



**PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATIONS**

**PRIMARY 6
SCIENCE
(BOOKLET A)**

25 AUG 2016

Name: _____

Class: Resilience _____

Total time for Booklets A and B: 1 h 45 min

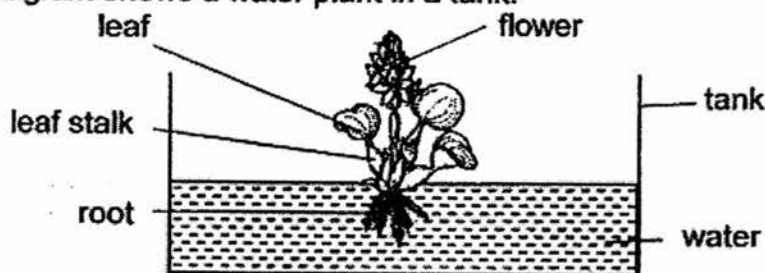
INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.

This booklet consists of 19 printed pages, excluding the cover 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) and shade your answer on the Optical Answer Sheet. (60 marks)

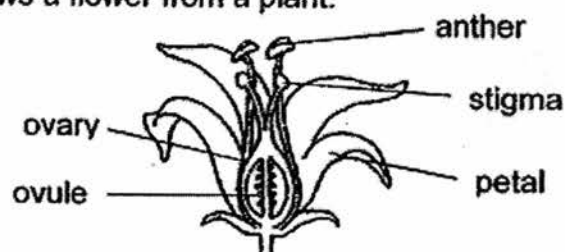
1. The diagram shows a water plant in a tank.



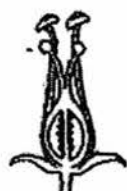
Which of the following is not correct for this plant?

	Part of plant	Function of part
(1)	Leaf	Makes food
(2)	Root	Holds the plant to the soil
(3)	Leaf stalk	Keeps the plant afloat
(4)	Flower	For reproduction

2. The diagram shows a flower from a plant.



The following are three flowers, Flowers T, U and W, from the same plant, with some parts removed. The plant is then left out in the open for a week.



Flower T



Flower U



Flower W

Which of the following flowers will be able to develop into fruits?

- (1) T only
- (2) T and U only
- (3) U and W only
- (4) T, U and W

3. Wendy had to classify the four animals shown below.



Parrot



Dolphin

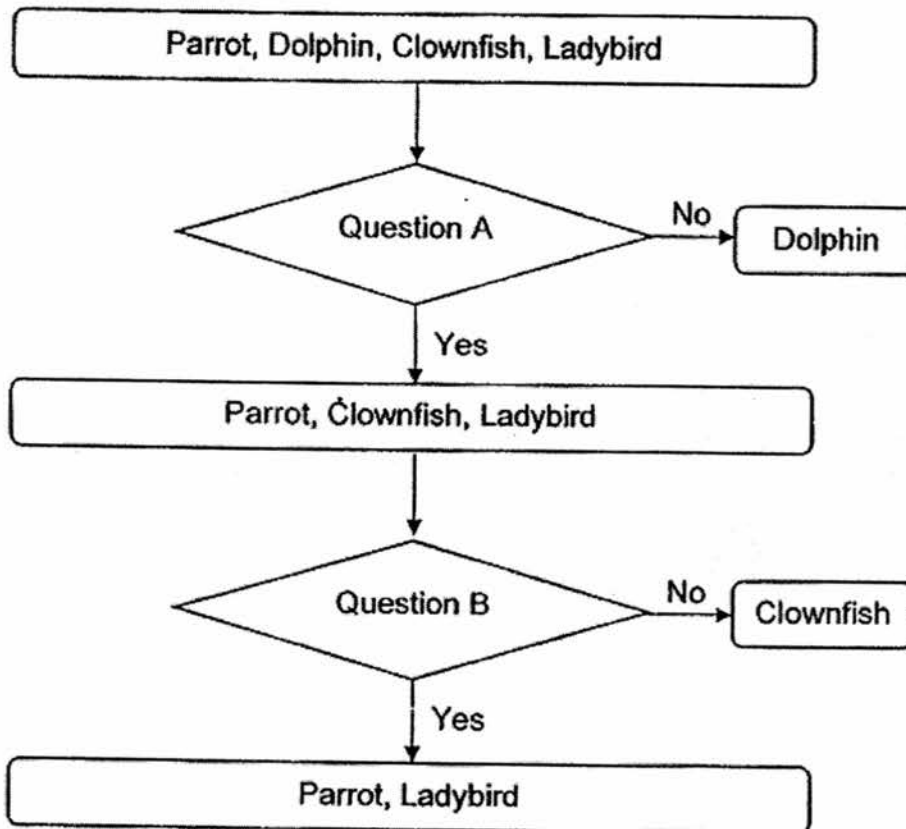


Clownfish



Ladybird

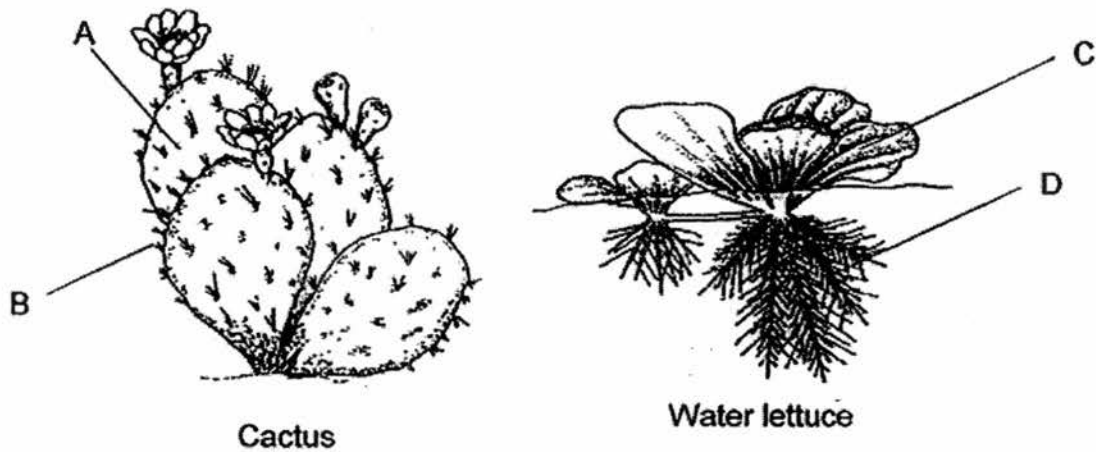
She classified them with the help of the chart below.



What were the two questions?

	Question A	Question B
(1)	Do they feed the young with milk?	Do they lay eggs?
(2)	Do they have wings?	Do they feed the young with milk?
(3)	Do they lay eggs?	Do they have wings?
(4)	Do they have wings?	Do they lay eggs?

4. Study the diagrams of the cactus and water lettuce shown below carefully.

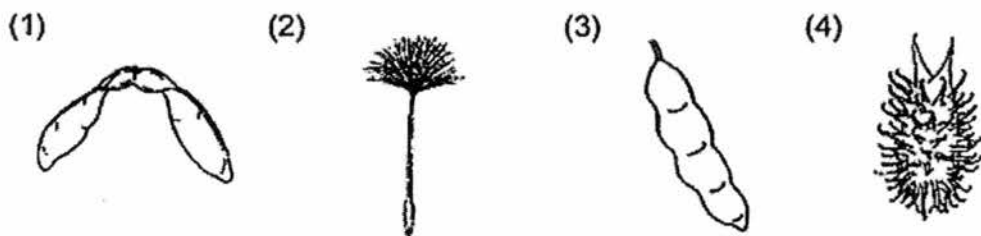


Which two parts of the plants above have the same main function?

- (1) A and C
 - (2) A and D
 - (3) B and C
 - (4) B and D
5. Fluffy the dog loves to play in the garden. Her owner always had to pick out fruits that were stuck on her fur when she comes into the house.



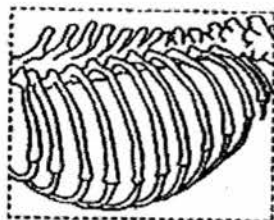
Which one of the fruits would most possibly be found stuck firmly on Fluffy's fur?



6. Scientists found the two parts, K and L, of an animal as shown below.



Part K

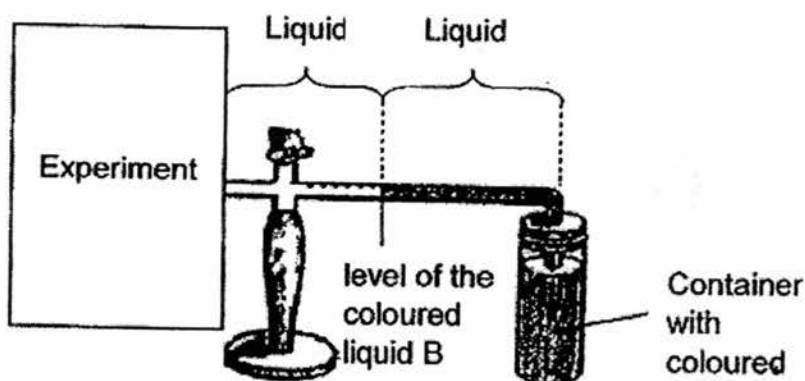


Part L

Based on the diagrams above, what was the likely diet and the breathing method of this animal?

	Diet	Method of breathing
(1)	Meat eater	Lungs
(2)	Meat eater	Gills
(3)	Plant eater	Lungs
(4)	Plant and meat eater	Skin

7. Ali set up 4 experiments of different processes, one at a time, using the set up shown below.

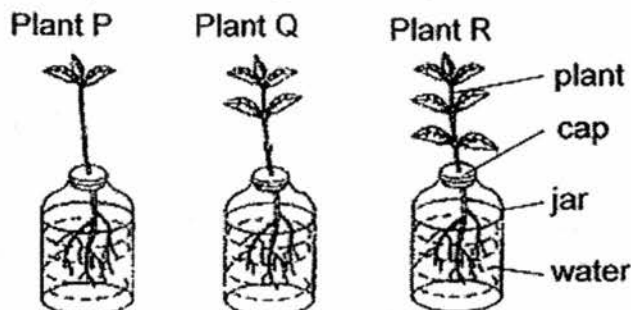


He filled the entire set up with liquid A and B, sealed it air tight with one end of the horizontal tube dipped into a container containing coloured liquid B. On the other end, he attached the set-up to the experiment. He observed that the level of the coloured liquid B will move after some time.

Which of the following would show the result matched to the processes happening in the experiment correctly?

	Direction of the coloured liquid B	Process tested in experiments
(1)	→	Melting
(2)	←	Condensation
(3)	→	Evaporation
(4)	→	Photosynthesis

8. Kumar set up an experiment using 3 similar plants shown below.



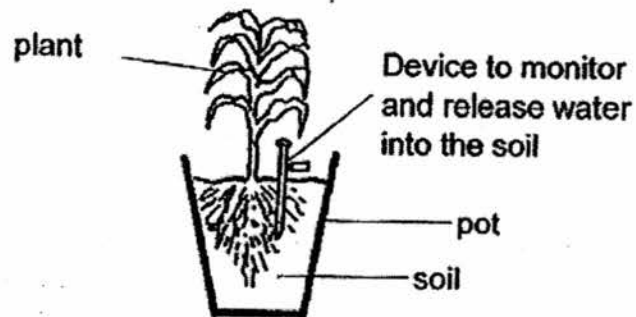
After a few days, he measured the amount of water left in each jar and recorded his results in the table below.

Plants	Amount of water in jar (cm ³)	
	Start of experiment	After a few days
P	200	192
Q	200	180
R	200	149

What can be concluded from this experiment?

- A The presence of leaves affected the amount of water absorbed by the plant.
 - B The number of leaves affected the amount of water absorbed by the plant.
 - C The greater the number of leaves, the less amount of water in the jar.
 - D The amount of water absorbed by the plant will affect the rate of growth of the plant.
- (1) A and D only
 (2) B and C only
 (3) A, B and C only
 (4) A, B, C and D

9. Stanley has a potted plant and a device which monitors the amount of water in the soil. The device releases water when the amount of water in the soil decreases.



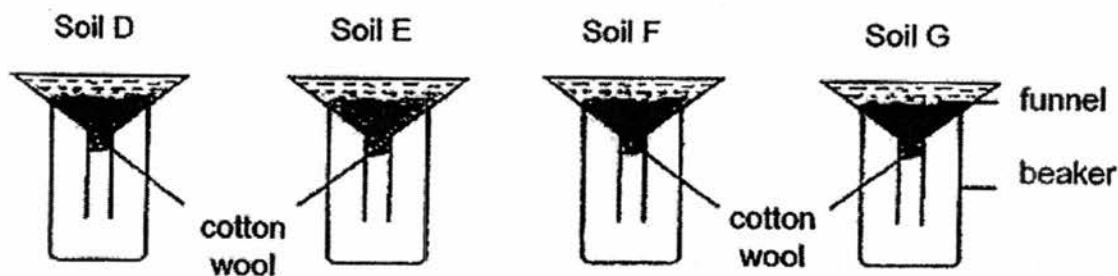
He wanted the water in the device to last as long as possible. So he came up with a few possible solutions:

- A Cover only the plant with a black bag.
- B Place the pot of plant in a shady place.
- C Cover only the pot with a transparent bag.
- D Remove all the roots from the plant.

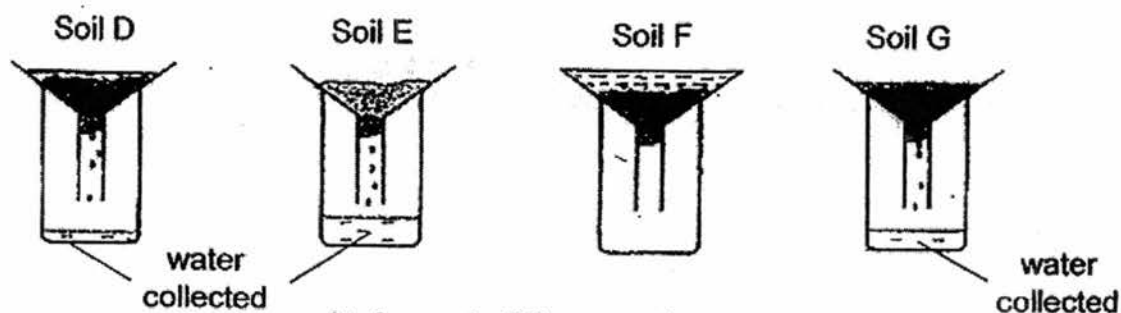
Which two actions stated above could Stanley take to conserve as much water as he could in the device, without killing the plant?

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

10. A farmer wanted to find out how different soils will affect the amount of water passing through. He poured 50ml of water into each soil, D, E, F and G in the set-ups shown below.



At the start of the experiment

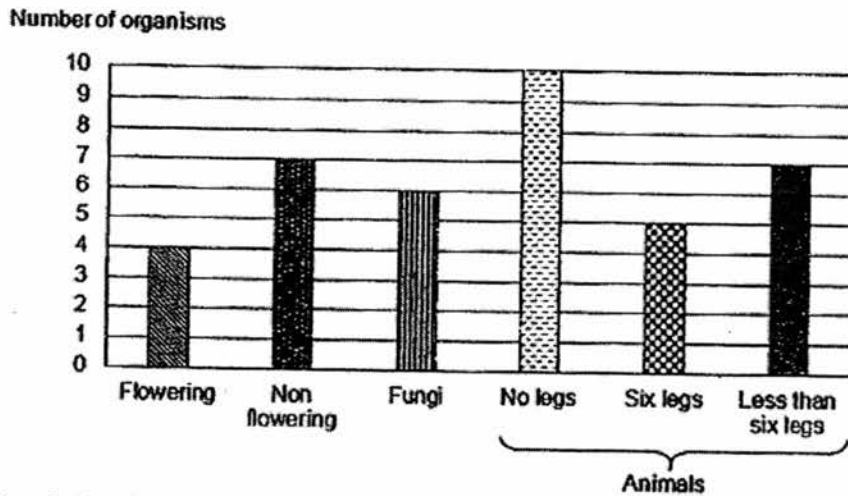


At the end of the experiment

The farmer needs to find soil to put at the bottom of his pond so that he can fill the pond with water. Based on the experiment, which soil should he use?

- (1) Soil D
- (2) Soil E
- (3) Soil F
- (4) Soil G

11. A group of pupils counted the number of organisms found in the school garden. The results are shown below.



Which of the following statements about the organisms in the garden is/are definitely correct?

- A There is only one garden community.
- B There are seventeen populations of plants.
- C There are at least 6 populations of plants and animals.

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

12. Gary found some living things in his garden.



snake



bird



cabbage

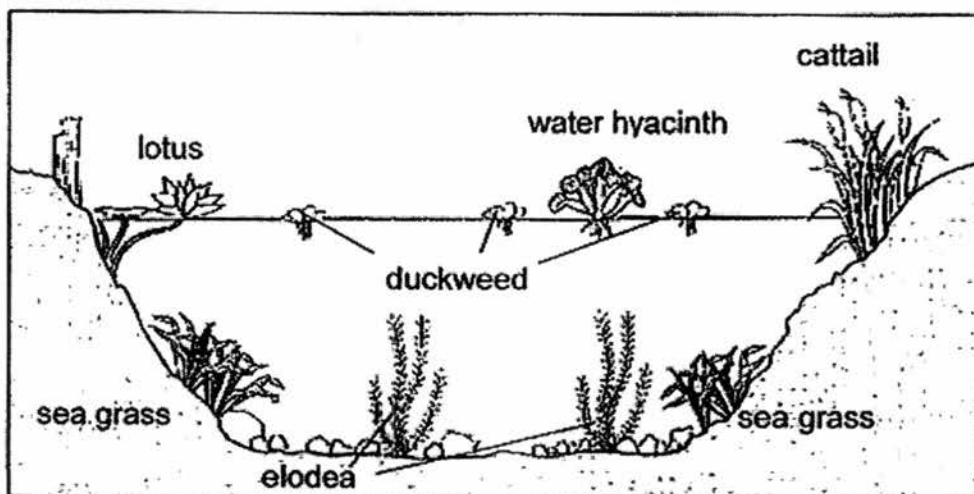


caterpillar

He then drew a food chain about the living things he found in his garden. Which of the following food chains should be correct?

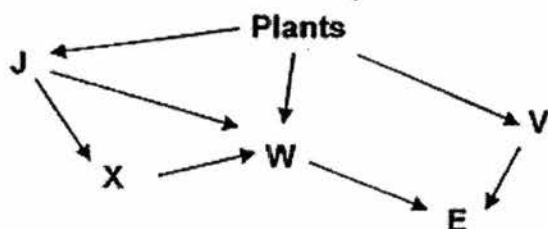
- (1) cabbage $\leftarrow$ caterpillar $\leftarrow$ snake $\leftarrow$ bird
- (2) cabbage $\leftarrow$ snake $\leftarrow$ bird $\leftarrow$ caterpillar
- (3) cabbage $\rightarrow$ caterpillar $\rightarrow$ bird $\rightarrow$ snake
- (4) cabbage $\rightarrow$ bird $\rightarrow$ caterpillar $\rightarrow$ snake

13. The diagram shows plants living in a community.



Based on the diagram above, how many populations of the plants are fully submerged?

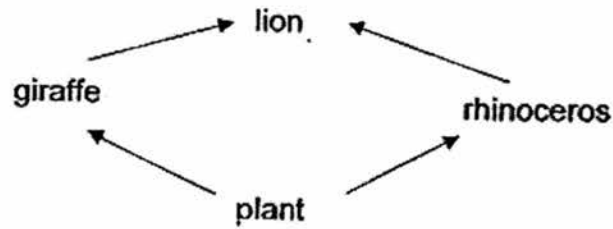
- (1) 2
 - (2) 4
 - (3) 6
 - (4) 10
14. Study the food web below carefully.



Which of the following statements are true?

- A J, V and W eat plants.
 - B X and E are meat eaters.
 - C W is the only plant and meat eaters.
 - D When J increases, E will have more food.
- (1) A and B only
 - (2) C and D only
 - (3) B, C and D only
 - (4) A, B, C and D

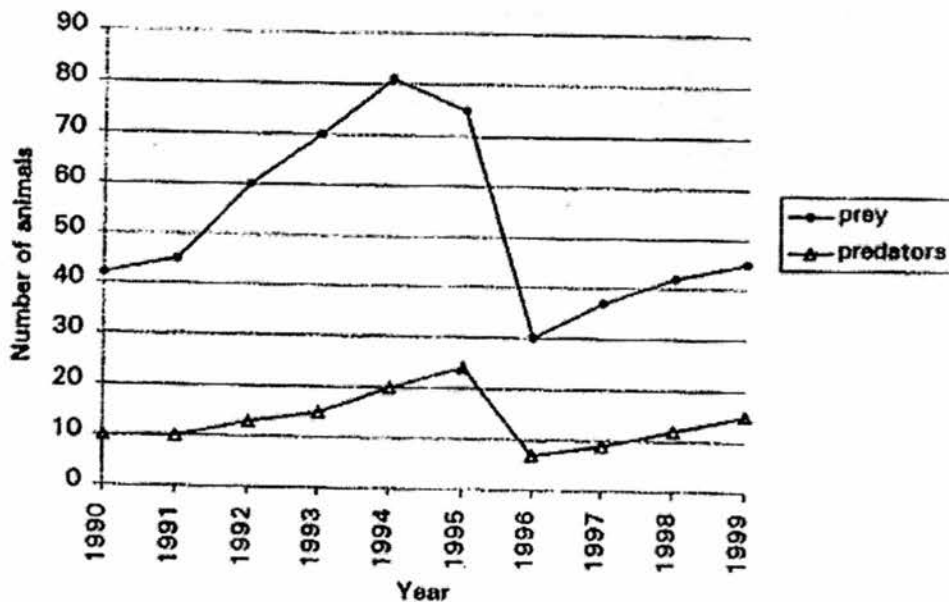
15. The diagram below shows the food web in a community.



Which of the following would be the immediate effect on the number of plants and giraffe if hunters killed most of the rhinoceros in that community and the number of lions remained the same?

	Plant	Giraffe
(1)	Decrease	Increase
(2)	Increase	Increase
(3)	Increase	Decrease
(4)	Decrease	Decrease

16. The graph below shows the number of predators and their prey in a community.



Over these ten years, there was a period with no rainfall at all. This most likely happened from _____.

- (1) 1992 to 1993
- (2) 1994 to 1995
- (3) 1995 to 1996
- (4) 1997 to 1998

17. Large amount of oil spilled into the ocean when an oil tanker crashed with another ship. Which of the following are possible negative impacts to the environment due to the oil spill?

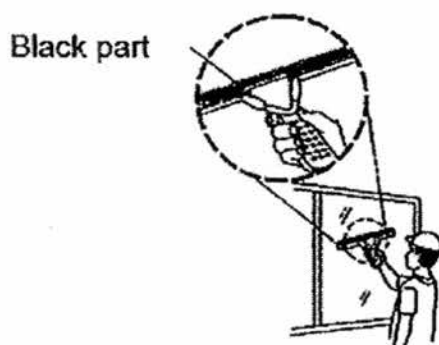
- A Oil spill causes an increase in amount of carbon dioxide.
- B Animals that depend on the sea weeds for food will die.
- C Sea birds can keep warm as their feathers are coated with oil.

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

18. A scratch test was conducted using 4 rods of different materials. When Rod P was used to scratch on Rod Q, no scratches were observed on Rod Q. The rest of the observations are shown in the table below.

Material of rods	Scratch marks observed on rods?			
	P	Q	R	S
P		No	No	Yes
Q	Yes		Yes	Yes
R	Yes	No		Yes
S	No	No	No	

A worker cleans the glass window with a tool as shown in the diagram below.



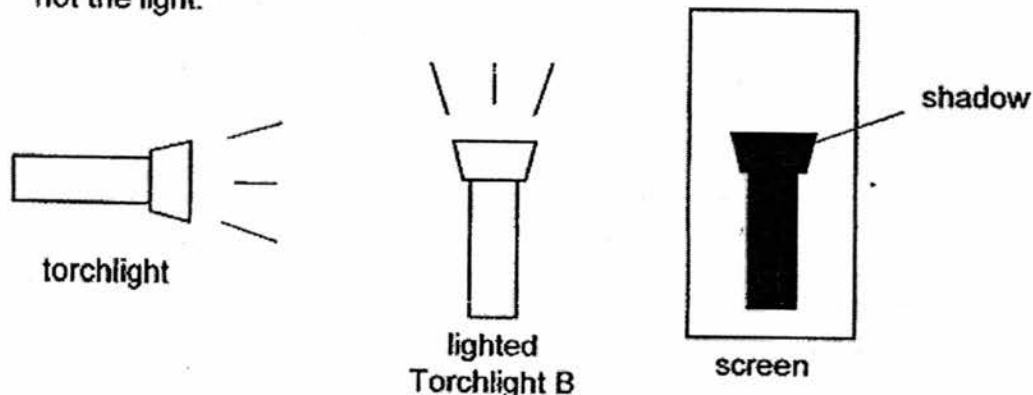
Based on the experiment above, which material should most likely be used to make the "Black part" of the tool?

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

19. Two chairs were left in a cold room for an hour. Melly touched the seats of each chair and found that the seat of Chair Z felt colder than the seat of Chair X.

Which one of the following best explains why her hand felt colder on the seat for Chair Z than the seat of Chair X?

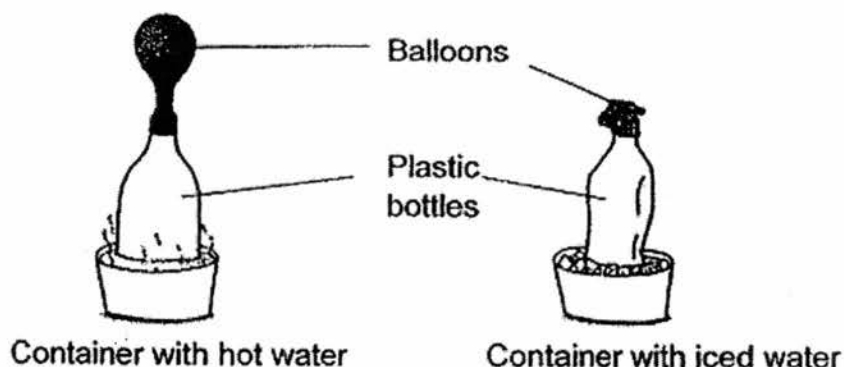
- (1) The seat of Chair Z was thicker than the seat of Chair X.
 - (2) The seat of Chair X was smoother than the seat of Chair
 - (3) The material used to make the seat of Chair Z was a better conductor of heat.
 - (4) There was more heat flowing from her hand to the seat of Chair X than Chair Z.
20. Emma shone a light on a lighted Torchlight B. She noticed the shadow formed on the screen behind the lighted Torchlight B only showed the torchlight but not the light.



Which of the following could be a reason for Emma's observation?

	Torchlight	Light
(1)	Is a matter and does not allow light to pass through	Not a matter
(2)	Is a matter and does not allow light to pass through	Is a matter and allows light to pass through
(3)	Not a matter	Is a matter and allows light to pass through
(4)	Not a matter	Not a matter

21. Zul has two similar balloons stuck to two similar bottles. He placed one of the bottles in hot water and the other bottle in iced water. The diagrams below show what he observed after some time.



Which of the following is correct about the mass and volume of air in the bottles shown in Zul's experiment?

In container of hot water		In container of cold water	
Mass of air	Volume of air	Mass of air	Volume of air
(1) Remained the same	Decrease	Remained the same	Increase
(2) Decrease	Remained the same	Increase	Remained the same
(3) Increase	Increase	Decrease	Decrease
(4) Remained the same	Increase	Remained the same	Decrease

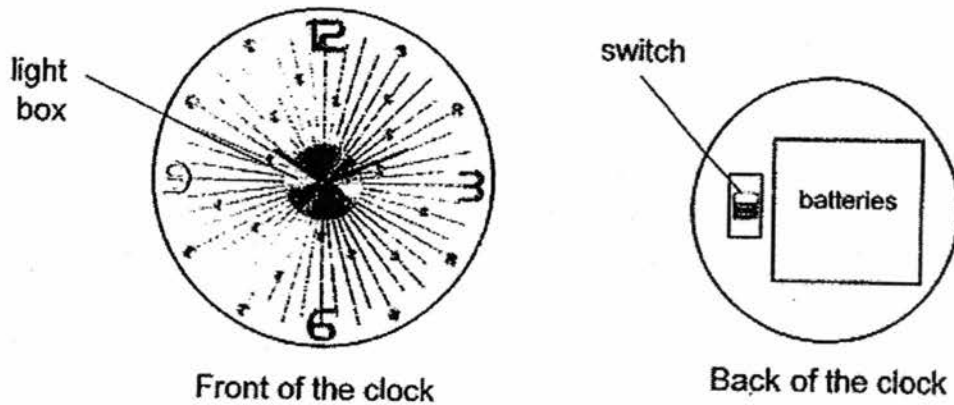
22. The table below shows the boiling point of 3 substances, J, K and L.

Substance	Boiling point (°C)
J	35
K	120
L	75

Based on the information given above, which one of the following is definitely correct?

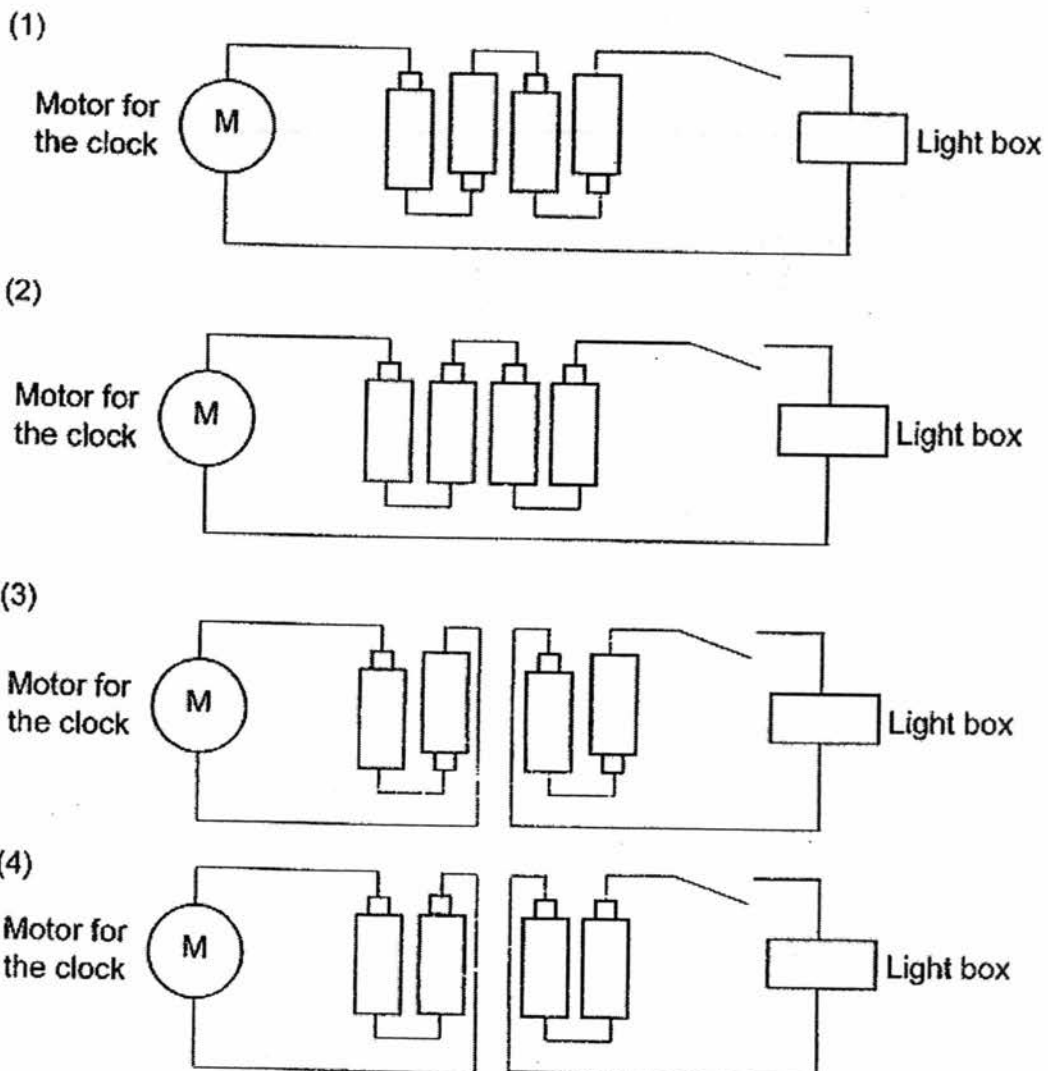
- (1) J is a gas at 38°C.
- (2) K is a liquid at 100°C.
- (3) K and L are both gas at 35°C.
- (4) L can be a solid or a liquid at 75°C.

23. Ah Ling has a clock that works on batteries as shown in the diagram below.

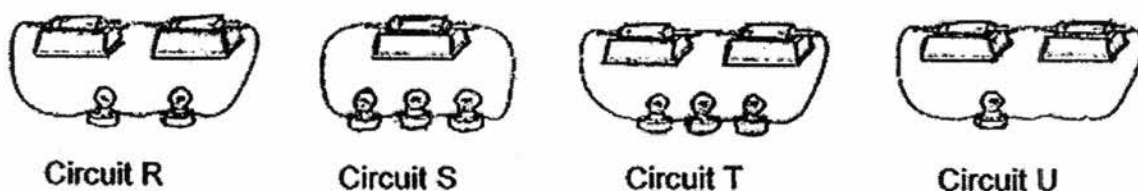


When she put in the 4 batteries needed, the clock moved. When she turned on the switch at the back of the clock, the light box lit up.

Which one of the circuits below is possible?

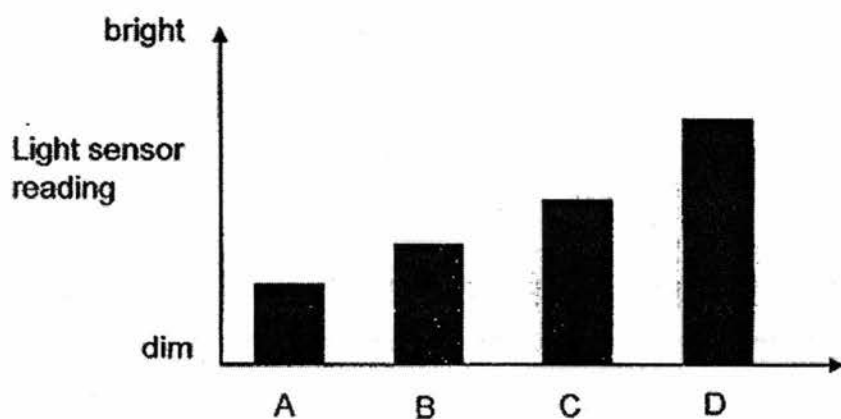


24. Moody made 4 electrical circuits using similar batteries and bulbs as shown.



He used a light sensor to measure the brightness of one of the bulbs in each circuit.

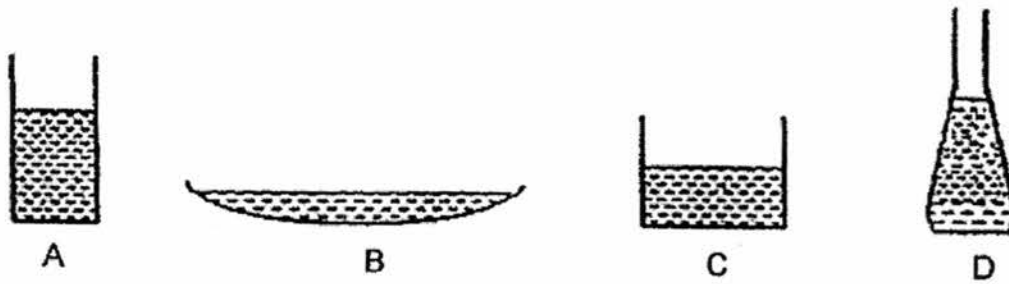
The graph below shows his results.



Which of the following shows the circuit matched to the results correctly?

	A	B	C	D
(1)	Circuit R	Circuit U	Circuit T	Circuit S
(2)	Circuit U	Circuit T	Circuit R	Circuit S
(3)	Circuit S	Circuit T	Circuit R	Circuit U
(4)	Circuit S	Circuit R	Circuit T	Circuit U

25. Ernie has 4 glass containers with the same mass. Each glass container contained the same amount of water and he placed them under the sun.

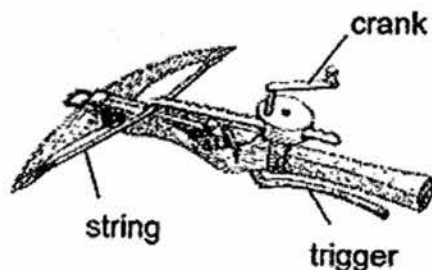


After some time, he placed 2 glass containers at a time on a beam balance.

Which of the following shows the correct observation after some time?

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

26. Mei Mei has a crossbow as shown below.



When she turned the crank, it pulled the string back to put the arrow in place. When she released the trigger, the string is released and the arrow is pushed out by the string.

Which of the following shows the energy conversion in Mei Mei's crossbow from the start to when the arrow is released?

- (1) kinetic energy of the crank $\rightarrow$ potential energy of pulled string $\rightarrow$
kinetic energy of moving string $\rightarrow$ kinetic energy of moving arrow
- (2) potential energy of the crank $\rightarrow$ potential energy of pulled string $\rightarrow$
kinetic energy of moving string $\rightarrow$ kinetic energy of moving arrow
- (3) kinetic energy of crank $\rightarrow$ kinetic energy of pulled string $\rightarrow$
potential energy of moving string $\rightarrow$ potential energy of moving arrow
- (4) potential energy of the crank $\rightarrow$ kinetic energy of pulled string $\rightarrow$
potential energy of moving string $\rightarrow$ potential energy of moving arrow

27. The diagrams show how a catapult works.

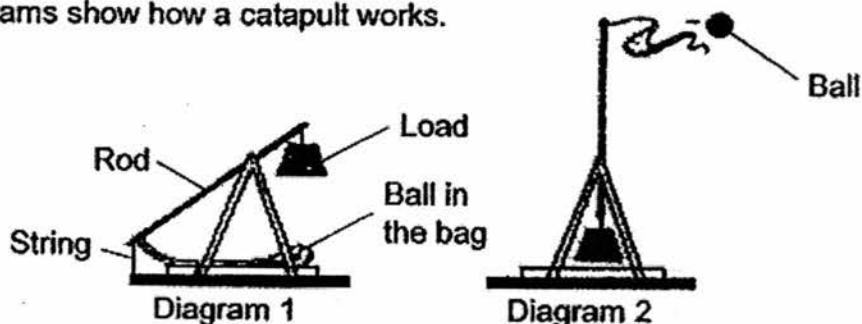
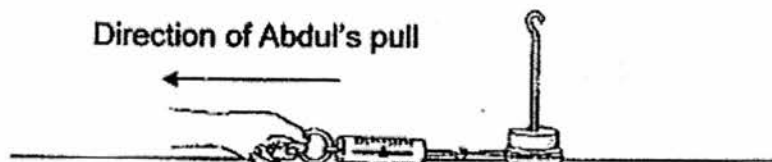


Diagram 1 shows how the catapult is set. When the string is cut, the load moves down and the rod of the catapult swings and the ball in the bag is released as shown in Diagram 2.

Where is the source of the energy in the catapult?

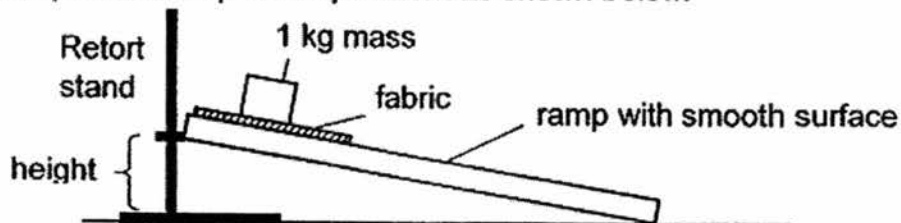
- (1) Load
 - (2) String
 - (3) Ball in the bag
 - (4) Rod of the catapult
28. Abdul stacked some mass on a weight hanger and used a spring balance to pull the weight hanger on a table as shown in the diagram below.



Which of the following shows the correct direction of the force of gravity and friction acting on the weight hanger as Abdul pulls the weight hanger?

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

29. Yanfang wanted to find out if a type of fabric will slip easily on a smooth surface of a ramp. She set up the experiment as shown below.



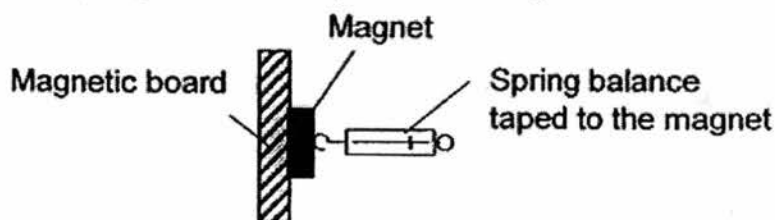
She lifted the ramp until the fabric started to slide down the ramp and recorded the height of the ramp in the table shown below.

Fabric	D	E	F	G
Height of ramp when fabric starts to slide (cm)	11	16	13	8

She wanted to place a bath mat in a bathroom for safety.

Based on her experiment, which fabric should she use to improve safety?

- (1) D
 - (2) E
 - (3) F
 - (4) G
30. Yasmin has 4 magnets. She wanted to measure how much force is needed to pull each magnet away from the magnetic board. The diagram below shows her set-up. The spring balance is taped to the magnet.



She measured the force needed to pull the magnet away for each magnet and recorded her results in the table below.

Magnet	H	J	K	L
Force needed to pull the magnet away (units)	2	10	5	8

Which of the magnet is the strongest?

- (1) H
- (2) J
- (3) K
- (4) L



**PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATIONS**

**PRIMARY 6
SCIENCE
(BOOKLET B)**

25 AUG 2016

Name: _____

Class: Resilience _____

Parent's Signature

Total time for Booklets A and B: 1 h 45 min

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.

Marks (Booklet A) :	60
Marks (Booklet B) :	40
Total Marks (Booklets A & B) :	100

This booklet consists of 16 printed pages, excluding the cover page.

For questions 31 to 44, write your answers in this booklet.

The number of marks available is shown in brackets [] at the end of each question or part question. (40 marks)

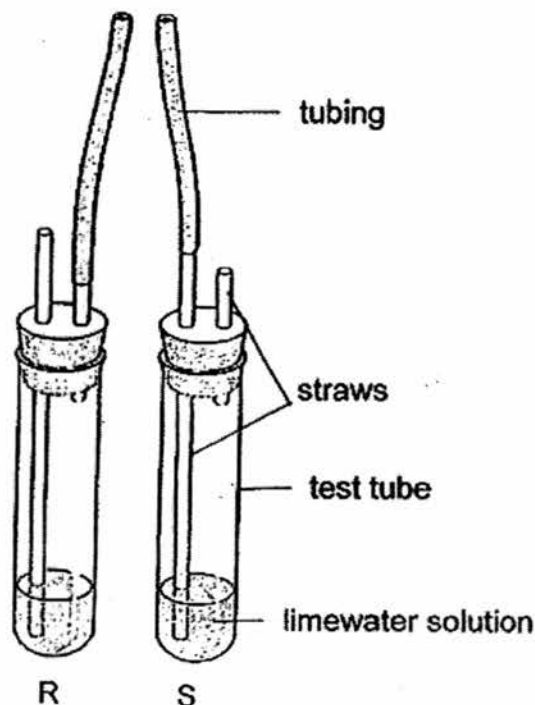
31. The table below shows the amount of available oxygen in the air at different heights above sea level.

Height above sea level (metres)	Amount of available oxygen in the air (%)
0	21
900	18
1800	16
2700	14
3600	13
4500	11
5400	10

- a) Based on the information in the table, how does the height above sea level affect the amount of available oxygen in the air? [1]

- b) As a person goes higher above the sea level, his heart beats faster. Based on the information given above, explain why this is so. [1]

32. Tracy conducted an experiment using 2 similar sealed test tubes, R and S, containing same amounts of limewater solution as shown below.



She placed both ends of the tubings in her mouth and blew air into the tubings for about 15 seconds.

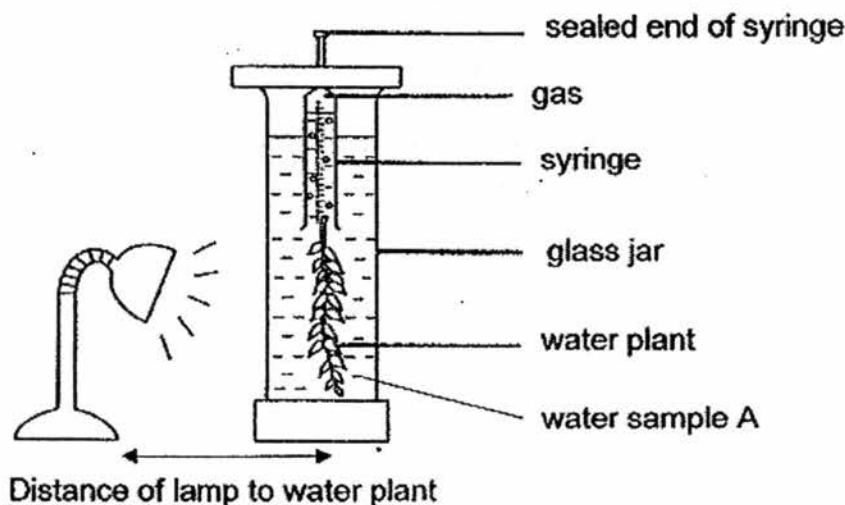
- a) Explain why it is important to use the same thickness of the tubing for both set-ups for her experiment. [1]

- b) She noticed that one of the limewater solution turned chalky faster. Which test tube, R or S, had the limewater solution turned chalky faster? Explain your answer. [1]

33. Rita wanted to find out how polluted water affects the growth of plants. She obtained 3 water samples, A, B and C and measured the amount of light that can pass through the water using a light sensor with a data logger. The results are recorded in the table below.

Water sample	A	B	C
Amount of light pass through (units)	80	50	120

She then placed similar water plants in similar containers containing water from the 3 different sources and shone a table lamp at 20 cm from the water plants. After 1 hour, she measured the amount of gas collected in the syringe.



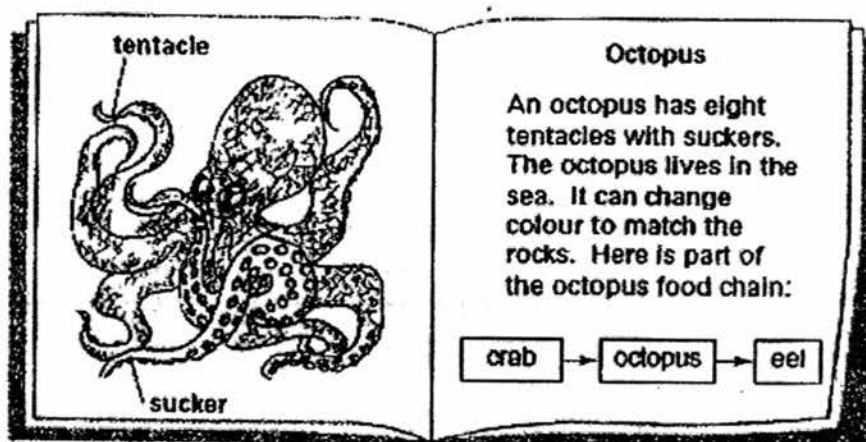
- (a) Based on the results from the first experiment, arrange in order the amount of gas collected in the syringe for the different water samples, starting from the least to the most. [1]

Least
→
 Most

- (b) Describe how Rita should conduct a control experiment to show that polluted water affects the growth of plants. [1]

- (c) Explain how placing the experiment in a dark room helps to make the results of the experiment more accurate. [1]

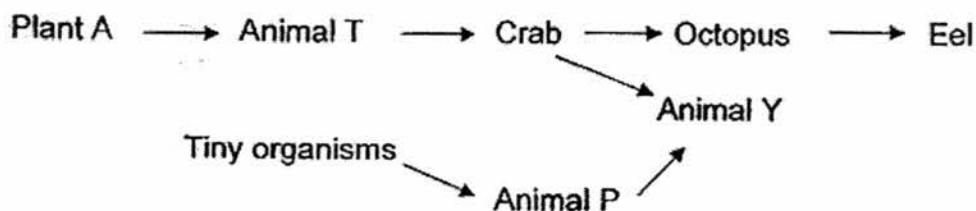
34. Below is the information found in a book on Octopus.



- (a) Based on the information above, state 2 adaptations and explain how that the octopus uses these adaptations to capture prey. [2]

Adaptation	How the octopus use the adaptation to capture prey
i)	
ii)	

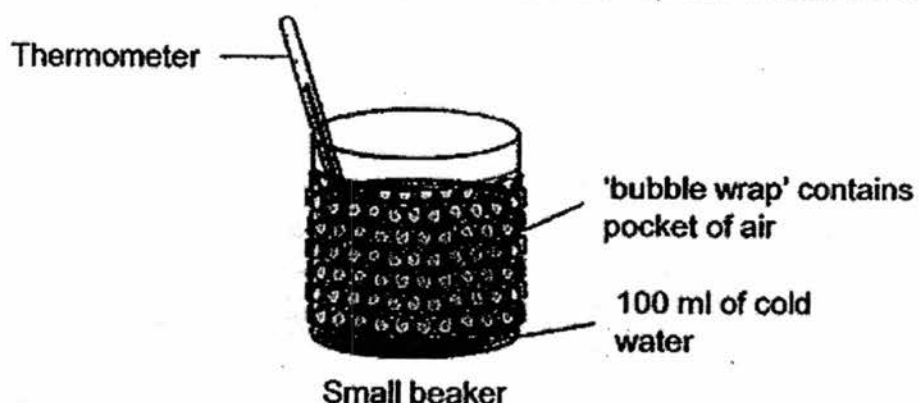
- (b) The crab, octopus and the eel forms part of a food web found in a particular part of the ocean.



A large number of octopus were caught by fishermen. The number of Animal Y remained the same.

How would the population of Animal T change? Explain your answer. [1]

35. Judy wanted to find out how the material, 'bubble wrap', affects the temperature of cold water in the beaker. She set up the beaker as shown



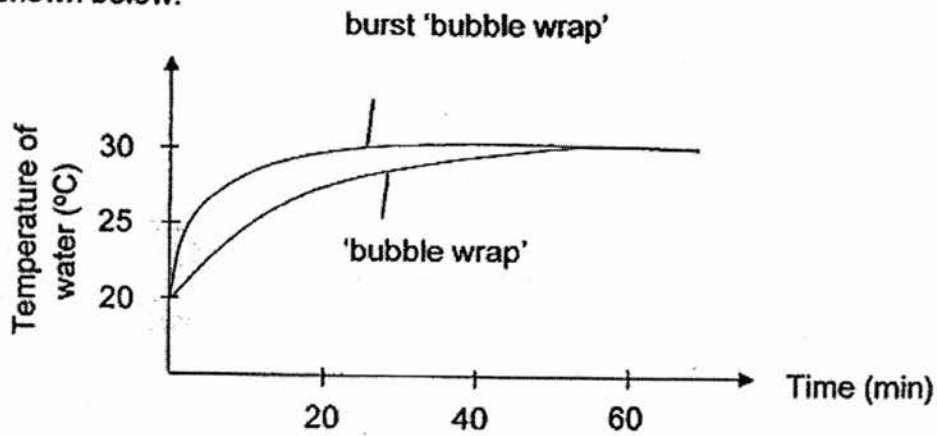
- (a) She needed to set up another beaker, with another bubble wrap. This time, she burst all the bubbles containing the pockets of air in the bubble wrap before using it to wrap the 2nd beaker. Put a tick (✓) to show which factors she should keep the same or change, to set up the second beaker.

[1]

Factors	Change	Keep the same
Amount of water		
Material of beaker		
Temperature of water		
Size of beaker		

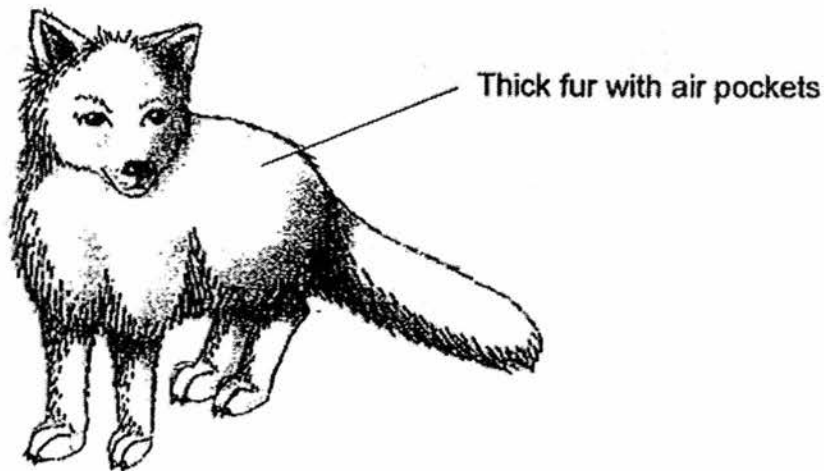
Question 35 continues on page 6

- (b) Judy recorded the temperature of the water over time in the graph shown below.



Based on Judy's results, what can she conclude about the pockets of air in the bubble wrap? Explain your answer. [1]

- (c) An animal that lives in a very cold place most of the year has thick fur as its body covering.



Based on the results of Judy's experiment, explain how the air pockets in the thick fur keep the animal warm in the cold habitat. [1]

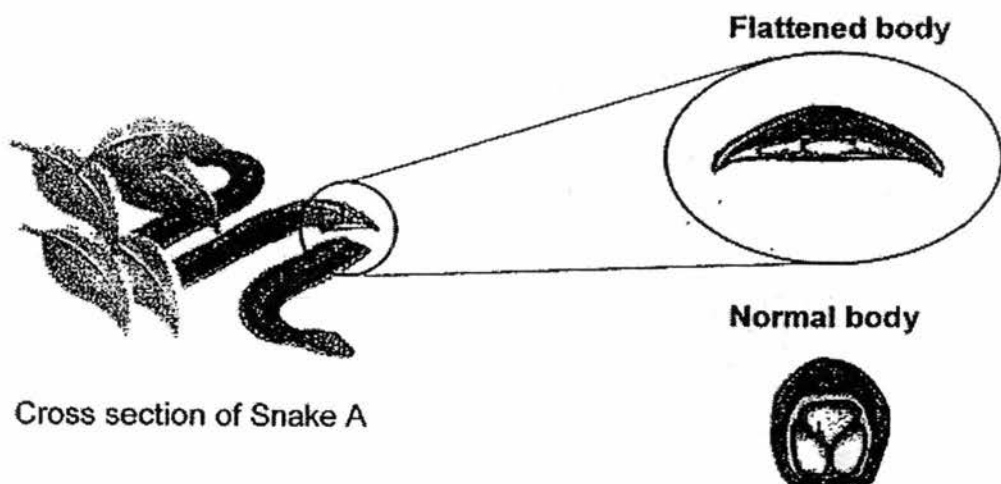
36. Micah made 2 sails for his boats out of paper. He used a fan to blow the boats in a big tub of water.



He realised that the big sail made his boat go faster.

- (a) Explain, in terms of force, why the big sail made his boat go faster. [1]

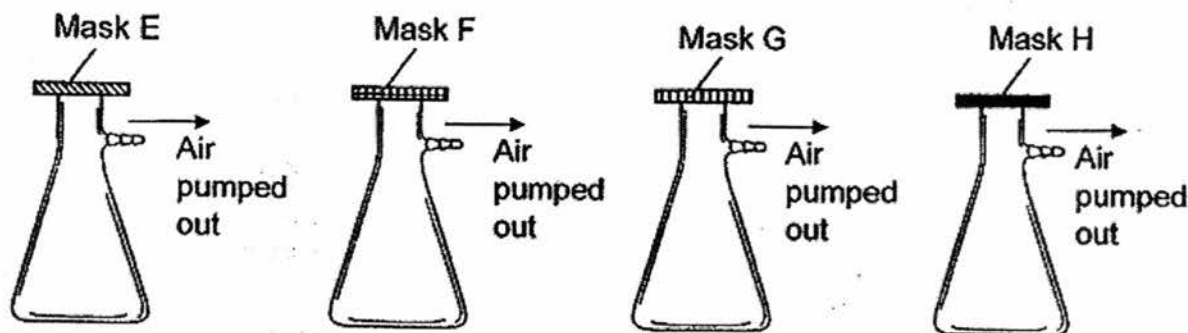
Snake A can "fly" from one place to another by flattening its body.



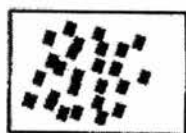
- (b) Based on Micah's experiment, explain how the flattened body help Snake A move from tree to tree in the forest. [1]

- (c) State another advantage of having such adaptation for Snake A to move in forests. [1]

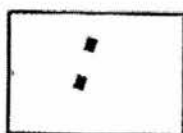
37. Deforestation by burning the trees causes haze that is hazardous to human health. Siti wanted to find out which type of masks can protect the human respiratory system best. She set up the following experiment using 4 types of masks and similar flasks.



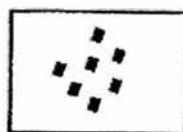
She placed the 4 flasks outdoors during the haze period and pumped out air from each of the flasks for 30 minutes. She then removed the masks and observed the amount of particles on each of the masks. She drew her observations shown below.



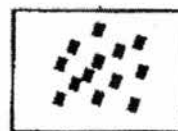
Mask E



Mask F



Mask G



Mask H

- (a) Based on Siti's experiment, which mask should she use to protect herself from the particles in the haze? Give a reason for your answer. [1]

- (b) Explain how placing the 4 flasks outdoors during non-hazy days as compared to hazy days would make the results less accurate. [1]

Question 37 continues on page 9

- (c) Deforestation causes other negative effects on the environment other than air pollution. State 2 other effects of deforestation and explain how deforestation caused these. [2]

	Effects of deforestation	How deforestation caused this effect
(i)		
(ii)		

38. Muthu wanted to make a steel rod into a temporary magnet using electricity. He found the following items in the laboratory:

- 1 Coiled wire
- 2 Batteries
- Some wires
- 1 Light bulb
- 1 Steel rod

- a) He wanted to make sure that electricity was flowing through the circuit when making the temporary magnet.

Using only the above items, complete the diagram below, using **electrical symbols**, to show how Muthu should set up the items.

The coiled wire has been drawn for you.

[1]

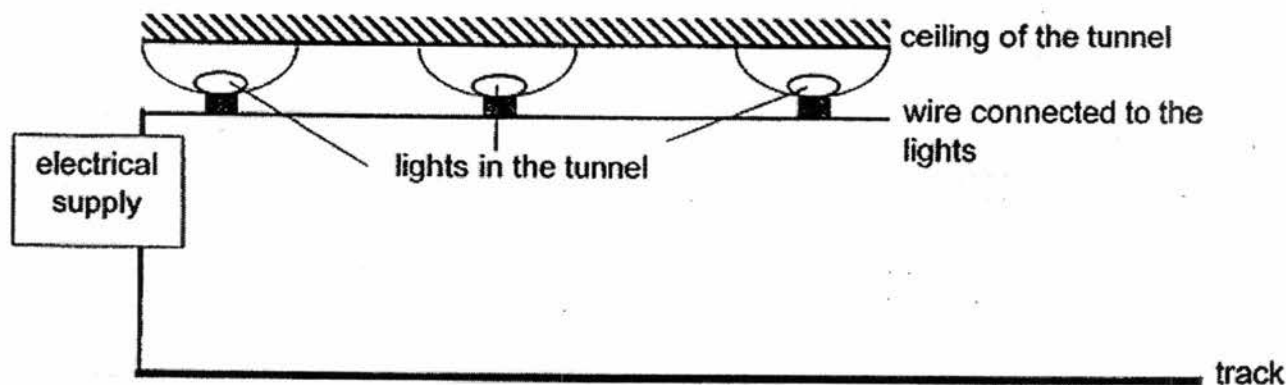


Coiled wire

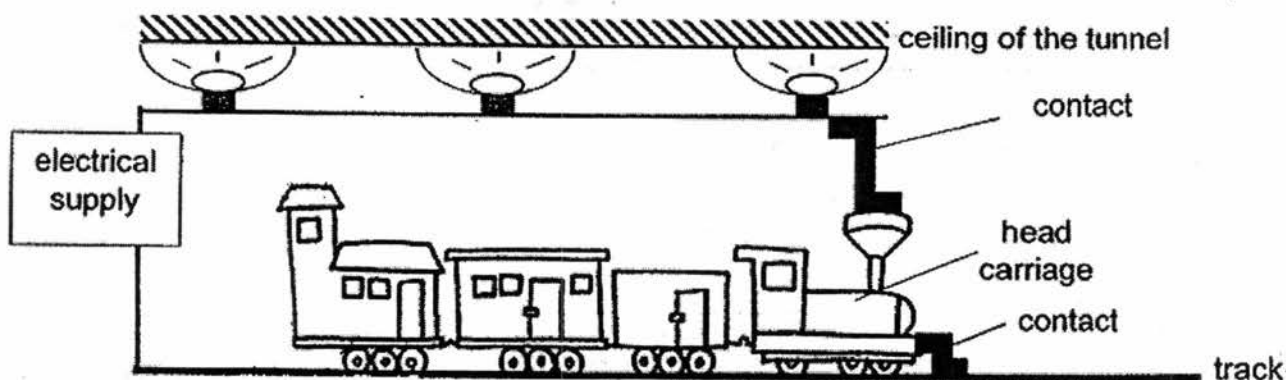
- b) Muthu made another temporary magnet using the same method but this time he used a thicker steel rod. Describe what he should do to find out which magnet was stronger.

[2]

39. Karen has a battery-operated toy train system. The lights in the ceiling of the tunnel will only light up when the train goes into the tunnel. The lights will then go off when the head carriage leaves the tunnel.



Tunnel without the train



Tunnel with the train

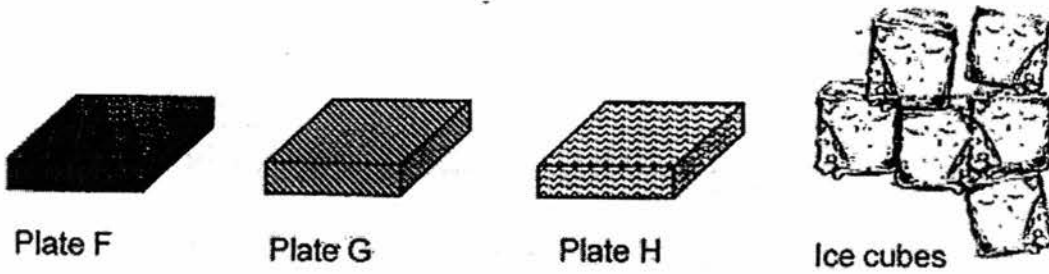
The contacts are attached to the head carriage of the train and they can move along the ceiling and the track.

- a) Explain how the lights in the tunnel turn on when the train is at the position as shown in the picture [1]

- b) Karen realised that when the head carriage left the tunnel, the lights went out. She wanted to have the lights in the tunnel to be lit until the last carriage leaves the tunnel.

Draw and label 2 contact lines on the train diagram above, to show where Karen should put 2 more contacts so that the lights in the tunnel will light up until the last carriage leaves. [1]

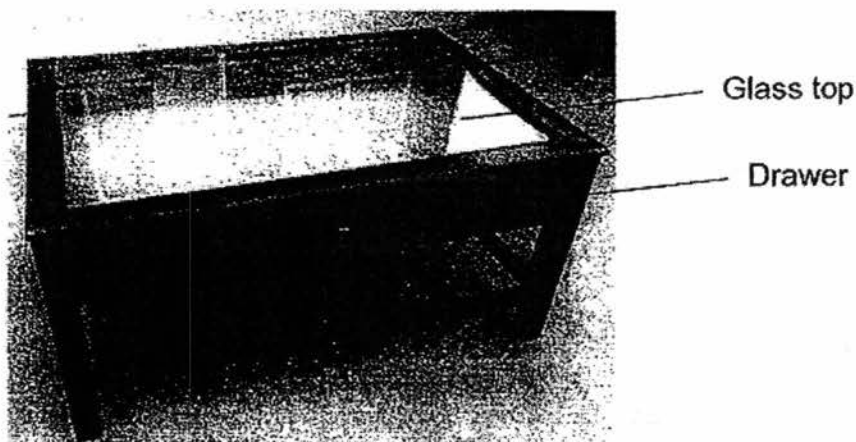
40. Ginny has 3 similar looking plates, Plates F, G and H. She wanted to find out which plate is the best conductor of heat. She only has 6 ice cubes and the 3 plates.



- (a) Using only the materials given above, describe how she can find out which plate is the best conductor. [2]

- (b) After the experiment, she realised that the plate that is the best conductor of heat also felt the coldest when she touched it. Explain why the plate felt the coldest. [1]

41. Collin has a coffee table with a drawer and a glass top as shown below.



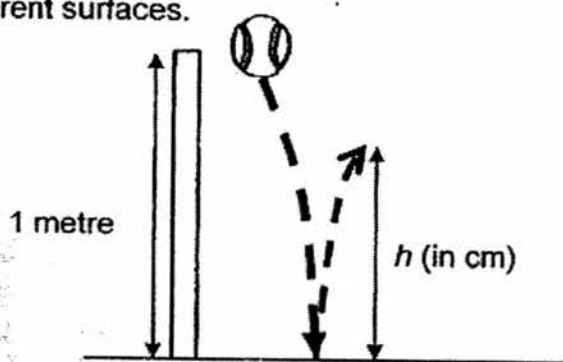
Every time he placed a bottle of cold drink on the glass top, he noticed that water droplets were formed on the inner surface of the glass top, right where he had left the bottle of cold drink.

- a) Explain how the water droplets were formed. [2]

- b) He did not want to have the water droplets ~~form~~ on the inner surface of the glass top. So, he put some Substance S in the drawer. After he had done so, no more water droplets were formed even when he placed bottles of cold drink on it.

Based on Collin's observation, state the function of Substance S. [1]

42. Some children conducted an experiment to find out how high a tennis ball bounce on different surfaces.



They dropped a tennis ball from a height of 1 metre each time and measured how high the ball bounced on the different surface. They recorded their results in the table below:

Surface	Grass	Concrete	Clay	Carpet
Height the ball bounced, h (cm)	40	61	47	35

- (a) Why did the children drop the ball from the same height each time? [1]

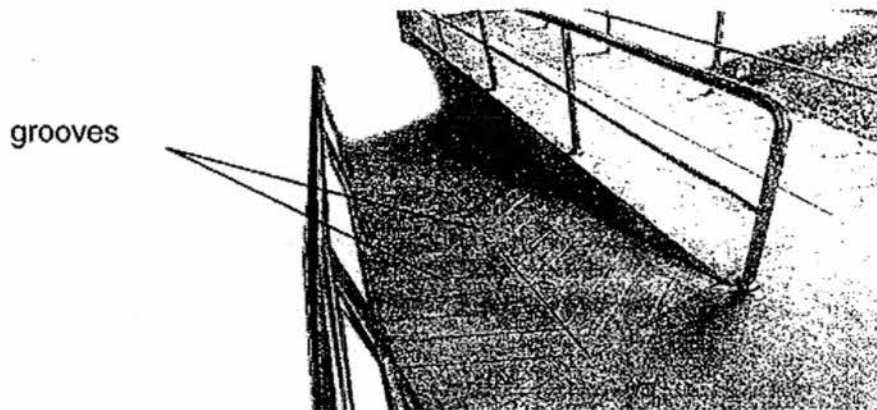
The children then conducted a second experiment. They recorded the height the same ball bounced when dropped from different heights onto the same surface.

Height the ball was dropped (cm)	50	100	150	200
Height the ball bounced (cm)	32	63	88	120

- (b) Using the results from the 2 experiments, suggest which surface, ^{grass}grass, concrete, clay or carpet, the children used for their second experiment. [1]

- (c) What is the relationship between the height the ball was dropped and the height of the ball bounced? [1]

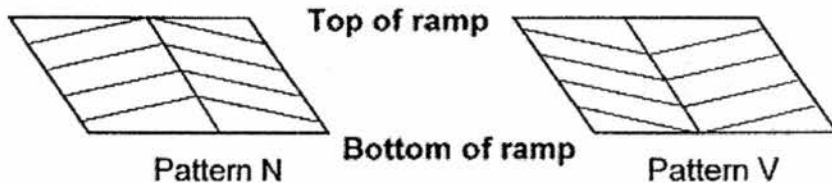
43. Ali stood at the top of a ramp for wheelchairs. He noticed that the surface of the ramp had grooves as shown in the diagram below.



He also noticed that whenever it rains, the water on the ramp runs off along these grooves on the ramp.

- a) Explain how this make the ramp safer for the people with wheelchairs during rainy days. [1]

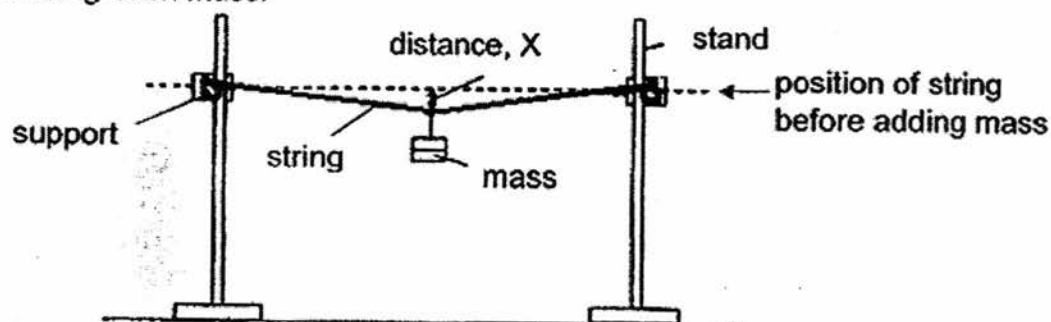
- b) There are two pattern designs for the ramps, Pattern N and Pattern V, as shown below.



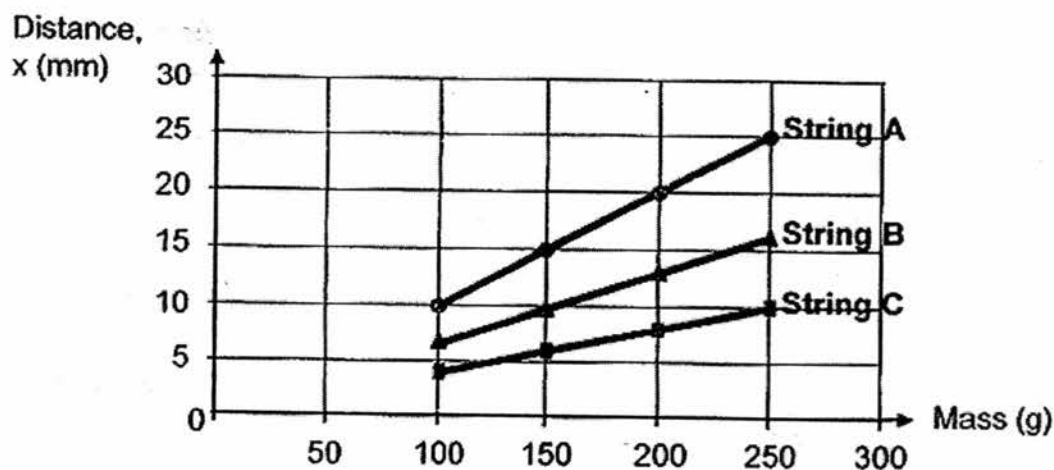
Why is Pattern N a better design than Pattern V for people with wheelchairs using the ramp on rainy days? [1]

- c) Other than allowing water to drain off faster on the surface of the ramp, explain why it is necessary to have grooves on the ramp, especially on very hot days. [1]

44. Yuhao carried out an experiment to find out a property of 3 strings, Strings A, B and C, which are made of different materials. For each string, he used the set-up shown below. He measured the distance, X , at the middle of the string after adding each mass.



He repeated the experiment using Strings B and C and recorded his results shown below.



- (a) What was the distance, X , for String A before any mass was added? [1]
- _____
- (b) In order for Yuhao to conduct a fair test, state two variables of the strings he has to fix for the experiment. [1]
- _____
- (c) Based on the results of Yuhao's experiment, what can he conclude about how distance, X , changes with the mass in string A compared to that in string C? [1]
- _____

End of paper

SCHOOL : PEI HWA PREBYTERIAN PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : Preliminary Examination

CONTACT :

BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	2	3	1	4	1	1	2	3	3

Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	3	1	4	3	3	2	4	3	1

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

BOOKLET B

31 a) The higher the height above sea level, the lesser the amount of available oxygen in the air.

b) The heart needs to beat faster to deliver more blood so more/enough oxygen is given to the body.

32 a) So that the same amount of air can go in in a breath.

b) As the exhaled air rich in carbon dioxide enter the lime water, turning limewater chalky faster, but R will not directly enter the limewater.

33 a) B A C

b) She should use clear water with the light placed 20 cm away from the setup and measure the amount of gas collected in the syringe after one hour.

c) it ensures that the only light source for the plants to produce gas is from the lamp.

34 a) i) It changes colour to match rocks

Prey cannot see the octopus

ii) It has suckers

Prey that are caught cannot escape.

b) It will decrease with less octopus to eat crabs. With less octopus to eat crabs, crabs will increase and eat more of animal T.

35 a) All 'keep the same'

b) The pocket of air is a poor conductor of heat and so conducting heat slower from the surrounding to the water.

c) The pocket of air is a poor conductor of heat and slows down heat transfer from the animal to the surrounding.

36 a) Big sail has more surface area to trap more air, creating a greater push force to move the boat forward faster.

b) The body makes the snake to glide in the air for a longer time.

c) Avoiding predators from the ground.

37 a) E. E traps the most haze particles and protects her lungs.

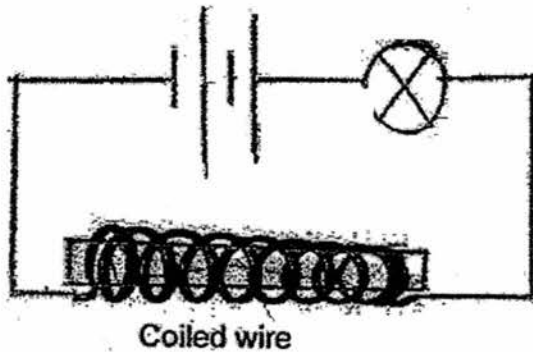
b) On non hazy days, there are less haze particles in the air, so no results can be collected.

c) i) Global warming. There are less trees to absorb carbon dioxide in the atmosphere, so global warming occurs.

ii) More land slides. There are less trees to hold the soil in place, so the soil get washed away when rain comes.

iii) Loss of habitats. There are less trees, resulting in less food, homes/shelters.

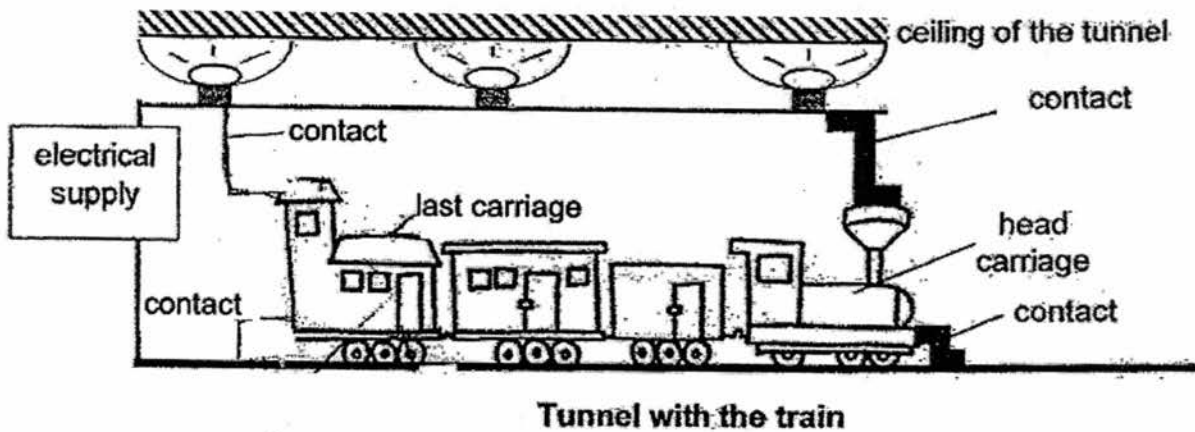
38 a)



b) Put the 2 magnets the same distance away from some magnetic materials. The magnet which attracted more magnetic material is a stronger magnet.

39 a) The contacts allow electricity to flow, closing the circuit and electricity flows through the lights.

b)



40 a) She can put 2 ice cubes in each plate and put them in the same location, and find out which ice cube in the plate melts the fastest. The one that melts the fastest is the best conductor of heat.

b) Heat was conducted away from her hand the fastest causing it to feel the coldest.

41 a) The cold drinks make the surface of the glass cold so water vapour in the drawer condensed on the cooler surface of the glass, causing water droplets to form.

b) It absorbs water vapour.

42 a) It ensures that gravitational potential energy is the same.

b) Concrete

c) The higher the height the ball was dropped, the higher the ball bounced.

43 a) There will be less water on the ramp, increasing friction and making it safer.

b) Water will flow down the sides allowing more water to flow off, making it less slippery.

c) So that the ramp can expand and will not crack.

44 a) 0mm

b) The string should be of the same thickness and length.

c) String A stretched more than String C on the same mass.