NANYANG PRIMARY SCHOOL

PRIMARY 6 SCIENCE

PRELIMINARY EXAMINATION
2020

BOOKLET A

Date : 21st August 2020

Duration : 1 h 45 min

Name : _____ ( )

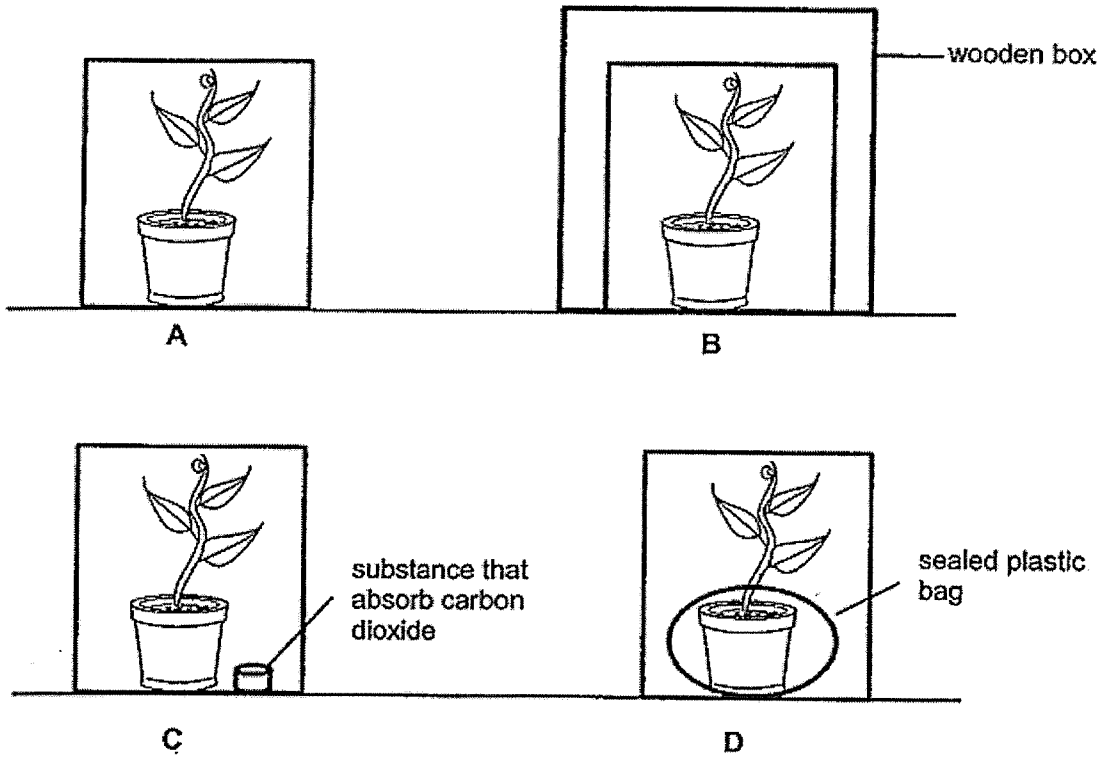
Class: Primary 6 ( )

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 19 printed pages including this cover page.

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). **Identify and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

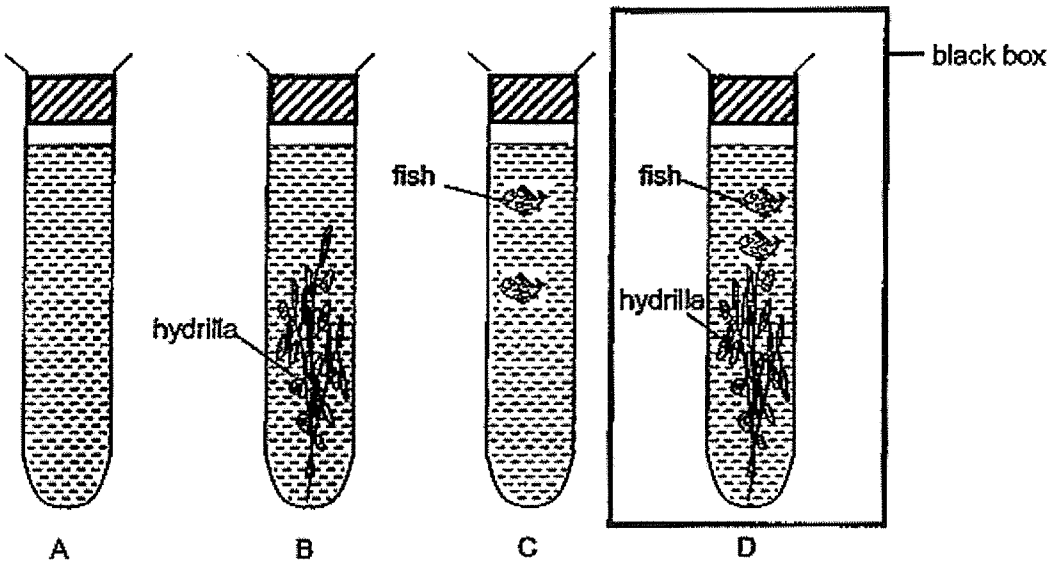
1. June wanted to find out how the presence of carbon dioxide affects the rate of photosynthesis. She placed four identical pots of plants in the garden under bright sunlight as shown in the diagram below.



Which set-ups should June use to conduct her experiment?

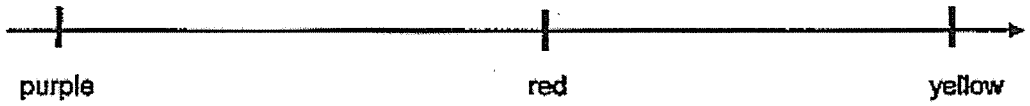
(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

2. Jane carried out an experiment using some fishes and hydrilla plants. A stopper was placed at the opening of each test tube



Jane then placed 5 ml of solution X into each test tube. The colour of solution X changes in the presence of different amounts of carbon dioxide as shown below.

Increasing amount of carbon dioxide

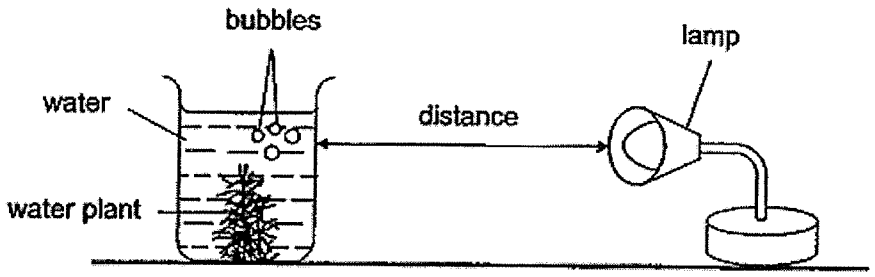


All the set-ups were left in the sun for 3 hours while set-up D was placed in a black box for the same duration. At the start of the experiment, the colour of solution X in each test tube was red.

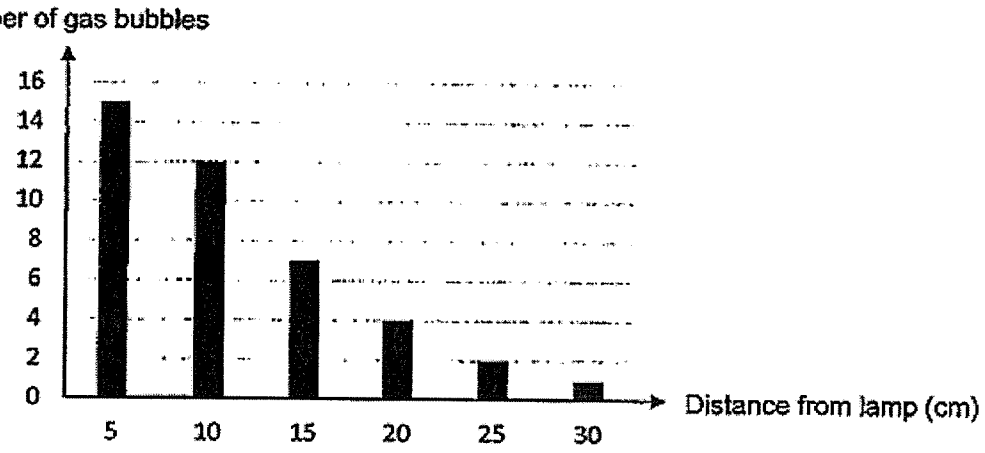
Which of the following shows the most likely results in each tube after 3 hours?

	Colour of solution X after 3 hours			
	A	B	C	D
(1)	red	yellow	purple	red
(2)	purple	purple	yellow	red
(3)	red	purple	yellow	yellow
(4)	purple	yellow	purple	yellow

3. Kandis set up an experiment as shown in the diagram below.



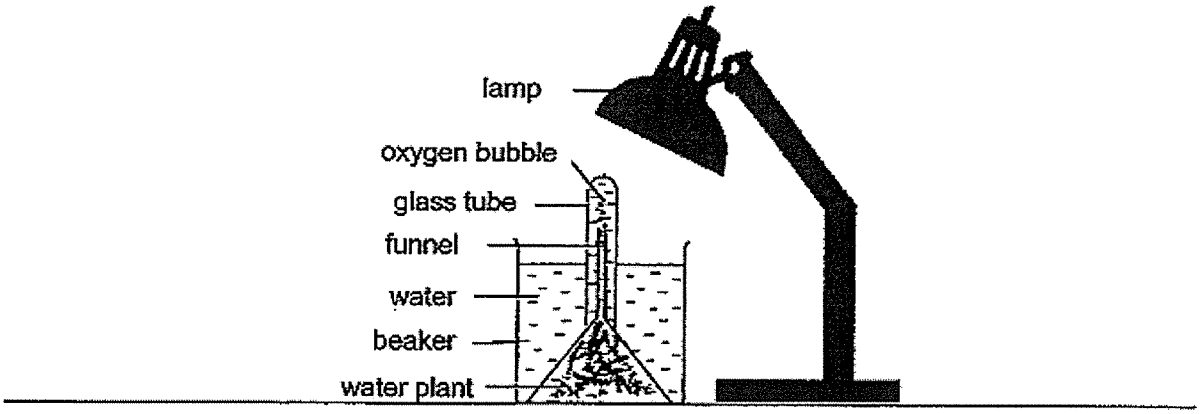
The graph below shows his results.



Based on the above results, which one of the following is the correct conclusion?

(1) The higher the rate of photosynthesis, the lower the intensity of light.
(2) The higher the rate of photosynthesis, the higher the intensity of light.
(3) The higher the intensity of light, the lower the rate of photosynthesis.
(4) The higher the intensity of light, the higher the rate of photosynthesis.

4. Linda set up an experiment as shown in the diagram below.

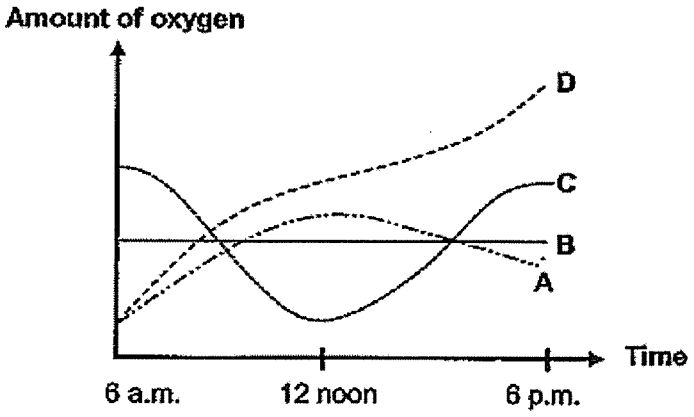


She counted the number of oxygen bubbles produced by the water plant per minute with varying levels of light intensity and her results are shown in table below.

Intensity of light (units)	Number of oxygen bubbles produced
0	0
50	12
100	26
150	40
200	55

The above setup without the lamp was then placed in an open field on a clear day.

Based on the above experiment, which one of the following graphs, A, B, C or D, would represent the amount of oxygen produced from 6.00 a.m. to 6.00 p.m.?



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

5. Figures 1 and 2 below show the reproductive parts of a flowering plant and a female human respectively.

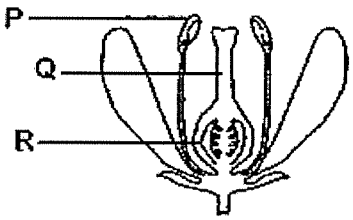


Figure 1

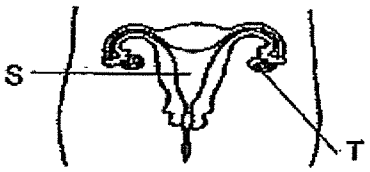
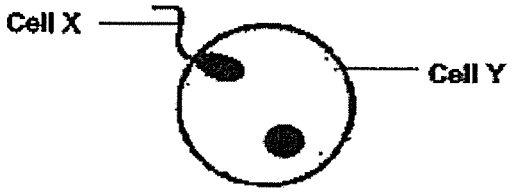


Figure 2

Which two reproductive parts have similar functions?

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

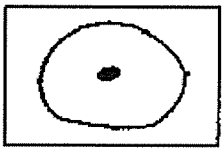
6. The diagram below shows human reproductive cells, X and Y, undergoing a process during human reproduction.



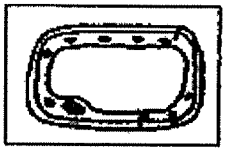
Which one of the following statements is incorrect?

(1) The above process takes place before the baby develops.
(2) The human reproductive cells above are undergoing fertilisation.
(3) Cell X is produced in the testes while Cell Y is produced in the ovaries.
(4) Cell X is a female reproductive cell and Cell Y is a male reproductive cell.

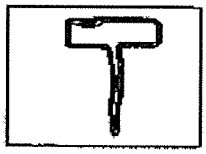
7. The diagram below shows Cells A, B and C.



Cell A



Cell B



Cell C

Which one of the following statements best describes Cells A, B and C?

(1) All the cells above have a cell wall.
(2) All the cells above can make their own food.
(3) All the cells above are taken from at least two different organisms.
(4) All the cells above are taken from different parts of the same organism.

8. Study the table below.

A tick (✓) indicates the presence of certain parts in Cells P, Q and R.

Parts	Cell P	Cell Q	Cell R
cell wall		✓	✓
chloroplast		✓	
nucleus	✓	✓	✓

Where are Cells P, Q and R likely to be found?

	Cell P	Cell Q	Cell R
(1)	cheek	root	leaf
(2)	cheek	leaf	root
(3)	root	cheek	leaf
(4)	root	leaf	cheek

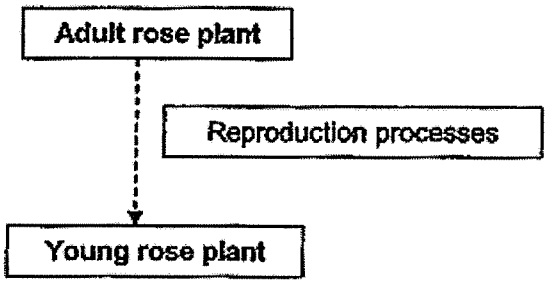
9. Jaime studied three animals, X, Y and Z, and recorded her observations in the table below.

Observations	Animal X	Animal Y	Animal Z
Lays eggs	✓	✓	✓
Has three body parts	✓	✓	
Young resembles adult		✓	

Which of the following could be animals X, Y and Z?

	X	Y	Z
(1)	cockroach	butterfly	frog
(2)	mosquito	butterfly	chicken
(3)	butterfly	mosquito	chicken
(4)	butterfly	cockroach	frog

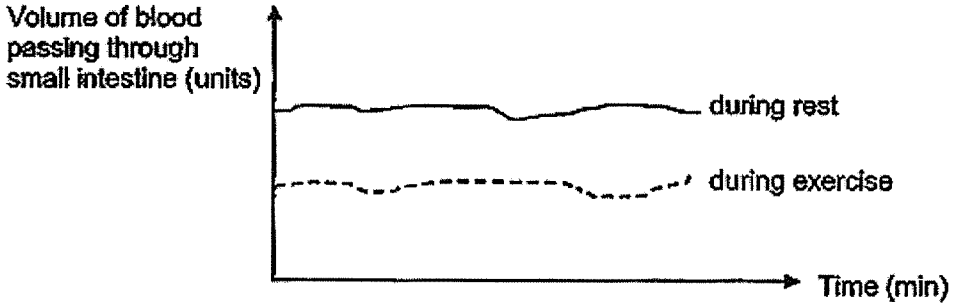
10. The diagram below shows the different reproduction processes that the adult rose plant goes through.



Which of the following correctly state the reproduction processes that the adult rose plant goes through?

(1) fertilisation → pollination → seed dispersal → germination
(2) pollination → fertilisation → seed dispersal → germination
(3) fertilisation → pollination → germination → seed dispersal
(4) pollination → seed dispersal → germination → seed dispersal

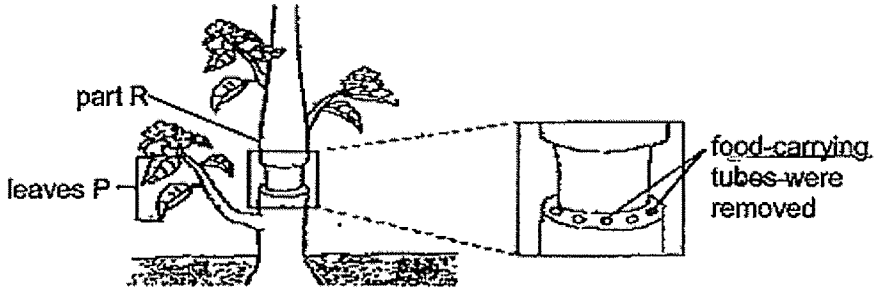
11. The graph below shows the volume of blood passing through the small intestine during rest and during exercise over a period of time.



Based on the graph above, how does exercising after a meal affect the absorption of digested food in the small intestine?

(1) Less blood flows to the small intestine so there is less absorption.
(2) More blood flows to the small intestine so there is less absorption.
(3) Less blood flows to the small intestine so there is more absorption.
(4) More blood flows to the small intestine so there is more absorption.

12. Mr Mohammad removed the outer ring of the stem of a plant in a garden as shown in the diagram below. He continued to water the plant daily.

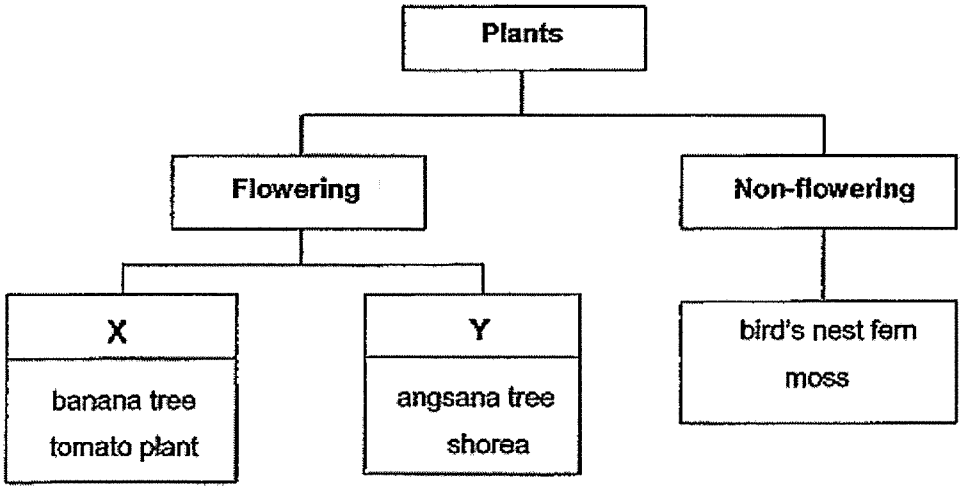


Which of the following would be the most likely observation(s) of the plant after several weeks?

A Leaves P died.
B Part R swelled.
C The whole plant died.

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

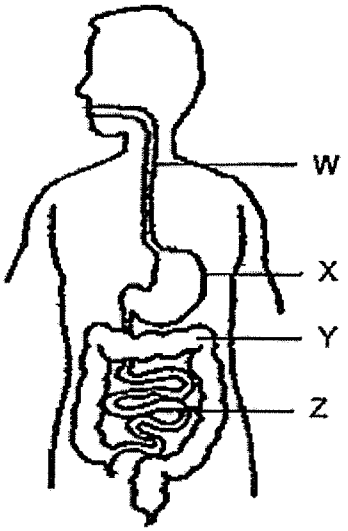
13. The classification chart below shows how some plants are grouped.



Which of the following headings correctly represents X and Y?

	X	Y
(1)	Bear fruits	Do not bear fruit
(2)	Dispersed by water	Dispersed by splitting
(3)	Reproduce by seeds	Reproduce by spores
(4)	Dispersed by animals	Dispersed by wind

14. The diagram below represents the human digestive system.

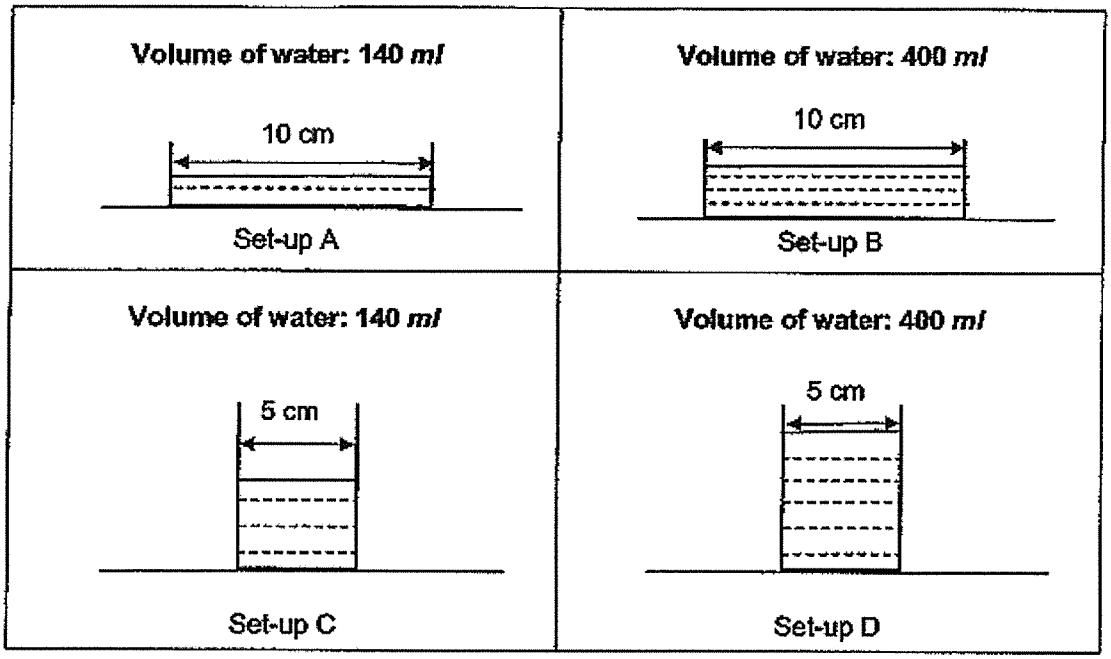


Based on the diagram above, which of the following statements about parts W, X, Y and Z are correct?

A Digestion is completed at part Y.
B Digestion of food starts at part Z.
C Food moves down part W into part X.
D Water is absorbed into the body at part Y.

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

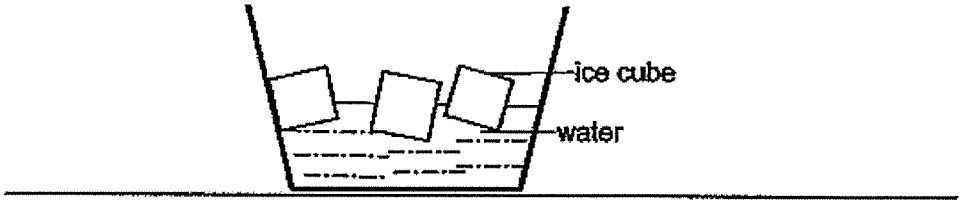
15. Jacob used different containers and poured different volumes of water at 27 °C into the containers as shown in the table below. He then placed the set-ups, A, B, C and D, in the garden.



Which one of the following statement is correct?

(1) Water in set-up A has the same rate of evaporation as water in set-up C.
(2) Water in set-up C has the same rate of evaporation as water in set-up D.
(3) Water in set-up A has a greater rate of evaporation than water in set-up B.
(4) Water in set-up D has a greater rate of evaporation than water in set-up B.

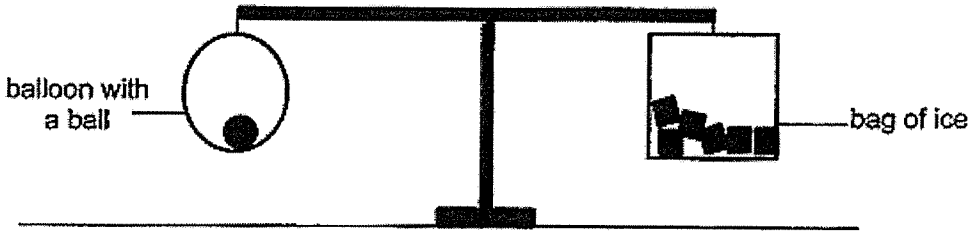
16. A bowl of ice was placed in a room at 27°C.



Mary observed the cup after 5 hours. Which one of the following is correct?

	Observation	Explanation
(1)	The ice cubes melted.	The ice cube lose heat to the water.
(2)	The ice cubes did not melt.	The ice cube lose heat to the room
(3)	The ice cubes melted.	The ice cube gained heat from the room.
(4)	The ice cubes did not melt.	The ice cube gained heat from the water.

17. Sally placed an inflated balloon with a ball in it and a bag of ice on a beam balance under the hot sun. The set up was balanced at the start of the experiment.



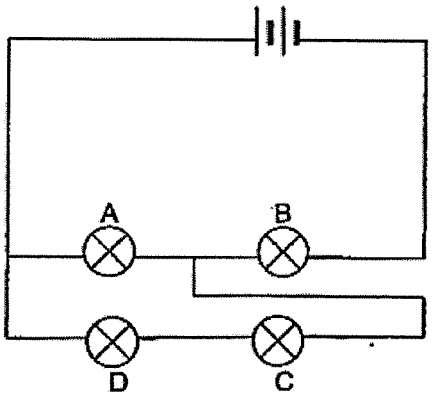
She recorded her observation after 3 hours.

Which of the following statement(s) is/are possible observation(s) after 3 hours?

A The balloon expanded
B The set-up remained balanced.
C The side of the beam balance with the balloon moved downwards.
D The side of the beam balance with the bag of ice moved downwards.

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

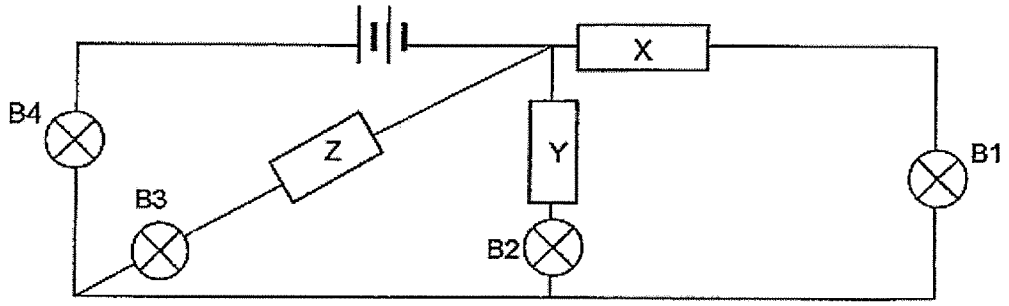
18. Study the circuit below.



After one of the bulbs had blown, all the other bulbs did not light up. Which bulb had blown?

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

19. Tom placed different materials, P, Q, R and S, randomly in positions X, Y and Z as shown below.



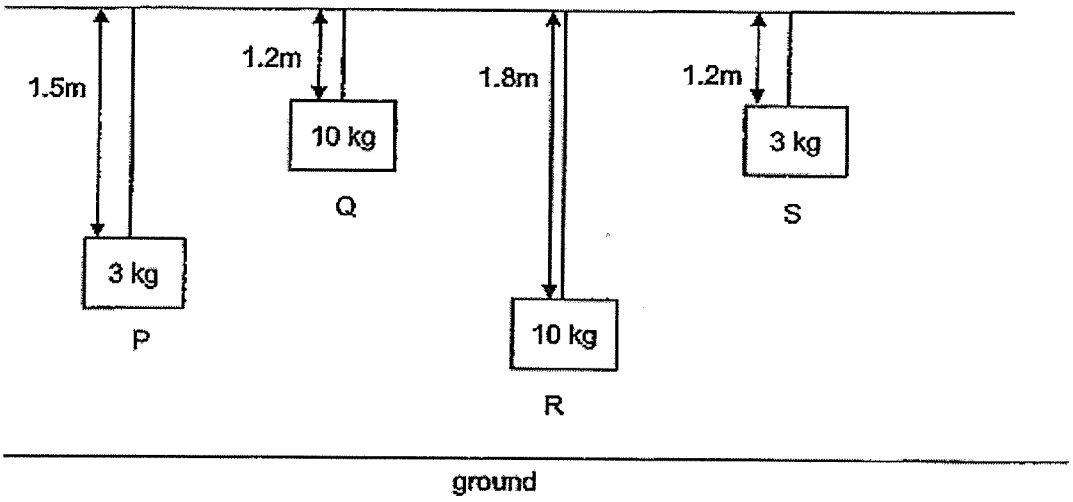
He then recorded his observations in the table below.

Position X	Position Y	Position Z	Bulbs that lit up
P	Q	R	B2 and B4 only
Q	R	S	B1, B3 and B4 only

Which of the following correctly represents P, Q, R and S?

	P	Q	R	S
(1)	copper	plastic	iron	wood
(2)	copper	iron	wood	plastic
(3)	wood	plastic	copper	iron
(4)	wood	iron	plastic	copper

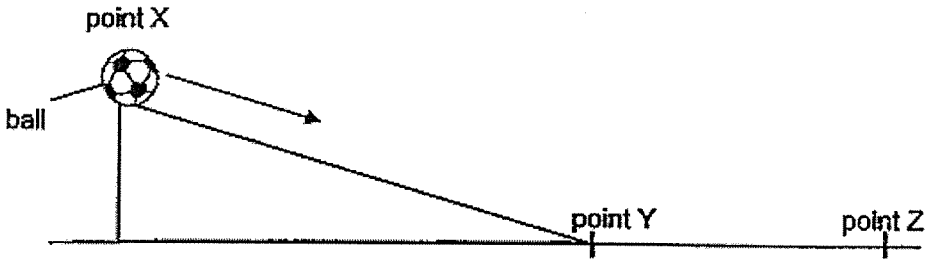
20. Four objects of different mass, P, Q, R and S, are hung above the ground using strings of different lengths as shown in the diagram below.



Which object has the most potential energy?

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

21. A ball at point X was released and it rolled down the ramp past point Y and came to a stop at point Z.



Which of the following statements are correct based on the above set-up?

A The ball has the most kinetic energy at Y.
B The ball has less potential energy at Z than at Y.
C The ball has the most potential energy at X before it was released.
D The ball has less kinetic energy at Z than at X before it was released.

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

22. Joyce pushed a toy, which was attached to a spring, as shown in figure 1. When she removed her hand, part X of the toy jumped up as shown in the figure 2.

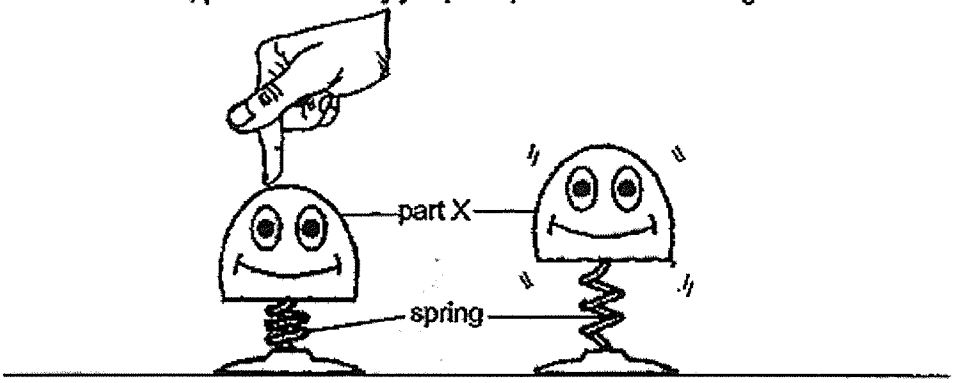
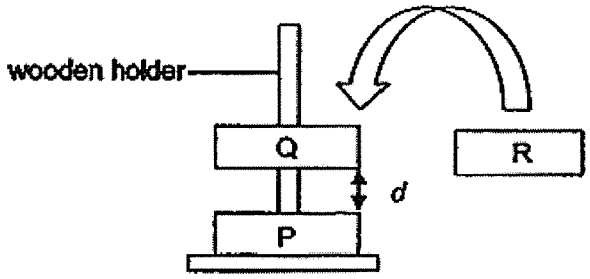


Figure 1 Figure 2

Which of the following shows the correct main energy conversions?

	Joyce pushing the toy		Compressed spring		Part X jumped up
(1)	heat energy	→	potential energy	→	kinetic energy
(2)	heat energy	→	kinetic energy	→	kinetic energy + heat energy
(3)	kinetic energy	→	kinetic energy	→	potential energy
(4)	kinetic energy	→	potential energy	→	kinetic energy + potential energy

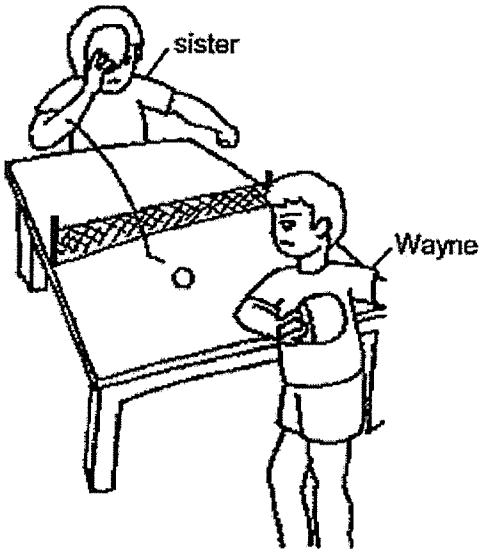
23. Ernest placed two similar ring magnets, P and Q, into a wooden holder as shown below. He observed a distance, *d*, between the two magnets. Then he added a metal ring, R, into the holder above magnet Q.



Which of the following explains correctly the possible observations he could make about distance, *d*?

	Observation of *d*	Explanation
(1)	increases	Magnet Q repels ring R.
(2)	decreases	Magnet P repels ring R.
(3)	decreases	Ring R adds weight to Magnet Q.
(4)	remains the same	Magnet Q attracts ring R.

24. The diagram below shows Wayne and his sister playing table-tennis.



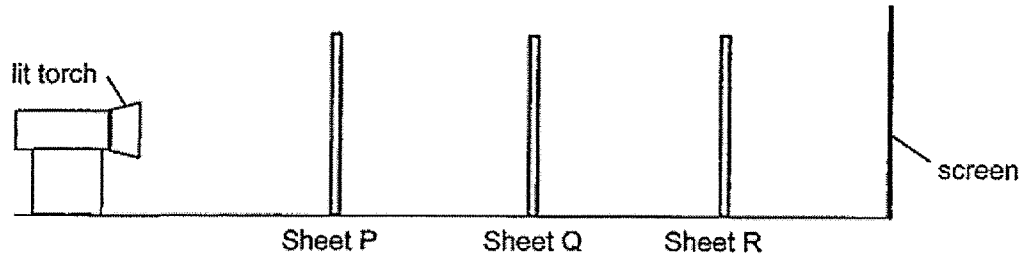
The ball bounced on the table and was moving towards Wayne. He hit it with the bat.

Based on the diagram above, which of the following statements are correct?

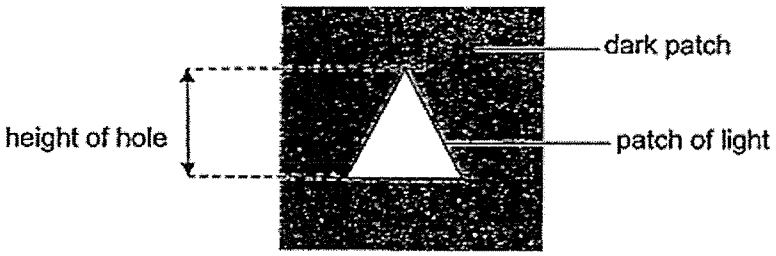
A When Wayne hits the ball, it will totally stop moving.
B Wayne has to exert a push force on the ball to hit it back to his sister.
C The ball exerted a push force on the table to bounce towards Wayne.
D The ball will continue to move at the same speed when Wayne hits it harder than his sister.

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

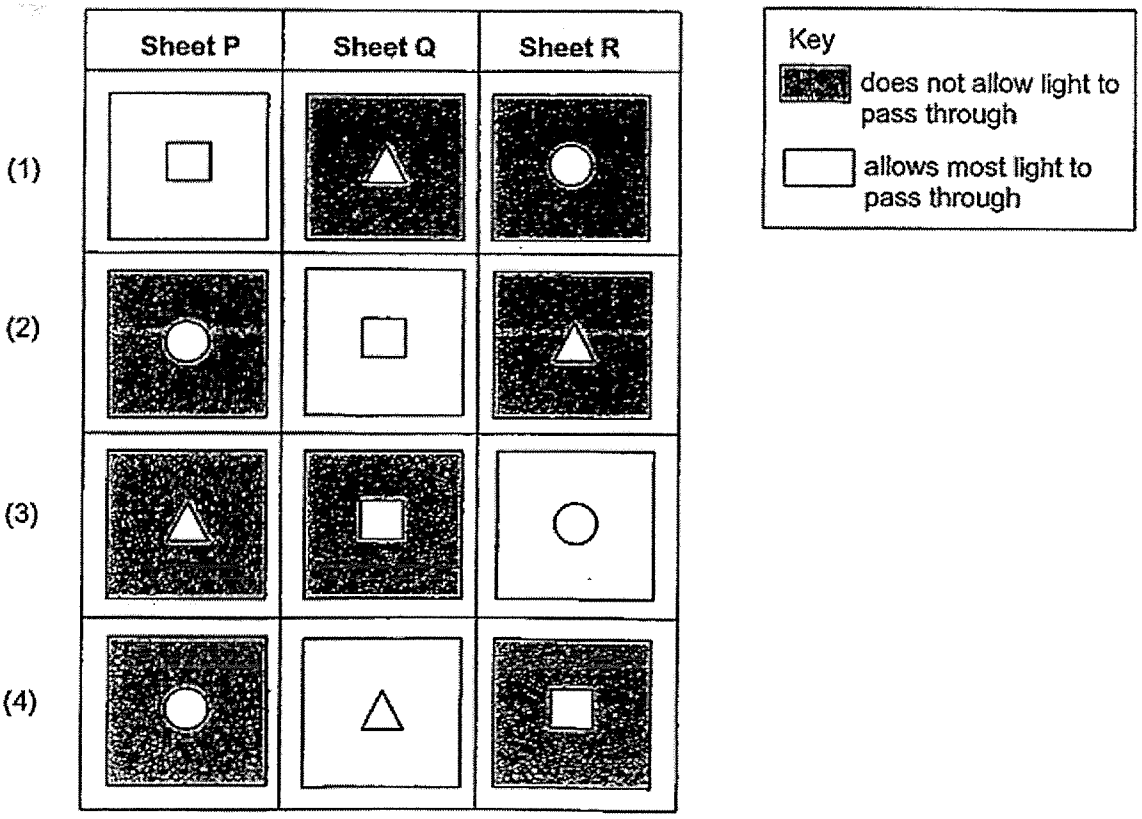
25. The set-up below shows light shining on three sheets, P, Q and R, made of different materials, in a dark room. Only one sheet allowed most light to pass through. Each sheet has a hole of the same height cut out in a different shape.



The diagram below shows the shadow seen on the screen.



Which of the following arrangements will enable the shadow above to be seen on the screen?

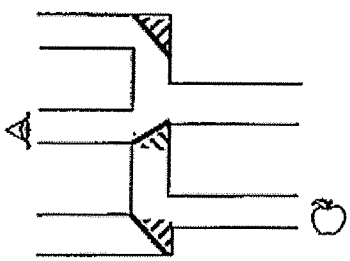


26. Ramesh placed 3 mirrors in a set of connected pipes. He looked through different pipe openings to find out if he could see the apple on the opposite side using the mirrors.

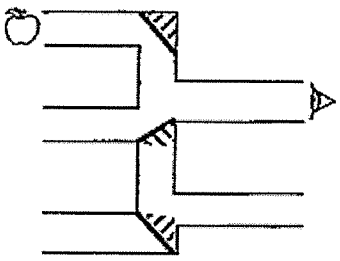
Key:
mirror –

In which of the following set-ups will he be able to see the apple?

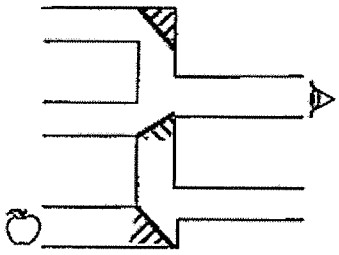
(1)



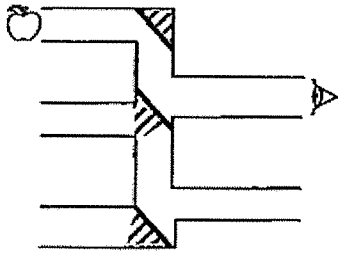
(2)



(3)

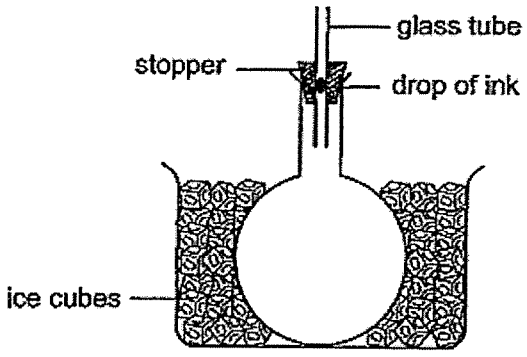


(4)



27. Billy placed an empty round-bottom flask into a basin of ice cubes as shown in the diagram below. The flask was fitted with a stopper where a glass tube was inserted. He added a drop of ink into the glass tube.

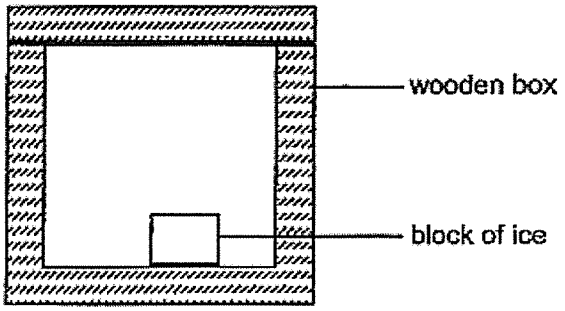
After 20 minutes, he observed that the drop of ink had moved down the glass tube.



Which one of the following explains his observation?

	Air in the flask	Ice Cubes
(1)	gained heat and expanded	gained heat
(2)	gained heat and expanded	lost heat
(3)	lost heat and contracted	gained heat
(4)	lost heat and contracted	lost heat

28. A block of ice was placed in a wooden box as shown in the diagram below.



Which one of the following statements best explains why the block of ice melted slowly?

(1) The wooden box is a good conductor of heat.
(2) The air in the wooden box conducted heat away from the ice quickly.
(3) The heat in the wooden box could not escape to the surrounding air outside the box.
(4) The wooden box slowed down heat gain by the ice from the surrounding air outside the box.

~ END OF BOOKLET A ~

NANYANG PRIMARY SCHOOL

PRIMARY 6 SCIENCE

PRELIMINARY EXAMINATION
2020

BOOKLET B

Date: 21st August 2020

Duration: 1 h 45 min

Name : _____ ( )

Class: Primary 6 ( )

Marks Scored:

Booklet A:		56
Booklet B :		44
Total :		100

Any query on marks awarded should be raised by the next day. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B consists of 18 printed pages including this cover page.

Blank Page

Section B (44 marks)
Write your answers to questions 29 to 40 in the spaces provided.

29. Xinyi setup her new aquarium next to the windowin her bedroom as shown in Figure 1 below.

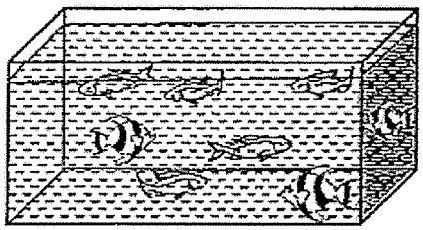


Figure 1

Figure 2

Her mother observed that the fish remained at the surface of the water most of the time and suggested that Xinyi put some water plants, as shown in Figure 2, into the aquarium.

(a) Describe the process of photosynthesis carried out in green plants. [1]

_____

_____

(b) Other than being a source of food and shelter, explain how her mother's suggestion would help the fish in the aquarium survive better. [1]

_____

_____

Figure 3 below shows a tent pitched on a field. After a week, the tent was removed. It was observed that the grass growing in the area, where the tent had been pitched, had turned brown and died as shown in Figure 4.

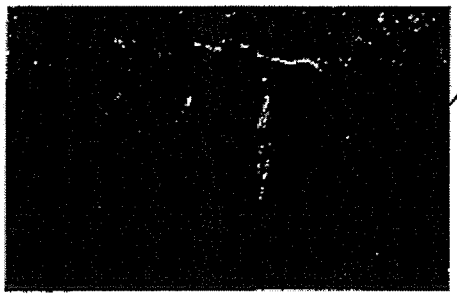


Figure 3

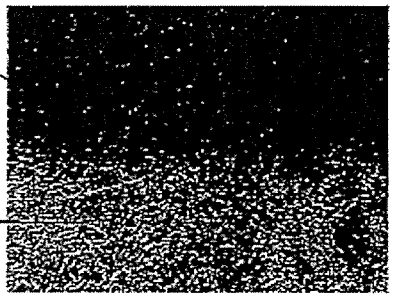


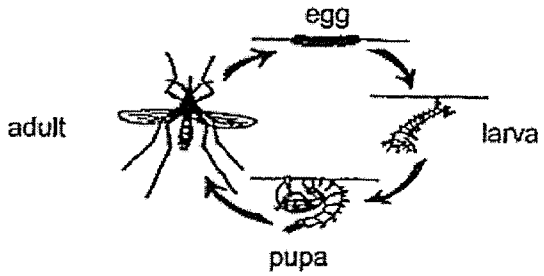
Figure 4

(c) Explain why the grass under the tent died. [1]

_____

_____

30. The diagram below shows the life cycle of mosquito X, which spreads a virus that causes illness P.

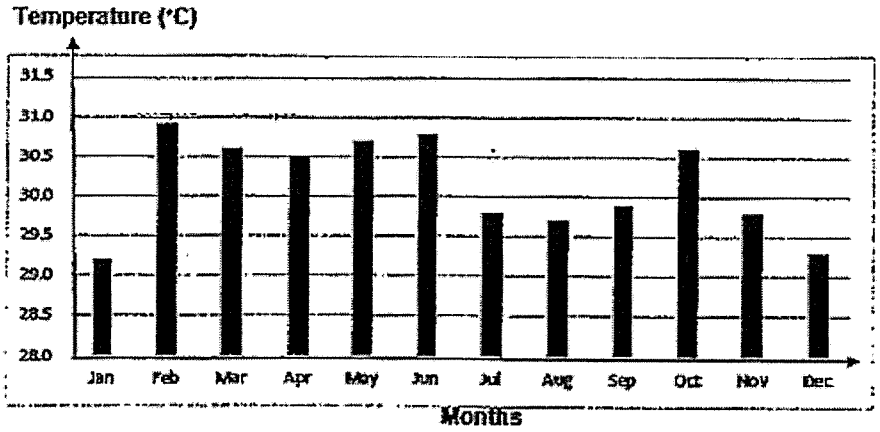


Some scientists kept these mosquitoes at different temperatures and recorded the duration of each stage of their life cycle. The results are shown in the table below.

	Duration of stage at different temperatures (days)			
	28°C	29°C	30°C	31°C
Egg	3	2	2	2
Larva	8	7	6	5
Pupa	2	2	2	1

(a) State the effect of temperature on the length of the life cycle of mosquito X. [1]

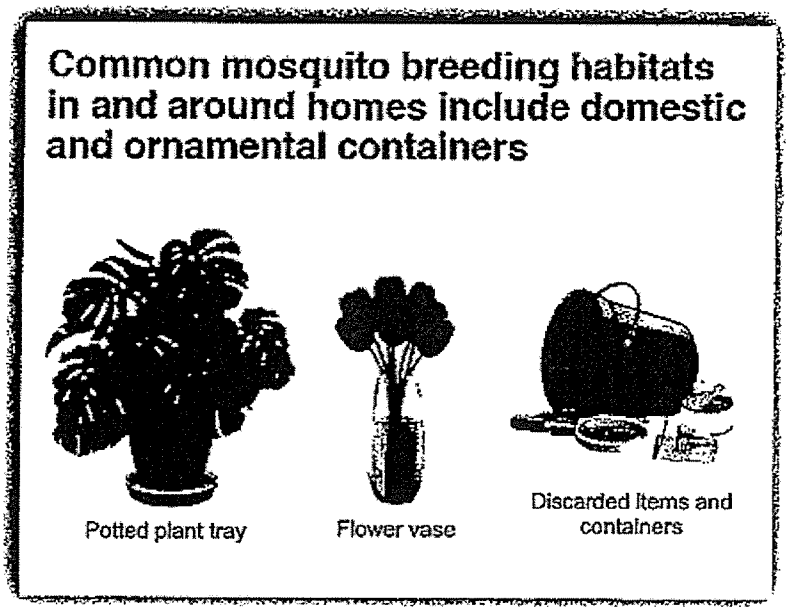
The graph below shows the average monthly temperature in Singapore in 2019.



(b) Based on the information above, would there be more cases of illness P between January and June or between July and December? Explain your answer. [2]

3

The diagram below shows part of a poster displayed in a neighbourhood with a high number of cases of illness P.

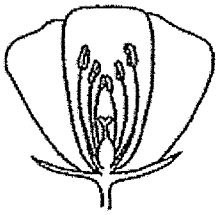


(c) Based only on the objects shown above suggest one way residents in the neighbourhood can play a part in reducing the breeding of mosquitoes.

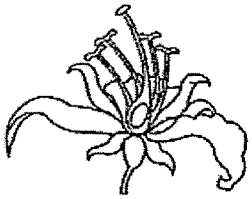
[1]

1

31. The diagrams below show flowers X and Y.



Flower X



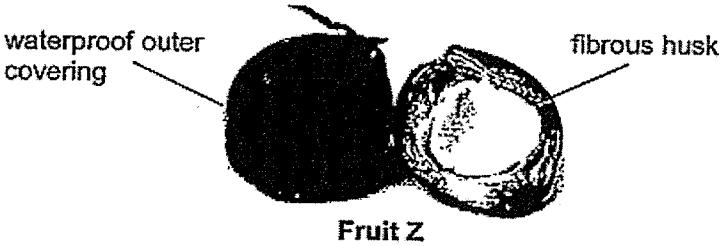
Flower Y

(a) Which flower, X or Y, is most likely pollinated by wind? Give a reason for your answer. [1]

_____

_____

The diagram below shows fruit Z that Lucas found at the beach



Fruit Z

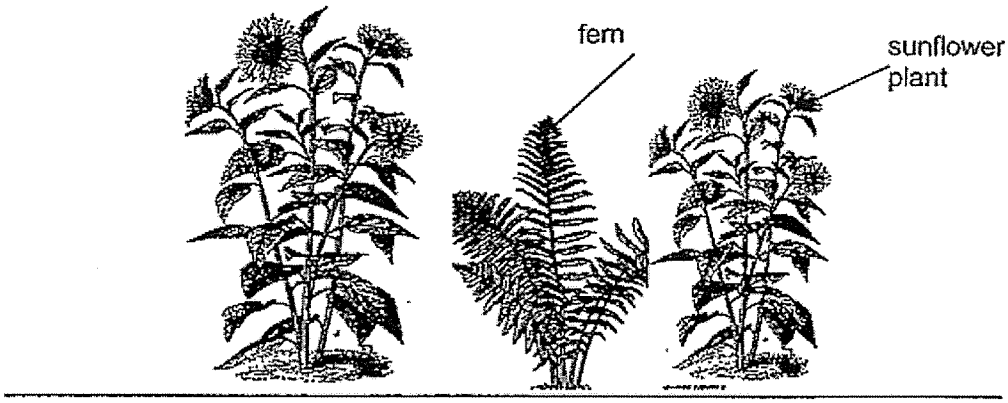
(b) Explain based on the characteristics of fruit Z how it can be dispersed by water. [1]

_____

_____

2

Lucas removed all the plants in his garden. He then planted two rows of sunflower plants only, in his garden. After three weeks, he noticed that there were ferns growing near his sunflower plants as shown in the diagram below.

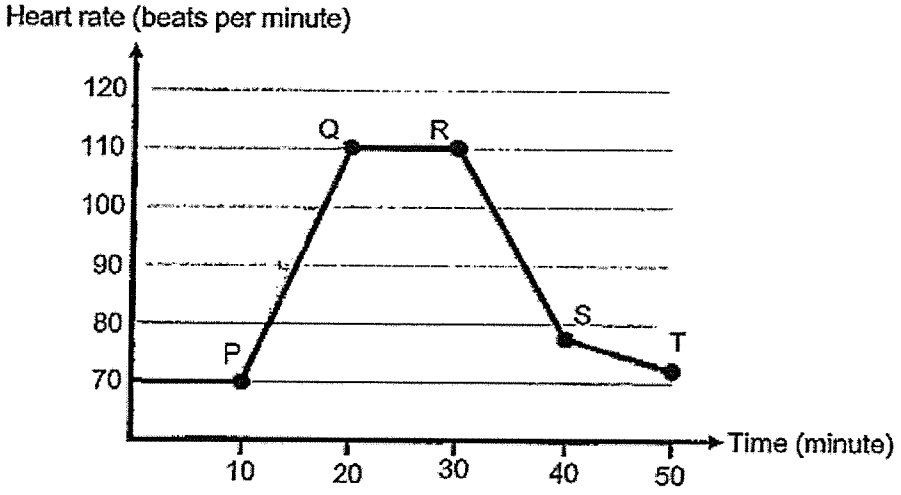


(c) Explain how the ferns started growing in his garden. [1]

(d) Why is it important for Lucas to remove the ferns. [1]

2

32. The graph below shows the changes in Samuel's heart rate before, during and after exercising. He only exercised for 20 minutes.



(a) At which point, P, Q, R, S or T, did Samuel start exercising? [1]

Point _____

(b) State how his heart rate changed when he exercised. Explain why ? [2]

_____

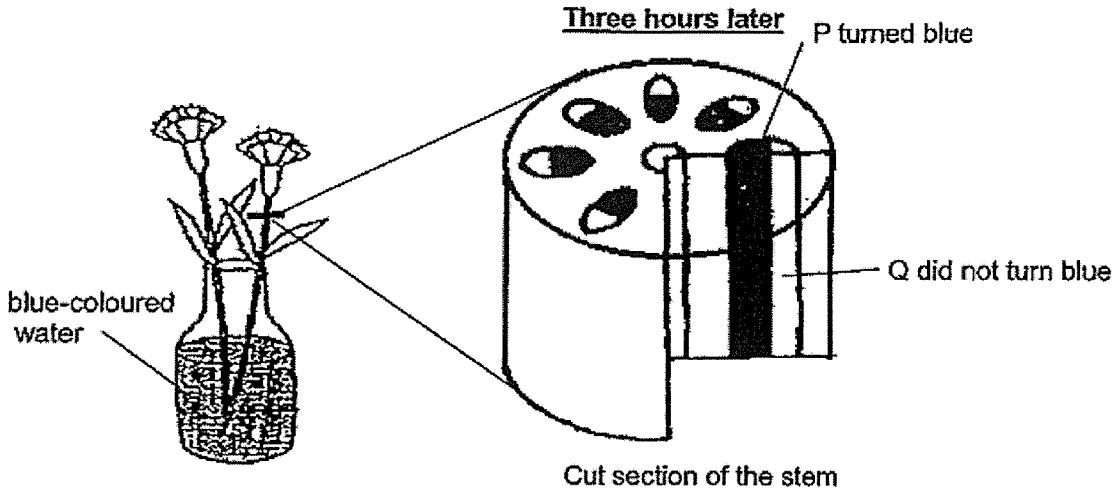
_____

_____

_____

3

33. Two white flowers were placed in blue-coloured water for three hours. After three hours, the white flowers turned blue. The stem was cut and it was noticed that part P turned blue while part Q did not, as shown in the diagram below.



(a) (i) Identify part P. [1]

_____

(ii) Explain how the white flowers turned blue. [1]

_____

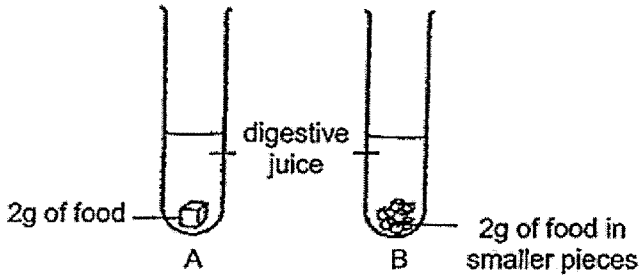
_____

(b) What substance did part Q transport ? [1]

_____

3

34. Jie Rui poured an equal amount of digestive juice into 2 test tubes, A and B. She added 2g of food to each test tube. The food that was added to test tube B was cut into smaller pieces as shown in the diagram below.



After 2 hours she removed the undigested food pieces left, dried them and weighed them. She recorded the results and repeated the experiment for another two times as shown in the table below.

Test tube	Mass of food left after 2 hours (g)		
	1st try	2nd try	3rd try
A	1.9	1.8	1.9
B	0.7	0.7	0.9

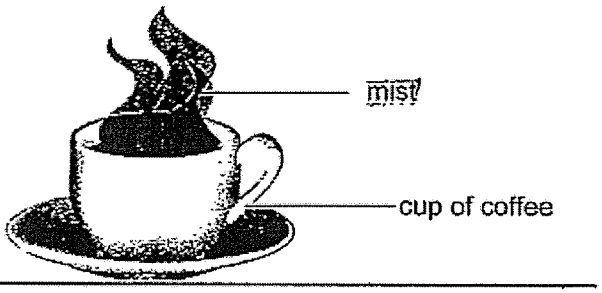
(a) What was the aim of Jie Rui's experiment? [1]

(b) Give a reason why it was important for the food pieces to be dried before weighing them. [1]

(c) Based on the result of her experiment, explain why chewing is an important prosses that helps digestion. [1]

3

35. Selina bought a cup of hot coffee Some mist was seen when she took the cup to her seat as shown in the diagram below.

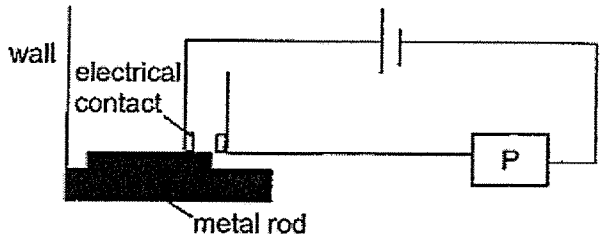


(a) Explain how the mist was formed. [2]

(b) Explain why the mist disappeared after a short time. [1]

3

36. Le Yi set up a simple fire alarm system in her restaurant. She used a metal rod, alarm P and some wires as shown below. The metal rod expands easily when heated.



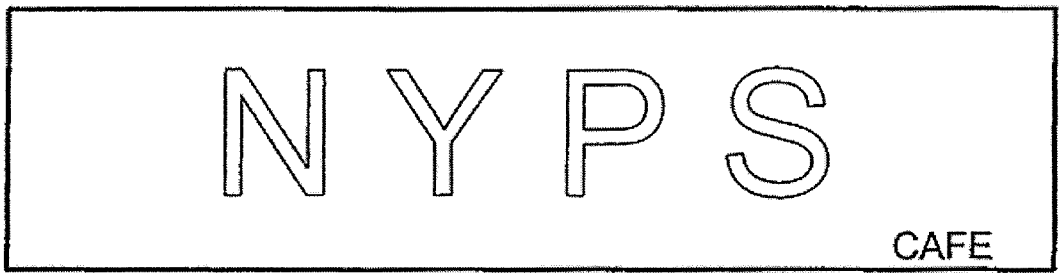
She then tested her alarm system by heating the metal rod to different temperatures. She recorded her results in the table below.

Temperature of ~~box~~ rod (°C)	Alarm P
10	Off
30	Off
80	On

(a) Explain how the system works when the temperature is above 80°C. [2]

2

Le Yi then wanted to create a lit up sign board for her restaurant as shown below.

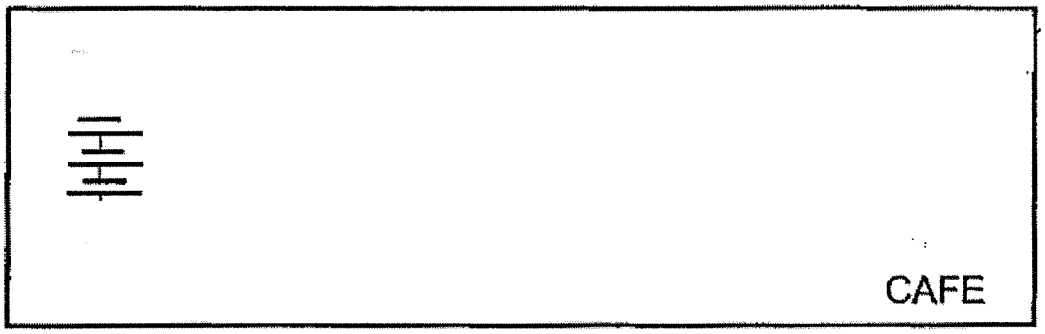


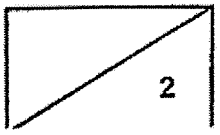
She used one light bulb to light up each letter, 'N', 'Y', 'P' and 'S'.

Her circuit must be able to do the following:

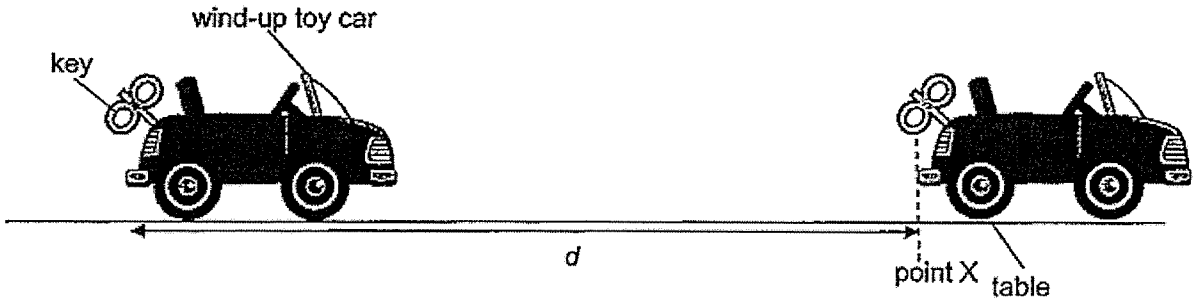
- If one bulb fused the others would still light up.
- The entire sign is controlled by a single switch.

(b) Draw the circuit diagram for her sign board. [2]





37. Ali wound up a toy car. Upon releasing it, the toy car moved forward for a short distance before stopping at point X. He measured the distance, *d*, that the car had moved.



(a) State the main energy conversions starting from Ali winding up the toy car to the car moving across the floor. [1]

(Winding up the toy car) (Spring in toy car) (Moving toy car)

Ali then applied a layer of oil on the surface of the table.

(b) Explain, in terms of energy why the car moved a longer distance with the layer of oil on the surface of the table. [2]

3

Ali then observed how the number of times he turns the key affected the distance travelled by the toy car. His results are shown in the table below.

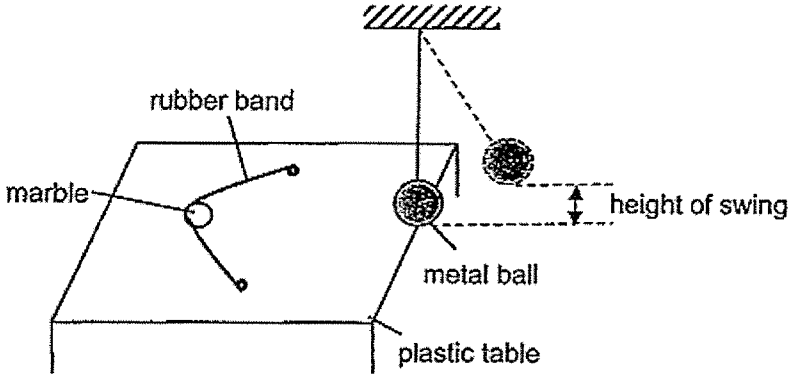
Number of turns	Distance travelled by the toy car (cm)
1	4
2	8
3	12
4	16

(c) What is the relationship between the number of turns of the key and the distance the toy car travelled? [1]

(d) Ali discovered that when he turned the key 5 times, the distance travelled by the toy car was 0 cm. State a reason for his observation. [1]

2

38. Colin conducted an experiment on a plastic table top using the set-up shown in the diagram below.



Colin pulled a rubber band back with a marble before releasing it. The marble rolled forward and hit the metal ball. The metal ball then swing up. He measured the height of the swing and recorded his results. Then, he added substance X to the table and repeated the experiment, using the same materials.

Table	Height of swing of metal ball (cm)		
	1st reading	2nd reading	3rd reading
Without substance X	3	5	4
With substance X	5	6	6

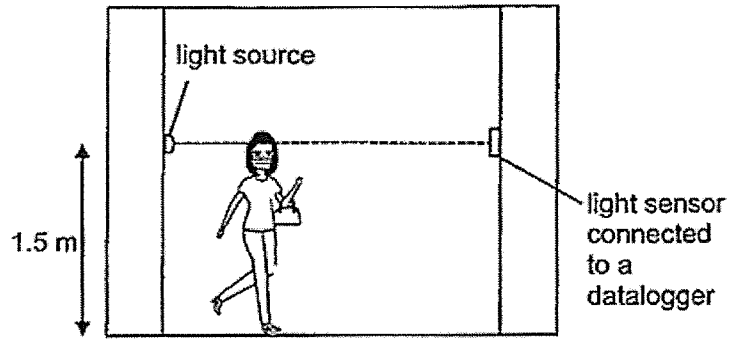
(a) State the force the stretched rubber band possessed just before it was released. [1]

(b) Base on the results explain in terms of forces the effect of substance X on the height of swing of the metal ball. [2]

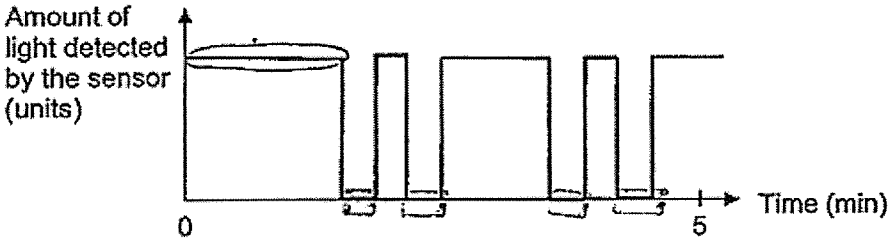
(c) Explai, in terms of forces, why Colin must stretch the rubber band to the same point in order to make it a fair test. [1]

4

39. A store owner wanted to count the number of people entering his store. He set up a light source and a light sensor at the store entrance as shown below.



The data recorded for 5 minutes is shown in the graph below.



(a) Using the set-up, explain how the store owner could count the number of people entering the store. [1]

_____

_____

(b) Based on the results above, how many people have entered his store in the 5 minutes? [1]

_____ people

The store owner realised that his set-up could not count all the people entering the store.

(c) Using the same materials suggest what he should do and explain how this method ensures that every person entering the store can be counted. . [2]

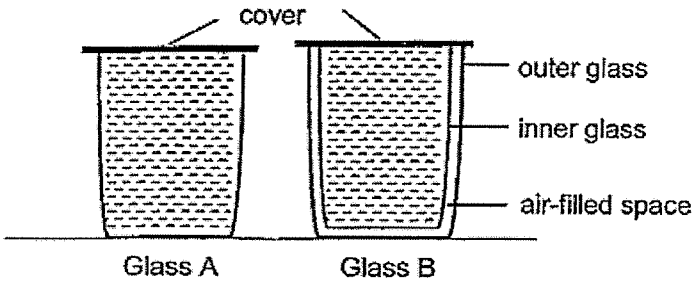
_____

_____

_____

4

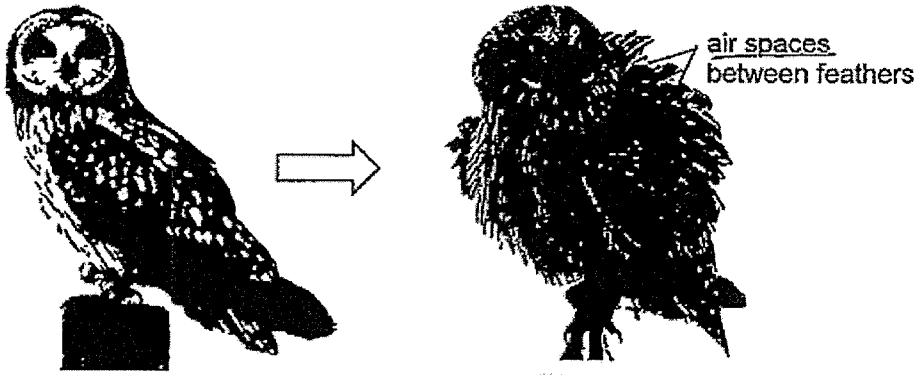
40. Sally poured an equal volume of water at 90°C into two glasses, A and B. Glass A is single-layered while glass B is double-layered with an air-filled space in between.



After some time, she measured the temperature of the water in both glasses.

(a) Explain why the water in glass B was hotten than the water in glass A. [2]

Birds maintain a higher body temperature than their surroundings. In colder months, they are observed to ruffle up their feathers to keep themselves warm.



(b) Suggest how ruffling up their feathers help to keep birds warm. [2]

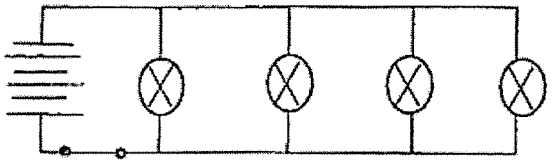
~ END OF BOOKLET B ~

4

Nanyang Primary School
P6 SCIENCE Prelim 2020
Suggested Answers

1	1	6	4	11	1	16	3	21	3	26	4
2	3	7	3	12	2	17	2	22	4	27	3
3	4	8	2	13	4	18	2	23	3	28	4
4	1	9	4	14	2	19	4	24	2		
5	4	10	2	15	2	20	2	25	2		

Qn No	Acceptable Answers
29a.	Chlorophyll in green plants trap light, together with carbon dioxide and water, make food and produce oxygen.
29b.	Water plants released oxygen which is taken in by the fish.
29c.	The tent blocked light from reaching the grass so the grass cannot photosynthesize /make food.
30a	As the temperature increases, the length of the life cycle of mosquito X decreases.
30b.	Between January and June, the average monthly temperature is higher. Mosquito X's life cycle is shorter hence there are more mosquitoes to spread illness P.
30c.	Pour away water in the flowerpot plate./ Change the water in the flower vase regularly./ Check for stagnant water in discarded items.
31a.	The anther and stigma are sticking out of the flower.
31b.	It has fibrous husk which traps air and allows it to float on water./ It has waterproof outer covering which does not absorb water and allows it to float on water.
31c.	The spores of the fern are dispersed by wind/ animal.
31d.	To reduce overcrowding/ competition for water, minerals, space and light.
32a.	P
32b.	His heart rate will increase. His heart will pump blood faster to provide more oxygen and more digested food to all parts of his body.
33ai.	Water-carrying tubes
33aii.	The water-carrying tubes transported the blue-coloured water to the flowers.
33b	Food
34a.	To find out how the exposed surface area of food in contact with the digestive juice affects the rate of digestion.
34b.	To ensure that she is measuring only the mass of the food without the digestive juice.

34c.	Chewing breaks up food into smaller pieces for faster digestion.
35a.	The water in the coffee gained heat and evaporated into water vapour. The warmer water vapour touches the cooler surrounding air, lost heat and condensed into tiny water droplets.
35b.	The mist gained heat and evaporated to form water vapour.
36a.	The metal rod will gain heat and expand to touch the electrical contacts, forming a closed circuit.
36b.	
37a.	Kinetic Energy → (Elastic) Potential Energy → Kinetic Energy
37b.	With the layer of oil on the table, less kinetic energy is converted to heat/ sound energy. There is more kinetic energy to move the car a longer distance.
37c.	As the number of turns of the key increases, the distance the toy car travelled increases.
37d.	The spring in the toy car is damaged so the toy car has no more potential energy.
38a.	Elastic spring force.
38b.	There is less friction between the marble and the table so the ball will roll faster and hit the metal ball with more force. The metal ball will swing higher.
38c.	To ensure that only the presence of substance X is changed and the marble is released with the same amount of force.
39a.	As the people entered the store, they would block the light source. Hence, the sensor would not detect any light.
39b.	4
39c.	Lower the light source or sensor so the shorter people can still block the light.
40a.	Air is a poor conductor of heat so it slows down heat loss from the water to the surroundings.
40b.	Air is trapped between feathers. Air is a poor conductor of heat so it slows down heat loss from the bird to the surroundings.