will be transferred at a slower rate to the cooler surrounding outside the house.**

Benefit for the people during hot weather	**Less warmth from the hotter outside surroundings into the cooler inside of the house.**

Q37 (a) **Tray Y is a better conductor of heat than tray X so it conducts heat away from the hot water vapour faster. This causes the water vapour to condense on the tray faster and hence more water is collected in beaker B.**

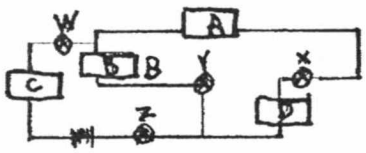
(b) **After 10 minutes, both trays have become hotter due to heat gained from the hot water vapour. Hence the rate of condensation is lower so fewer water droplets are formed.**

Q38 (a) **Gravitational force.**

(b) **X : Gravitational potential energy**
Y : Kinetic energy

Q39 (a) **Materials A, B and D are conductors of electricity while material C is an insulator of electricity.**

(b)



(c) **The circuit is open thus no electricity can flow through the circuit. Hence no bulb will light up.**

Q40 (a) **Translucent**

(b) **There is no light passing through as the paper is too thick.**

(c) **The thickness of each paper used.**

Q41 (a) **6 cm**

(b) **Spring X. The graph shows that spring X stretched as the mass attached to the spring. When a load is attached to the hook of the spring balance, the spring will extend Therefore spring X is used in the spring balance.**

(c) **The longer the length of spring, the lighter the mass hung on the spring.**

End