

CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT ONE (2018)
PRIMARY FOUR
SCIENCE
BOOKLET A

Name: _____ ()

Class: Primary 4 - _____

Date: 11 May 2018

24 questions

48 marks

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

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

Booklet A (24 × 2 marks)

For each question from 1 to 24, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (48 marks)

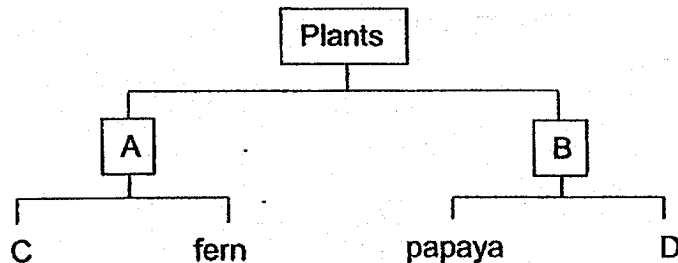
1 Jenny bought a pet dog last year. She observed that it has the following characteristics.

- A It eats meat.
- B It has hair on its body.
- C It barked when Jenny stepped on its tail.
- D It gave birth to a litter of puppies last month.

Which of the above characteristics show that her dog is a living thing?

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

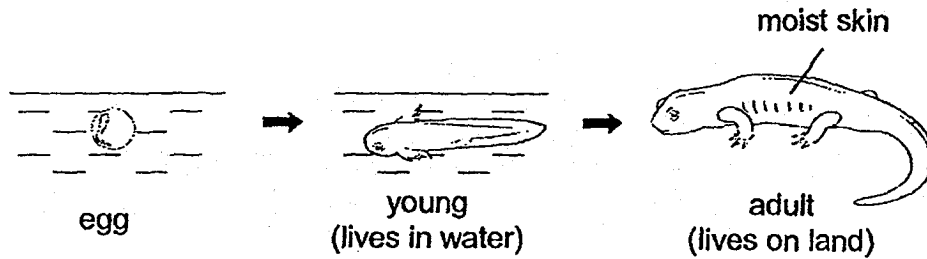
2 Study the chart below.



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

	A	B	C	D
(1)	flowering	non-flowering	moss	mango
(2)	flowering	non-flowering	mushroom	orchid
(3)	non-flowering	flowering	mushroom	hibiscus
(4)	non-flowering	flowering	moss	rambutan

3 The diagram below shows how animal S grows.



Which group of animals does animal S belong to?

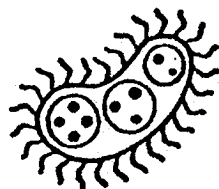
- (1) fish
- (2) reptile
- (3) mammal
- (4) amphibian

4 Bruce discovered a living thing in his garden and described it as follows.

- It lives on tree trunks.
- It reproduces by spores.
- It feeds on other living things.
- It prefers a shady and moist environment.

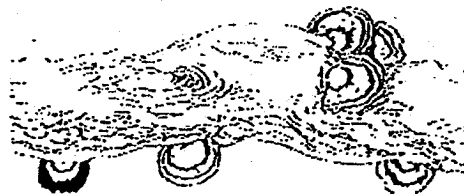
Which of the following living things did Bruce discover?

(1)



bacteria

(2)



fungi

(3)



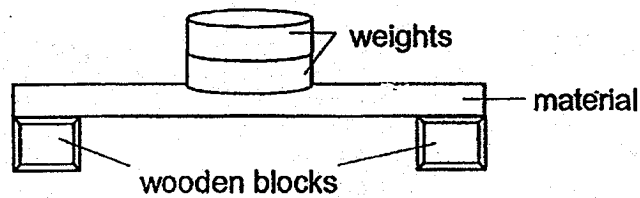
fern

(4)



bread mould

- 5 Four materials W, X, Y and Z were tested for their strength. Different number of weights were placed on each material till it broke.



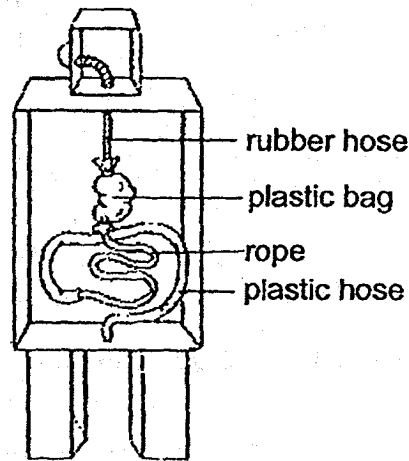
Material	Number of weights added till the material broke
W	5
X	8
Y	1
Z	3

Which of the following must be kept the same to ensure a fair test?

- A size of materials
- B thickness of materials
- C smoothness of weights
- D colour of wooden blocks

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

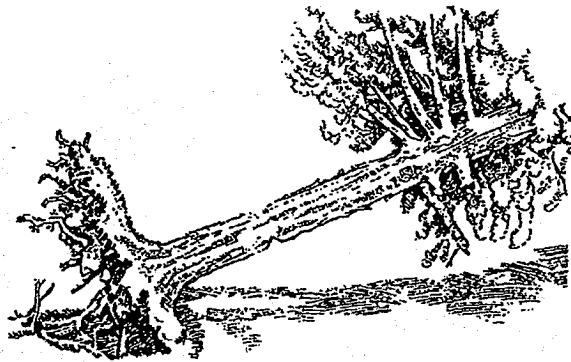
6 Ali made a model of one of the human body systems as shown below.



Which part of the human body does the plastic bag represent?

- (1) lung
- (2) heart
- (3) rib cage
- (4) stomach

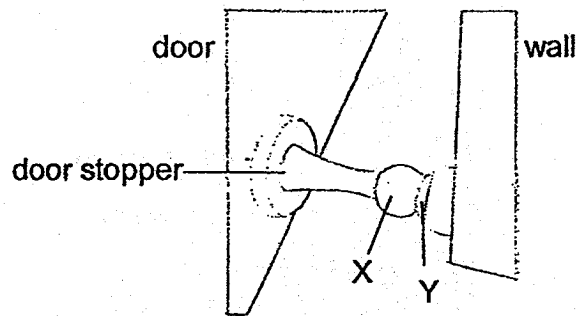
7 The diagram below shows an uprooted tree after a thunderstorm.



Why did the uprooted tree die within a week?

- (1) The stem was no longer able to hold the tree upright.
- (2) The leaves of the tree were not able to make food after a week.
- (3) The branches of the tree were not able to spread out the leaves to trap sunlight.
- (4) The roots of the tree were not able to take in water and mineral salts from the soil.

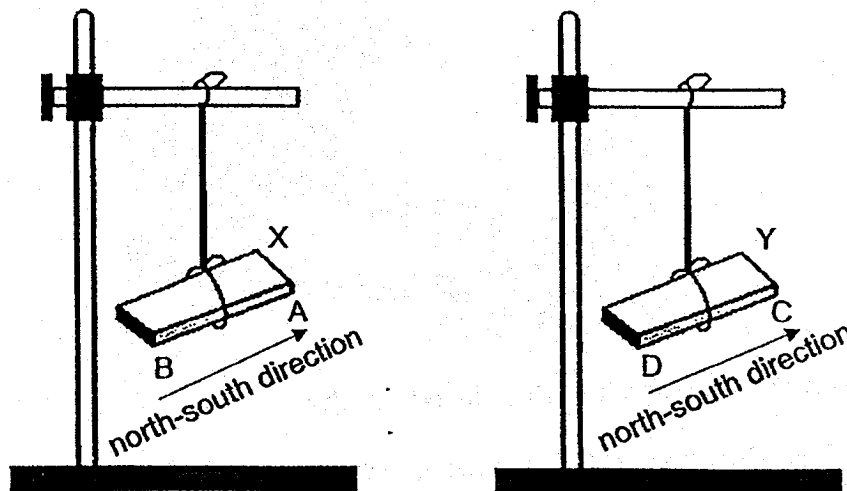
- 8 The diagram below shows a magnetic door stopper below.



Which of the following can X and Y be made of so that the door can be kept open?

	X	Y
(1)	steel	iron
(2)	steel	magnet
(3)	copper	aluminium
(4)	magnet	aluminium

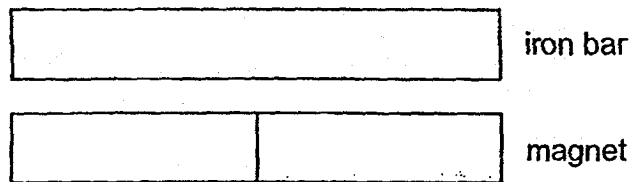
- 9 Two different magnets X and Y are freely suspended as shown below. The poles of the magnets are labelled as A, B, C and D.



What will happen when both magnets are brought closer together?

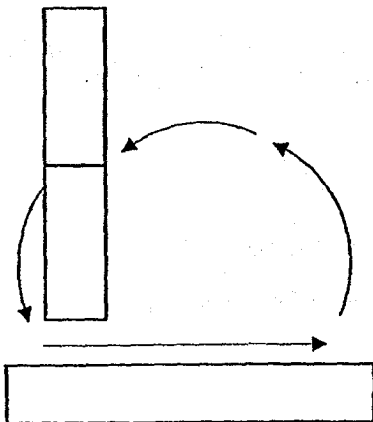
- (1) Poles A and C will repel each other.
- (2) Poles B and C will repel each other.
- (3) Poles B and D will attract each other.
- (4) Poles A and D will not react to each other.

- 10 Nita has an iron bar and a magnet. She wants to magnetise the iron bar using the stroking method.

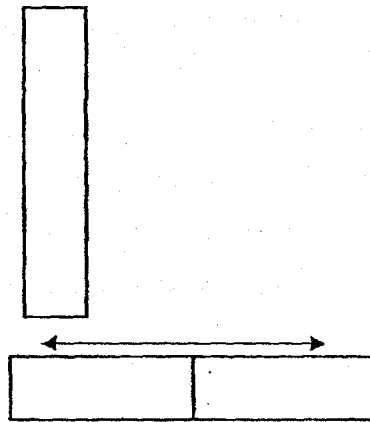


Which one of the following shows the correct stroking method?

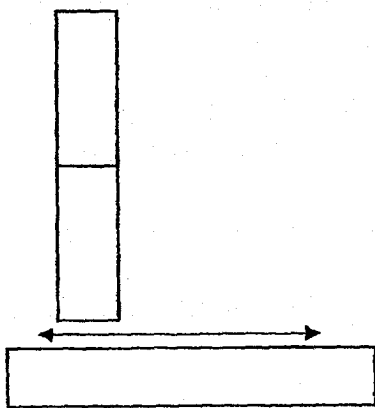
(1)



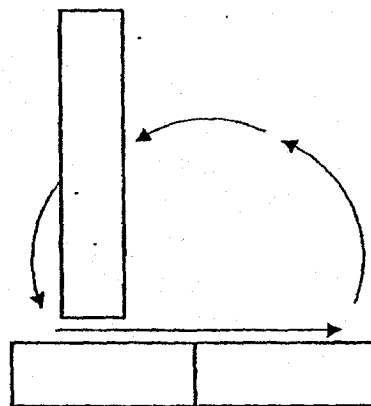
(2)



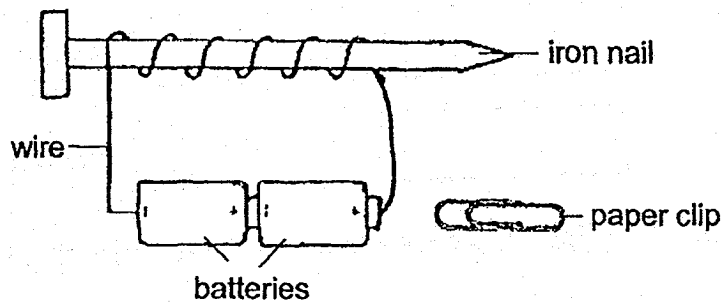
(2)



(4)



11 Weiling set up the following experiment.



She tried to use the iron nail to pick up the paper clip but was unable to do so. Why was the iron nail not able to attract the paper clip?

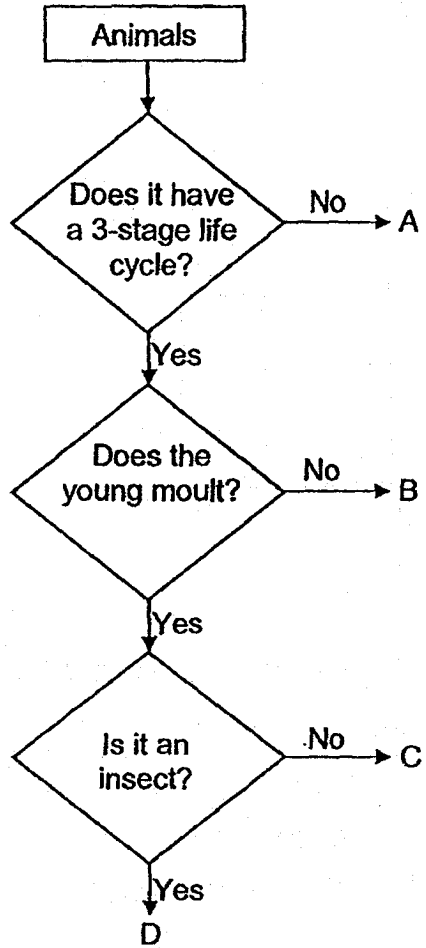
- (1) There was only one nail in the set-up.
- (2) The iron nail was not a magnetic material.
- (3) The batteries were connected in the wrong direction.
- (4) The paper clip was made of a non-magnetic material.

12 Andrea made some statements about the differences between a grasshopper nymph and an adult grasshopper. Which of the following statements are correct?

- A A grasshopper nymph is bigger than an adult grasshopper.
- B A grasshopper nymph cannot reproduce but an adult grasshopper can reproduce.
- C A grasshopper nymph does not have wings but an adult grasshopper has wings.
- D A grasshopper nymph does not feed at all but an adult grasshopper feeds on leaves.

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

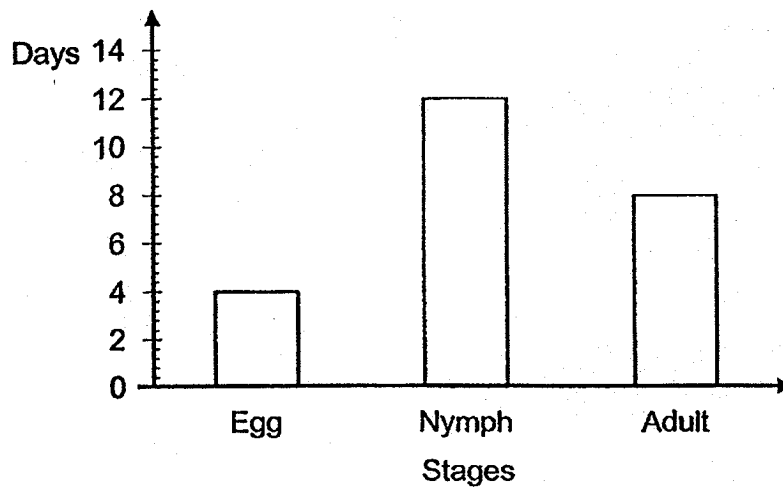
13 Study the chart below.



Which letter represents the cockroach?

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

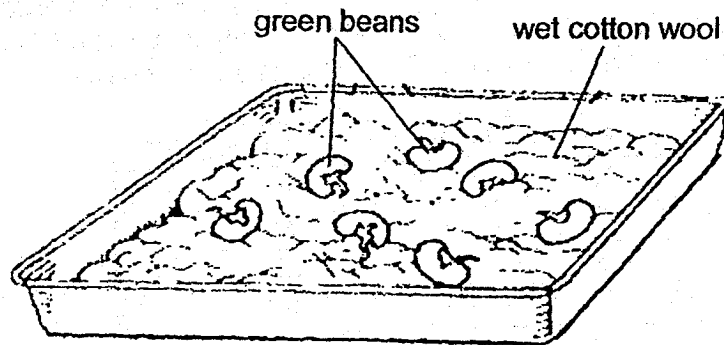
- 14 The graph below shows the number of days in each stage of the life cycle of an insect which lives in the water.



Which of the following information obtained from the graph is correct?

- (1) The insect's lifespan is less than 3 weeks.
- (2) The insect takes 8 days to become a nymph.
- (3) The insect lives in the water for 12 days as a nymph.
- (4) It takes 24 days to become an adult after the egg is hatched.

15 Wei Ming placed some beans in a tray and observed the growth.



He recorded his observations below.

- A Two green leaves appear.
- B A tiny shoot grows upwards.
- C Seed leaves dry and drop off.
- D The bean absorbs water and swells up.
- E A root grows downwards towards the presence of water.

Which of the following shows the correct order of growth?

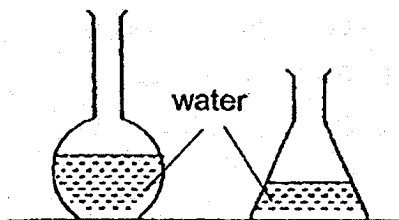
- (1) A → B → E → C → D
- (2) B → A → C → D → E
- (3) C → B → E → D → A
- (4) D → E → B → A → C

- 16 Mike wanted to find out if the growth of bean seeds will be affected by temperature. He placed the same number of bean seeds in different containers with moist cotton wool. He then placed the containers at locations with different temperatures. After 3 days, he counted the number of seeds that grew and recorded his results as shown below.

Temperature (°C)	Number of seeds grown
10	0
20	7
35	16
40	9

What could Mike conclude from the table above?

- (1) Bean seeds could not grow above 30°C.
 - (2) Bean seeds could grow at any temperature.
 - (3) The best temperature for bean seeds to grow was 35°C.
 - (4) Number of seeds grown increased as temperature increased.
- 17 Raj poured 200 ml of water into each container as shown below.



Raj concluded that water does not _____.

- (1) occupy space
- (2) have a definite mass
- (3) have a definite shape
- (4) have a definite volume

18 Study the table below.

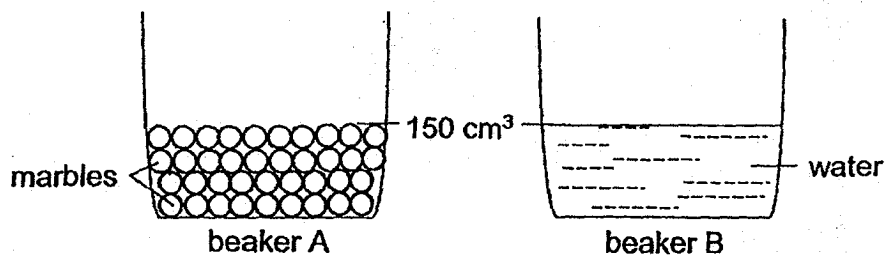
	Has a fixed volume
Has a fixed shape	X
Has no fixed shape	Y

Which of the following represents X and Y in the table above?

- A air
- B ice
- C heat
- D water

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

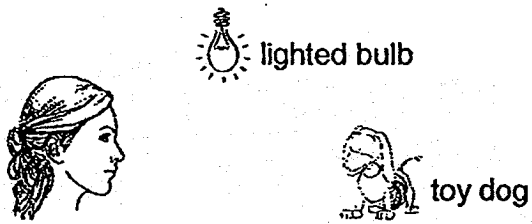
19 Two similar beakers are used in the following experiment. Beaker A is filled with marbles to the 150 cm^3 mark. Beaker B has 150 cm^3 of water.



What will the water level be in beaker A after the water in beaker B is completely poured into beaker A?

- (1) 100 cm^3
- (2) 150 cm^3
- (3) 260 cm^3
- (4) 300 cm^3

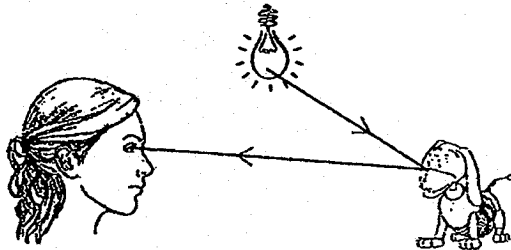
20 Look at the picture below.



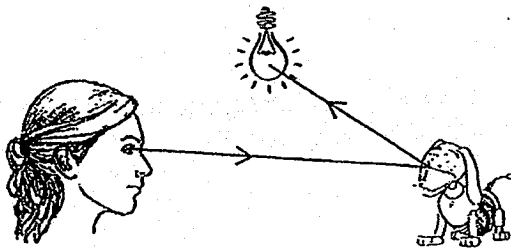
Which one of the following explains why Sally can see the toy dog?

direction of light \longrightarrow

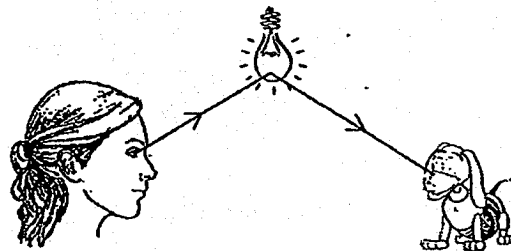
(1)



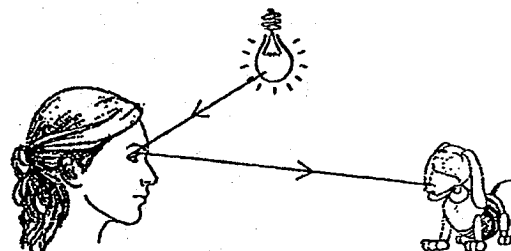
(2)



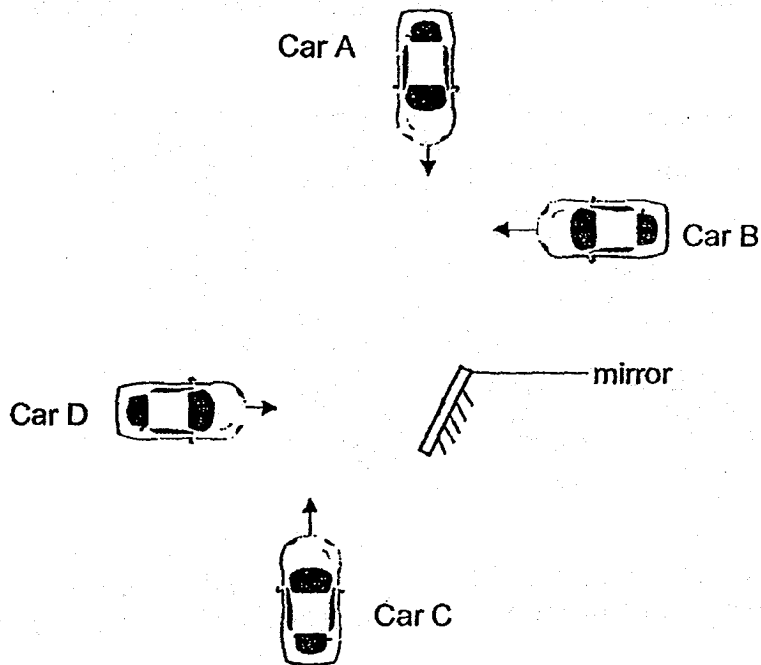
(3)



(4)



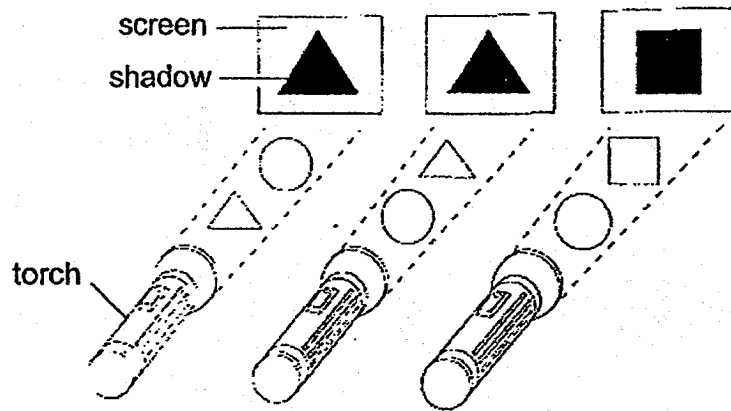
- 21 The diagram below shows four cars A, B, C and D. They are travelling in the directions shown by the arrows.



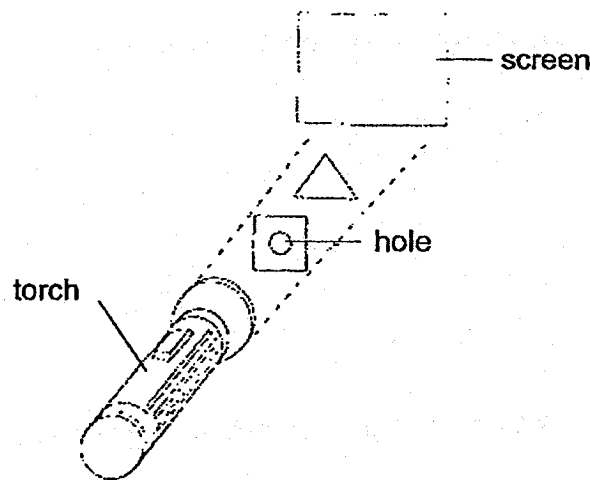
Which two drivers can see each other in the mirror?

- (1) A and C
 - (2) A and D
 - (3) B and C
 - (4) B and D
- 22 Which of the following do not give out light but can be seen because they reflect light?
- (1) sun, star, moon
 - (2) earth, man, tree
 - (3) lightning, candle, oil lamp
 - (4) firefly, fireworks, campfire

- 23 The diagram below shows the shapes of the shadows produced when two different objects were placed between a screen and a torch. The objects are of the same size. One of the objects allows most of the light to pass through.



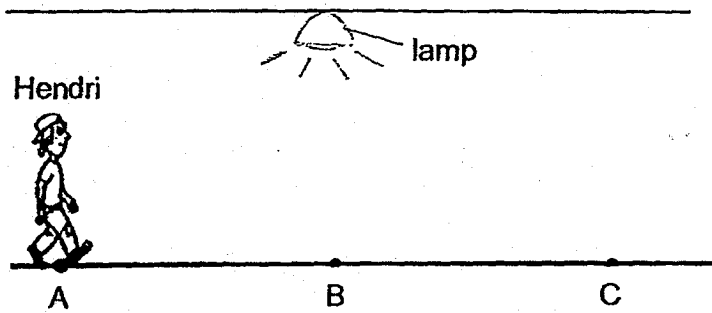
A hole was made in the centre of the square object and it was then placed in front of the screen together with the triangular object, as shown below.



Which of the following shows the shadow produced on the screen?

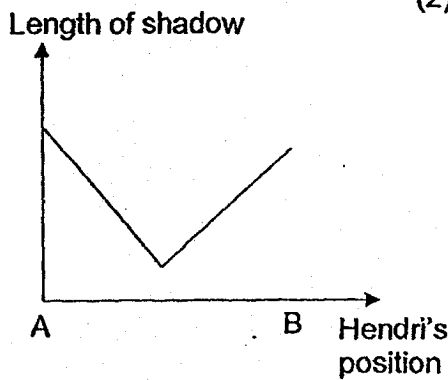
- (1)
- (2)
- (3)
- (4)

- 24 Hendri walked in a straight line and at the same speed from A to C as shown below. He was directly under the lamp at B. The distance between A and B is the same as the distance between B and C.

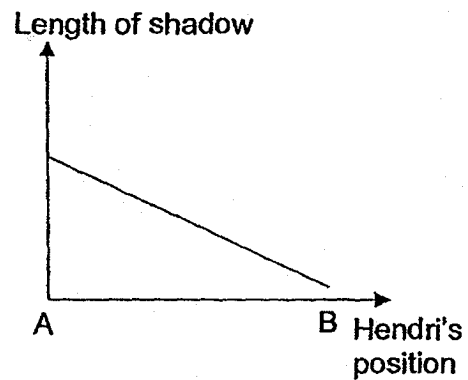


Which one of the following graphs correctly shows how the length of Hendri's shadow on the ground changed during his walk from A to B?

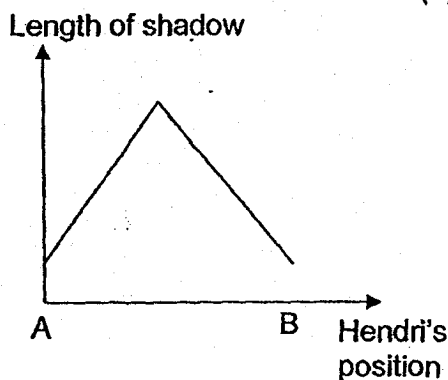
(1)



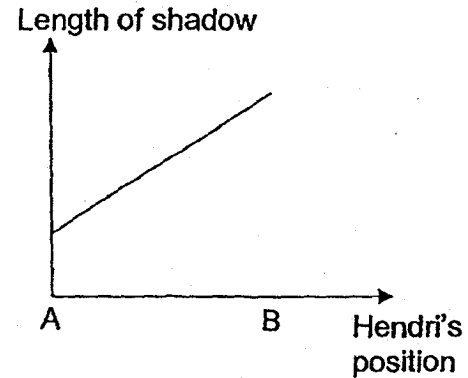
(2)

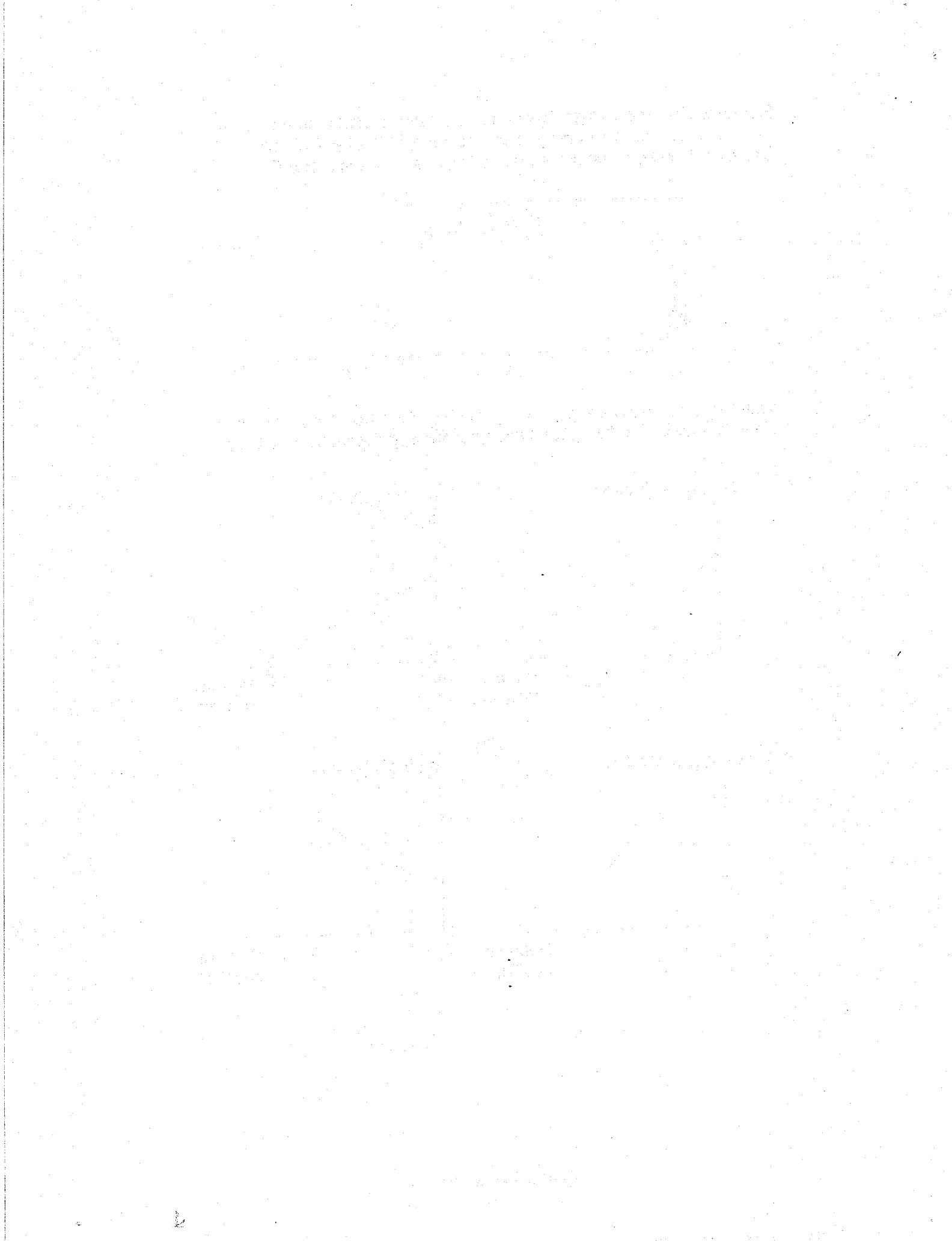


(3)



(4)







CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT ONE (2018)
PRIMARY FOUR
SCIENCE
BOOKLET B

Name: _____ ()

Class: Primary 4 - _____

Date: 11 May 2018

Parent's Signature: _____

Booklet A	48
Booklet B	32
Total	80

11 questions

32 marks

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

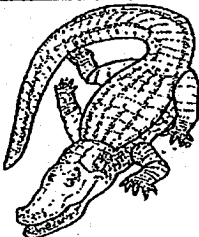


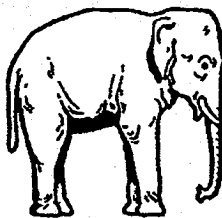
This booklet consists of 11 printed pages, excluding the cover page.

Booklet B (32 marks)

For questions 25 to 35, write your answers in this booklet.

The number of marks available is shown in brackets [] at the end of each question or part question. (32 marks)

25 The table below shows how some animals are classified.

P		Q	
			
crocodile	turtle	bat	elephant

(a) Which group of living things do animals P and Q belong to? [1]

P - _____

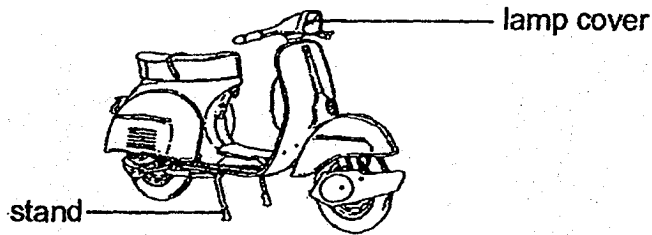
Q - _____

(b) State one difference in the movement of a crocodile and a bat. [1]

(Go on to the next page)

SCORE	2
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- 26 Different materials are used to make the lamp cover and the stand of the scooter as shown below.



Name the material and the property that makes it suitable for making the part of the object indicated above. [2]

	Name of material	Property
lamp cover		
stand		

- 27 The table below shows the amount of undigested food in each part of the digestive system.

Part of digestive system	mouth	gullet	stomach	small intestine	large intestine
Amount of undigested food (g)	100	100	60	10	Y

- (a) What is the amount of undigested food in Y? [1]

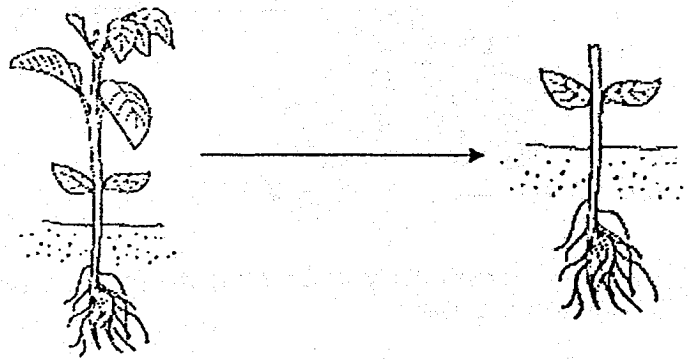
- (b) What happens to the food that has been digested? [1]

- (c) Why does the amount of undigested food remain the same at the gullet? [1]

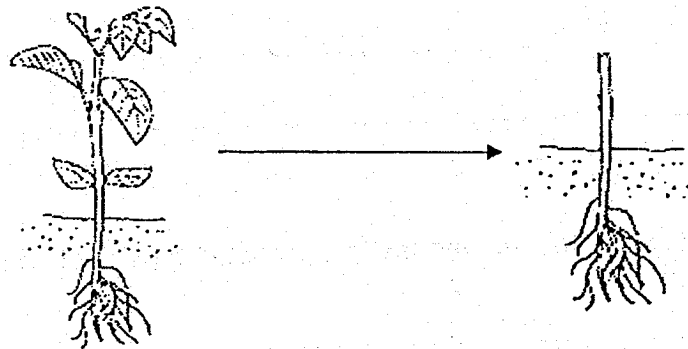
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SCORE	5
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28 Some parts of plants A and B were cut off as shown below.



plant A



plant B

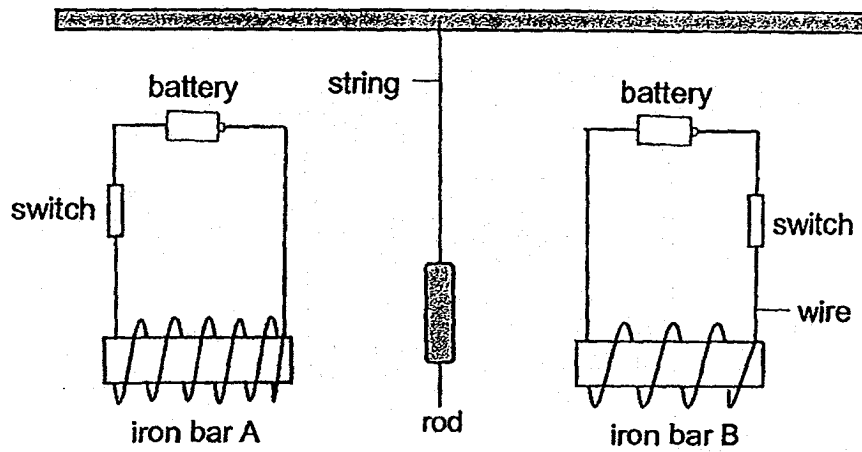
Which plant A or B would survive longer? Explain your answer.

[2]

(Go on to the next page)

SCORE	2
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- 29 Harun placed a rod between two iron bars A and B as shown below. When the switches were closed, the rod moved towards iron bar A.



- (a) Explain why the rod moved towards iron bar A when the switches were closed. [1]

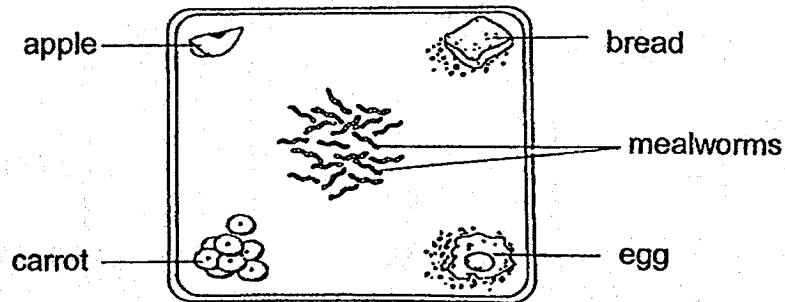
- (b) State the material that the rod can be made of in order for it to be attracted to the iron bars. [1]

- (c) What could be done for the rod to move towards iron bar B when the switches were closed? [1]

(Go on to the next page)

SCORE	3
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- 30 Doris placed 40 mealworms in the centre of a tray as shown in the diagram below. An equal amount of different types of food was placed at each corner of the tray.



After a while, the number of mealworms at each corner was counted. The results were recorded as shown below.

	apple	bread	carrot	egg
Number of mealworms	10	24	4	2

- (a) What variable was changed in this experiment? [1]

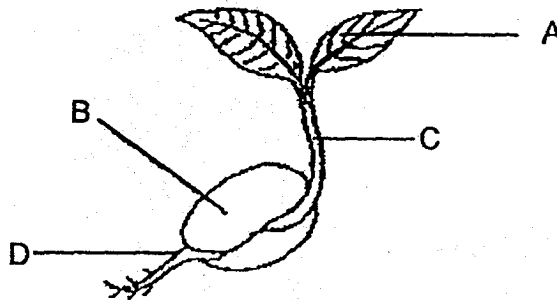
- (b) Which food is most suitable for them to continue their life cycle? Give a reason to support your answer. [1]

- (c) After some time, Doris noticed that only a few mealworms were still moving. What could have happened to the rest? [1]

(Go on to the next page)

SCORE	3
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31 The diagram below shows a young plant.



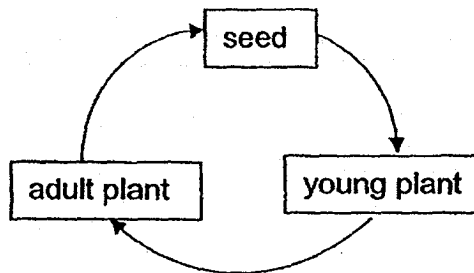
(a) Which part A, B, C or D represents the seed leaf? [1]

(b) State one function of a seed leaf. [1]

(c) What stage of its cycle is plant A in? Give a reason for your answer. [1]



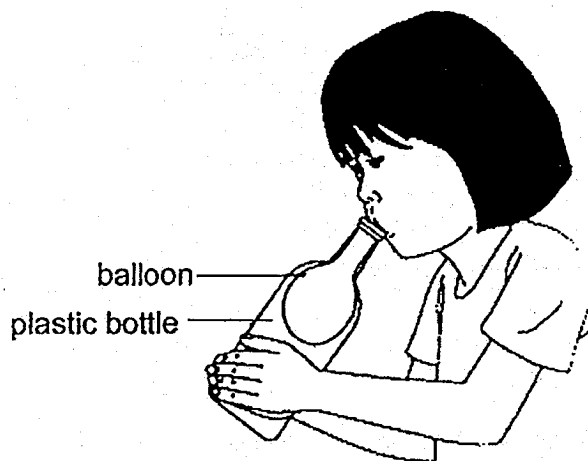
plant A



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SCORE	3
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- 32 Rosy fits a balloon over the mouth of a plastic bottle. She blows into the balloon, but is not able to inflate the balloon to fill the bottle up fully.



- (a) Explain why she cannot inflate the balloon to fill the bottle up fully. [1]

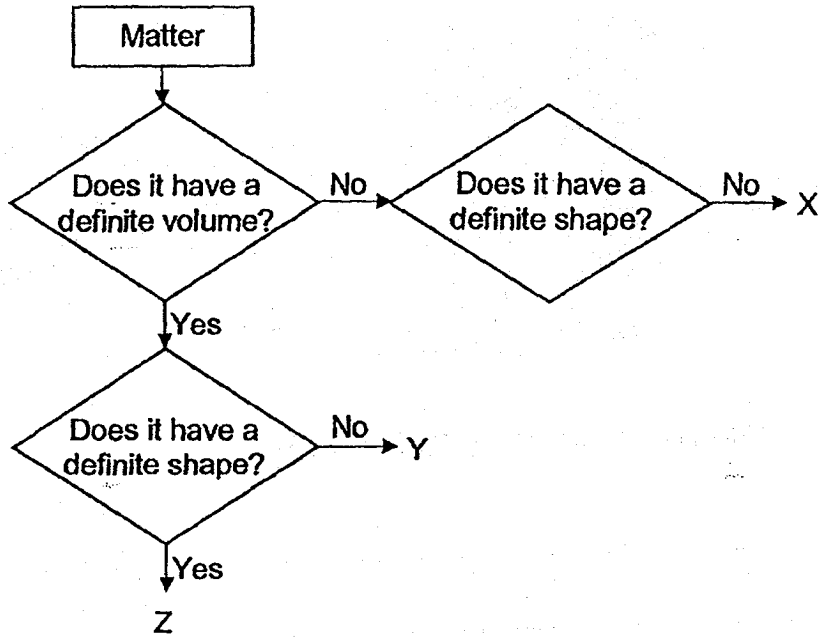
- (b) Using the same bottle and balloon, suggest what she can do to inflate the balloon to fill the bottle up fully. [1]

(Go on to the next page)

SCORE	2
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Continue from question 32

Rosy wanted to classify a list of items based on the flow chart as shown below.



(c) Classify the following items accordingly.

[1]

ice cube milk rain oxygen

Matter		
X	Y	Z

(d) Which one of the following is not matter? Why?

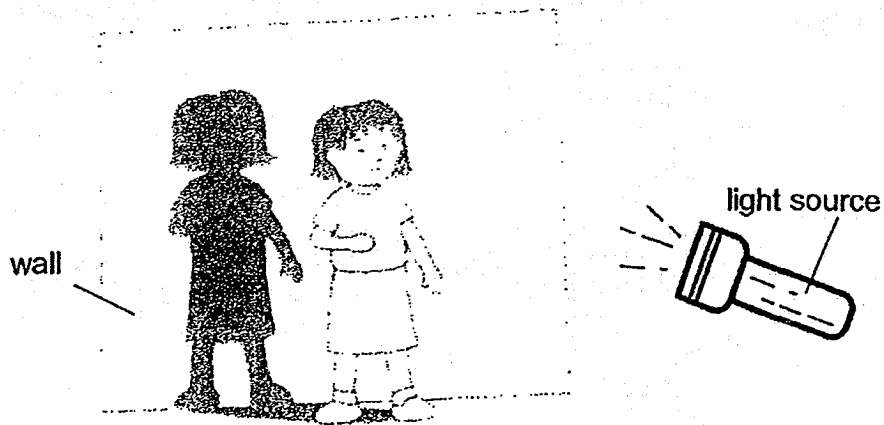
[1]

jelly shadow clouds plasticine

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SCORE	2
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33 Look at the diagram below.



(a) How is the girl's shadow formed on the wall? [1]

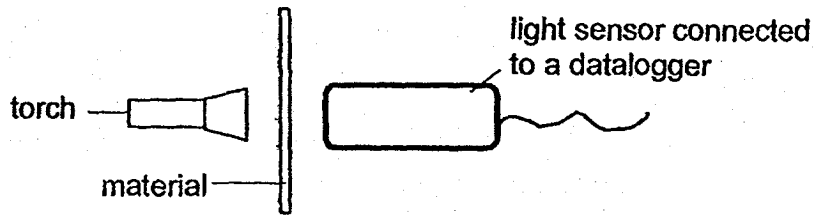
(b) What can the girl do to form two shadows on the wall instead of one? [1]
Tick [✓] the correct answer in the box provided.

Move nearer to the light source.	<input type="checkbox"/>
Move further away from the light source.	<input type="checkbox"/>
Stand at the side of the wall instead of the centre.	<input type="checkbox"/>
Use two light sources shining from different directions.	<input type="checkbox"/>

(Go on to the next page)

SCORE	2
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- 34 Devi wants to find out how much light can pass through the materials P, Q and R. Each material was placed in between a torch and a light sensor connected to a datalogger.




She recorded the results as shown below.

Materials	Amount of light (units)
P	0
Q	35
R	154


- (a) Based on the table above, what can Devi conclude about material Q? [1]

- (b) Which material P, Q, or R should Devi choose to make a curtain to have the darkest bedroom? Give a reason for your answer. [1]

- (c) Based on the table above, tick [✓] the shadow formed on the screen below when a torch is used to shine light on the following materials. [2]





torch



material P

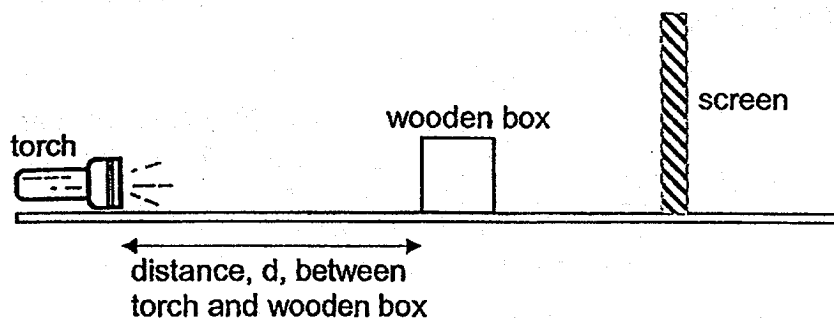
shadow on screen

(Go on to the next page)

SCORE	4
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- 35 Fiona used a torch to shine on a wooden box as shown below. A shadow of the box was formed on the screen.



- (a) Fiona measured the height of the shadow formed on the screen as she moved the torch towards the wooden box. She recorded the results in the table as shown below.

distance, d , between torch and wooden box (cm)	Height, H , of the shadow formed on the screen (cm)
15	8
12	10
9	12
6	H

State the height, H , of the shadow formed when the distance, d , [1] between the torch and the wooden box is 6 cm.

H : _____ cm

- (b) Without moving the torch, suggest two ways that Fiona could do to [2] make the height of the shadow formed on the screen to be less than 8 cm.

(i) _____

(ii) _____

- (c) What is the relationship between the distance of the torch and the [1] wooden box and the height of the shadow formed on the screen?

End of Booklet B

SCORE	4
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EXAM PAPER 2018 (P4)

SCHOOL : CATHOLIC HIGH

SUBJECT : SCIENCE

TERM : SA1

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

Q25) a) P – reptiles

Q – mammals

b) The crocodile crawls while the bat flies.

Q26) lamp cover – glass waterproof , transparent

Stand – metal strong

Q27) a) 10 g

b) Food that is digested is absorbed into the blood stream and is carried to all parts of the body.

c) There is no digestion in the gullet.

Q28) Plant A. A plant needs leaves to make its own food. As plant B has no leaves, it cannot survive very long while Plant A can, so plant A will survive longer.

Q29) a) Iron bar A is stronger than iron bar B, as Iron bar A has more coils than Iron bar B, so the rod moved towards Iron bar A.

b) steel

c) Add more batteries to iron bar B

Q30) a) The type of food

b) The bread. Most of the mealworms went to the bread to eat it, so the bread is the most suitable choice.

c) The rest could have died.

Q31) a) B

b) Seed leaf provides food for the young plant to grow.

c) Adult plant. The adult plant bears flowers and the young plant does not, so plant A should be in the adult stage.

Q32) a) There was air in the bottle taking up the space and cannot escape.

b) Poke a hole at the bottom of the balloon.

c) X – oxygen Y – milk rain Z – ice cube

d) Shadow. We cannot measure its mass and it does not take up space, so shadows are not matter.

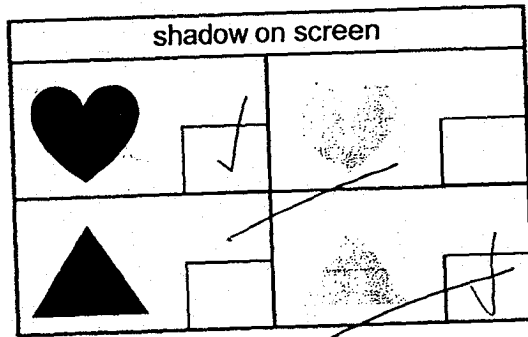
Q33) a) She prevented light to pass through as light travels in a straight line.

b) Use two light sources shining from different directions.

Q34) a) It allows some light to pass through

b) P. Material P does not allow light to pass through, therefore making the curtain dark.

c)



Q35) a) 14 cm

b) i) Move the wooden box nearer to the screen.

ii) Move the wooden box further away from the torch.

c) As the distance of the torch and the wooden box decreases, the weight of the shadow formed on the screen increases.

