

2020 PRIMARY 4 SEMESTRAL ASSESSMENT 2

Name : _____ ( )

Class : Primary 4 ( )

Date: 28 October 2020

Time: 8.00 a.m. - 9.30 a.m.

Duration: 1 hour 30 minutes

SCIENCE

BOOKLET A

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
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.

www.testpapersfree.com

Downloaded from SingaKids.com

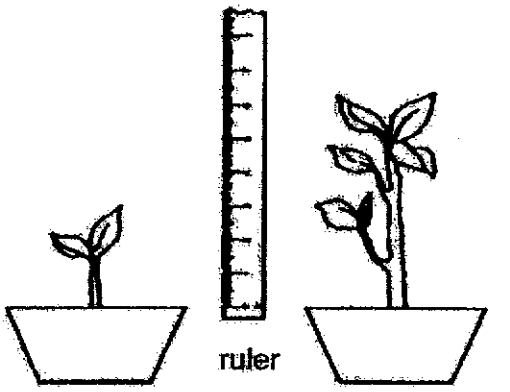
Booklet A (22 x 2 marks)

For each question from 1 to 22, 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.

(44 marks)

---

1. Sarah found a plant in the garden and measured its height. After two weeks, she measured its height again.



From her observation, Sarah concluded that the plant is a living thing because it can _____.

(1) grow

(2) breathe

(3) reproduce

(4) respond to changes around it

www.testpapersfree.com

Downloaded from SingaKids.com

2. The diagram below shows a young plant.



The leaf helps the plant to _____.

(1) make food

(2) grow upright

(3) absorb water

(4) absorb nutrients

www.testpapersfree.com

Downloaded from SingaKids.com

3. Which of the following shows the correct order when food moves through some parts of the digestive system?

(1)



stomach large intestine small intestine

(2)



stomach small intestine large intestine

(3)



large intestine stomach small intestine

(4)

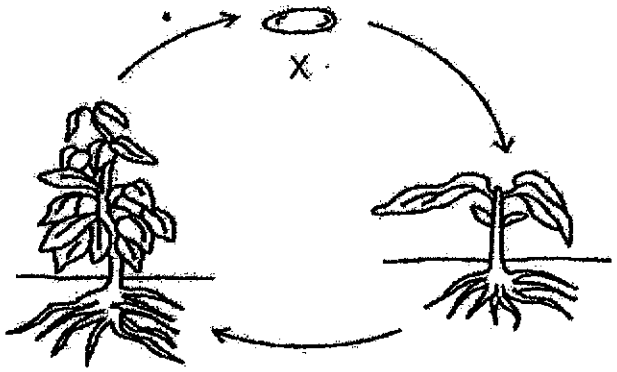


small intestine large intestine stomach

www.testpapersfree.com

Downloaded from SingaKids.com

4. The diagram shows the life cycle of a plant.



What is the stage marked X?

(1) egg

(2) seed

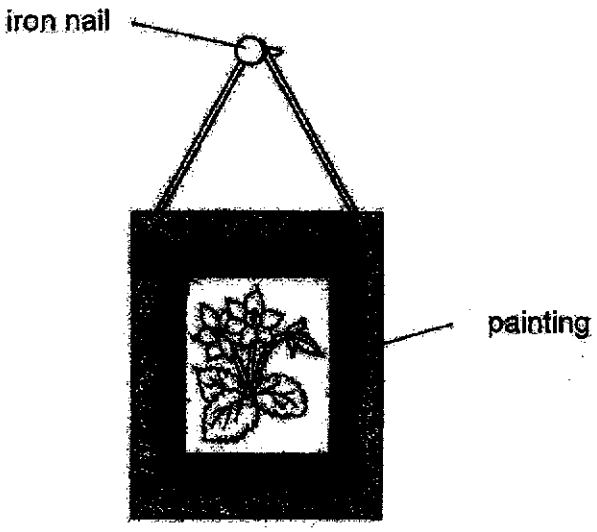
(3) adult plant

(4) young plant

www.testpapersfree.com

Downloaded from SingaKids.com

5. The diagram shows a painting hung on a wall using an iron nail.



Iron is used to make nails because iron _____.

(1) is shiny

(2) is strong

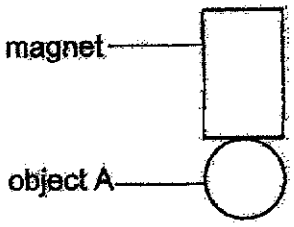
(3) sinks in water

(4) conducts heat well

www.testpapersfree.com

Downloaded from SingaKids.com

6. An object A was attracted to a magnet, as shown in the figure below.



Object A is made of _____.

(1) steel

(2) wood

(3) plastic

(4) rubber

7. Which of the following properties is true for both air and a pencil?

(1) They can be seen.

(2) They take up space.

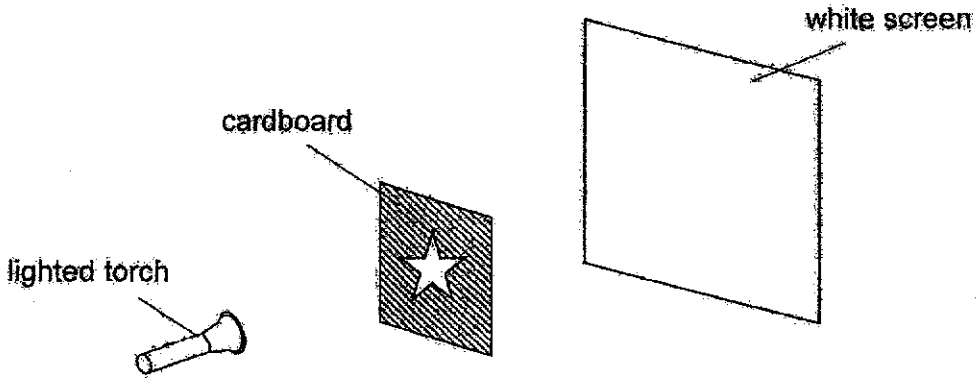
(3) They have fixed shapes.

(4) They have fixed volumes.

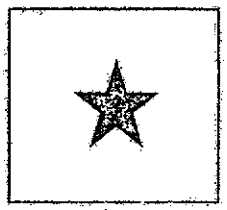
www.testpapersfree.com

Downloaded from SingaKids.com

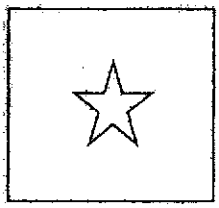
8. Jayden set up an experiment as shown below. First, he cut a star out of a square cardboard. He then placed the cardboard in a straight row. A torch was shone at them.



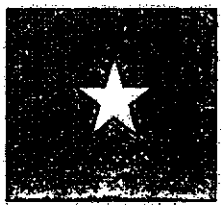
Which of the following would Jayden see on the screen?



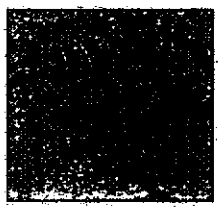
(1)



(2)



(3)



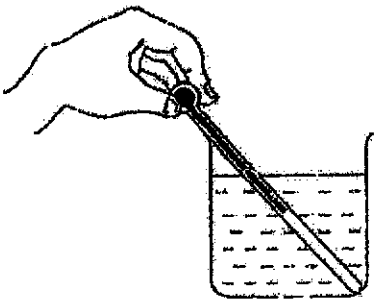
(4)

www.testpapersfree.com

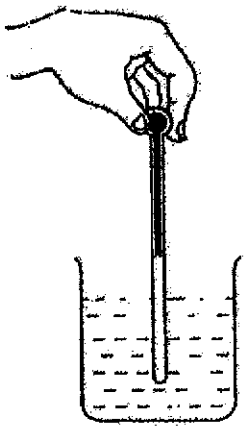
Downloaded from SingaKids.com

9. Jane wants to measure the temperature of water in a beaker. Which of the following diagrams shows the correct position of the thermometer when taking the temperature reading?

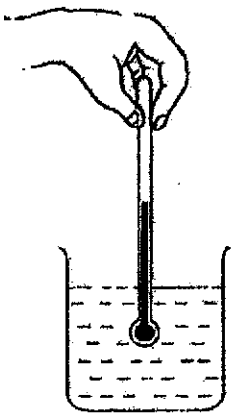
(1)



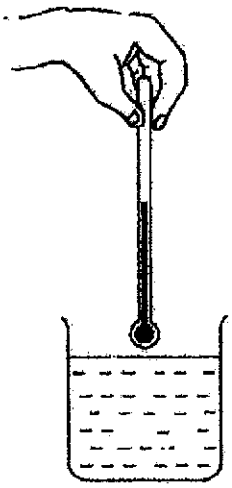
(2)



(3)



(4)



www.testpapersfree.com

Downloaded from SingaKids.com

10. Which of the following is not a source of heat?

(1) the Sun

(2) a lighted bulb

(3) a woollen cap

(4) a candle flame

11. James was riding his bicycle as shown below.



Which of the following system(s) is/are needed for James to be able to cycle?

A: Skeletal System

B: Muscular System

C: Circulatory System

D: Respiratory System

(1) B only

(2) A and B only

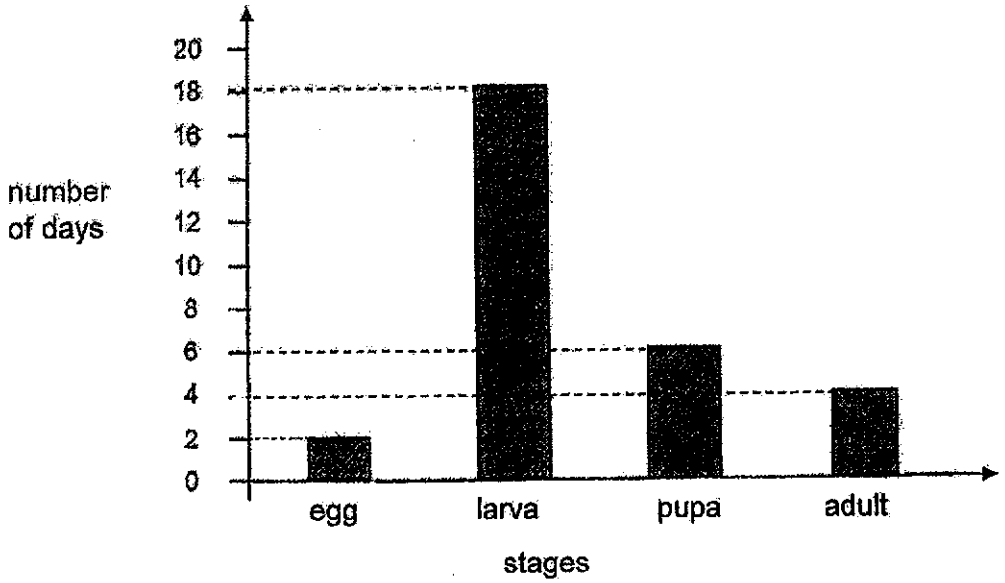
(3) A, B and D only

(4) A, B, C and D

www.testpapersfree.com

Downloaded from SingaKids.com

12. Joan studied the life cycle of a particular insect and recorded her observations using the graph below.



Based on the information given, which of the following conclusions is incorrect?

(1) The insect has four stages in its life cycle.

(2) The insect does not feed on Day 21 of its life cycle.

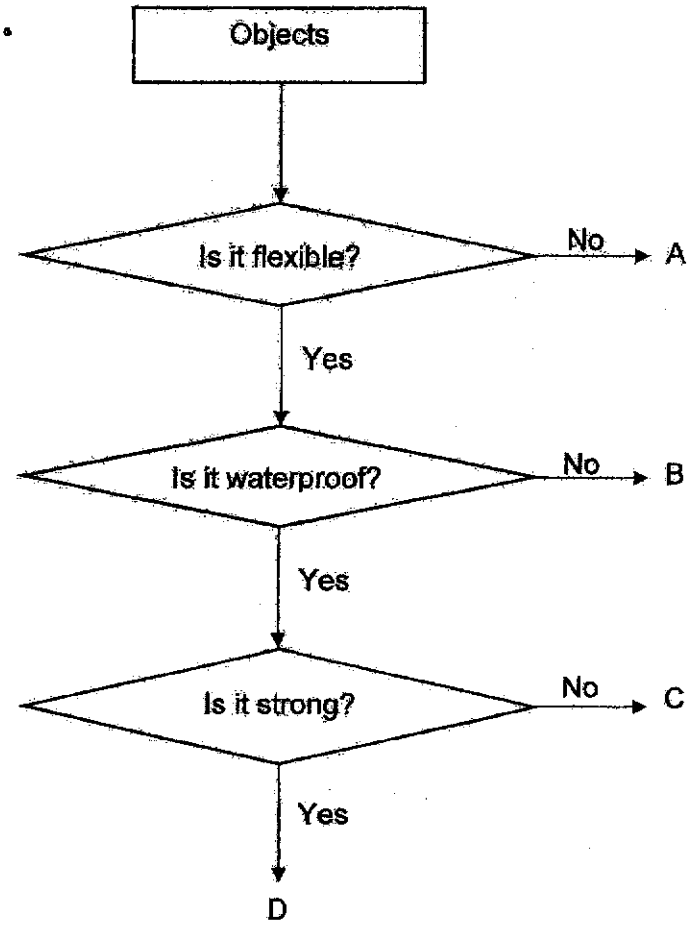
(3) The insect spends most of its life cycle in the larval stage.

(4) The insect takes 26 days to become an adult after the egg has hatched.

www.testpapersfree.com

Downloaded from SingaKids.com

13. The chart below is used to classify 4 objects, A, B, C and D.



Which one of the following objects, A, B, C and D, is most likely a bath towel?

(1) A

(2) B

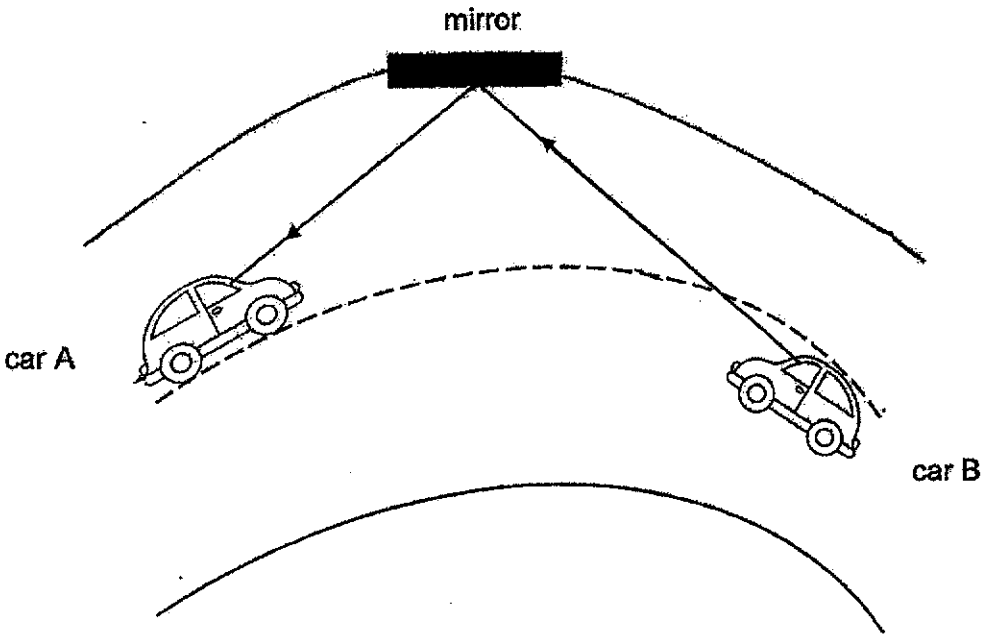
(3) C

(4) D

www.testpapersfree.com

Downloaded from SingaKids.com

14. A mirror was placed at a road bend by a mountain side to prevent the cars from colliding with each other when they go round the bend as shown in the diagram below.



Which property/properties of light allow(s) the driver in car A to see car B?

A: Light travels in a straight line.

B: Light can be reflected by mirrors.

C: When light is blocked, a shadow is formed.

(1) A only

(2) A and B only

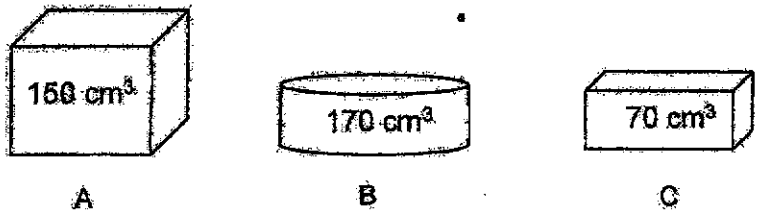
(3) B and C only

(4) A, B and C only

www.testpapersfree.com

Downloaded from SingaKids.com

15. Which of the following container(s) can hold 150 cm^3 of air?



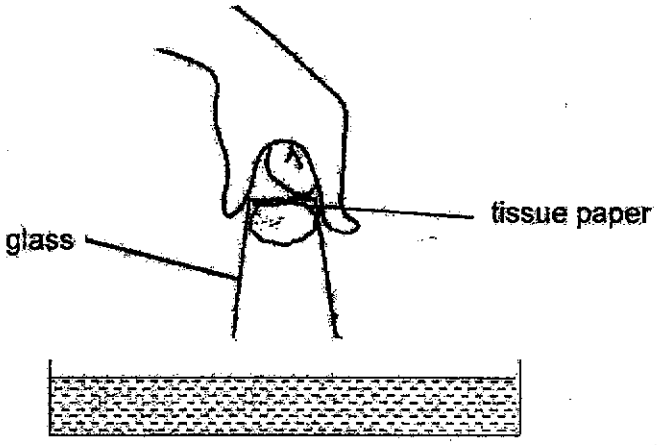
(1) A only

(2) B only

(3) A and C only

(4) A, B and C

16. John stuck a piece of tissue paper into the bottom of a glass.



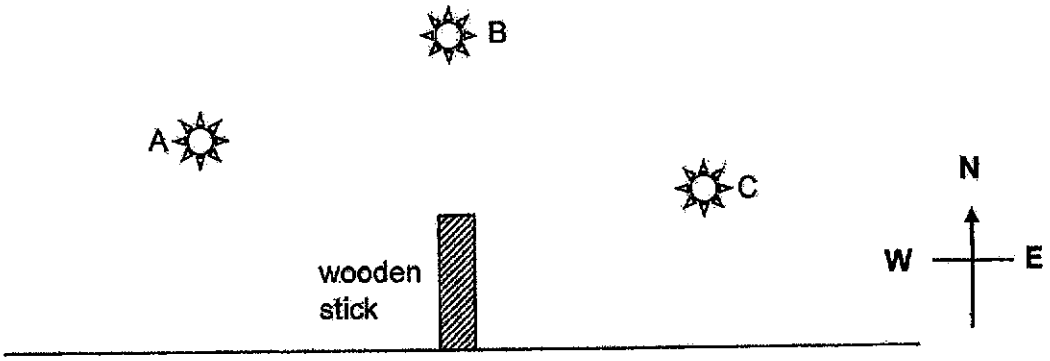
What would be observed when the glass is fully pushed into the water?

	What would happen to the water?	What would happen to the paper?
(1)	The water would fill up the glass halfway.	wet
(2)	No water would enter the glass.	dry
(3)	The water would fill up the glass completely.	wet
(4)	Some water would enter the glass.	dry

www.testpapersfree.com

Downloaded from SingaKids.com

17. Natalie wanted to find out how the position of the Sun affects the length of a shadow. She placed a wooden stick in the middle of a field and observed its shadow when the Sun was at positions A, B and C, during the day as shown in the diagram below.



Based on the diagram above, which of the following statements is true?

(1) The Sun shining from position B will form the longest shadow.

(2) The Sun shining from position C will form the shortest shadow.

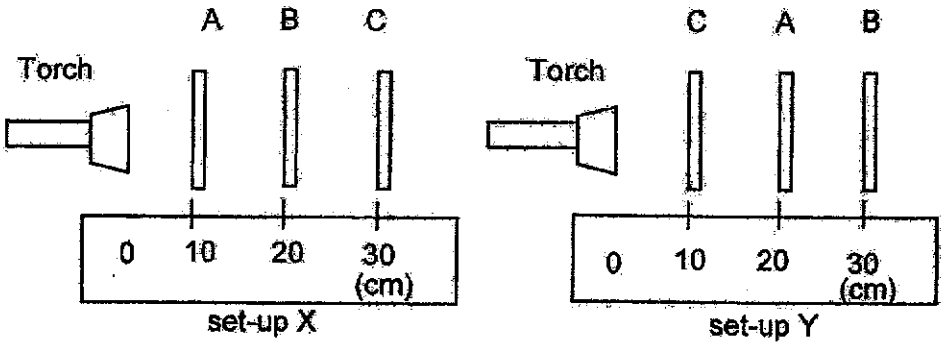
(3) The length of the shadow increases as the Sun moves from position B to A.

(4) The length of the shadow decreases as the Sun moves from position C to B to A.

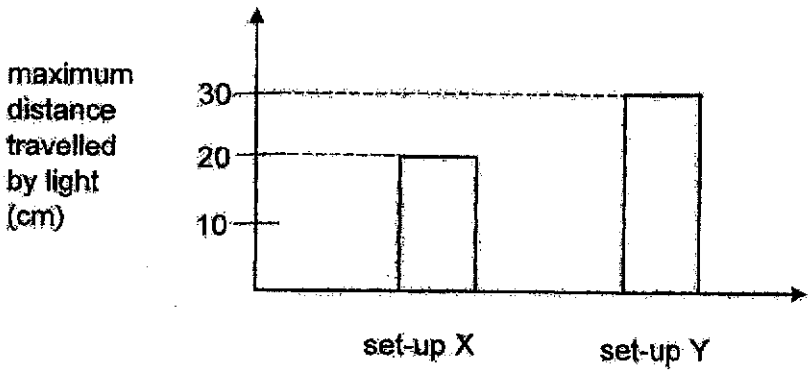
www.testpapersfree.com

Downloaded from SingaKids.com

18. An experiment was conducted to investigate if light can pass through three sheets, A, B and C, made of different materials. The sheets were arranged into two set-ups, X and Y, as shown below.



The maximum distance at which light could be detected was measured and the results are shown in the graph below.



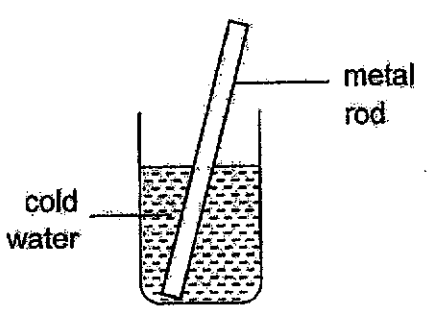
Which of the following correctly describes sheets A, B and C?

	Does it allow light to pass through?		
	A	B	C
(1)	yes	yes	no
(2)	no	no	yes
(3)	yes	no	yes
(4)	no	yes	no

www.testpapersfree.com

Downloaded from SingaKids.com

19. James placed a metal rod at room temperature, into a container of cold water as shown below. After some time, he could feel that the rod was cold.



Which of the following best explains why James's hands felt cold when he touched the rod?

(1) The rod lost heat to the water and his hand.

(2) The rod gained heat from the water and his hand.

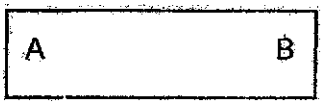
(3) The rod gained heat from his hand and lost heat to the water.

(4) The rod gained heat from the water and lost heat to his hand.

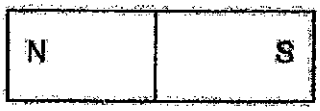
www.testpapersfree.com

Downloaded from SingaKids.com

20. Lucas was given three rods, P, Q and R, made of different materials.



rod



magnet

He placed the north pole of the bar magnet near A and then B of rods, P, Q and R, made of different materials. He recorded his results in the table below.

Rods	Observations seen when the North Pole of the magnet is brought near	
	A	B
P	moves towards the magnet	moves towards the magnet
Q	no movement	no movement
R	moves towards the magnet	moves away from the magnet

Which of the following statements is definitely true?

(1) Rod P is a magnet.

(2) Rod Q is made of steel.

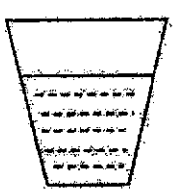
(3) Rod R is made of aluminium.

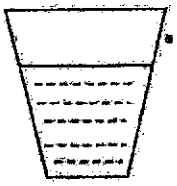
(4) Rods P and R are made of magnetic materials.

www.testpapersfree.com

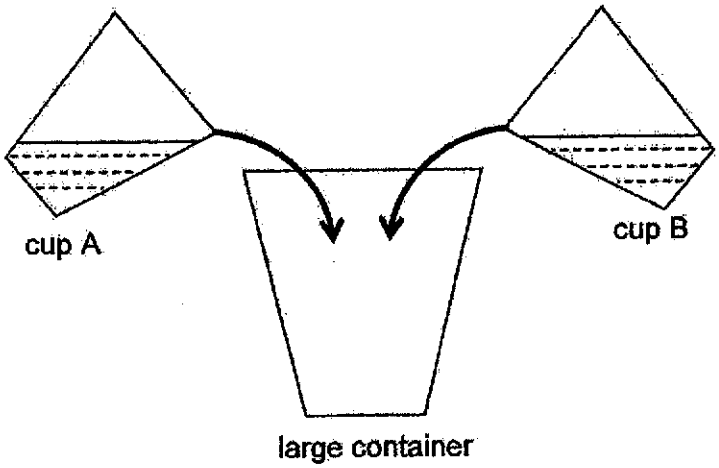
Downloaded from SingaKids.com

21. Raj had two cups of water of equal volume as shown below.


cup A, 20°C


cup B, 80°C

He poured all of the water in cup A and cup B into a large container. He then measured the temperature of the water in the large container immediately.



What could be the temperature of the water that Raj obtained in the large container?

(1) 20°C

(2) 60°C

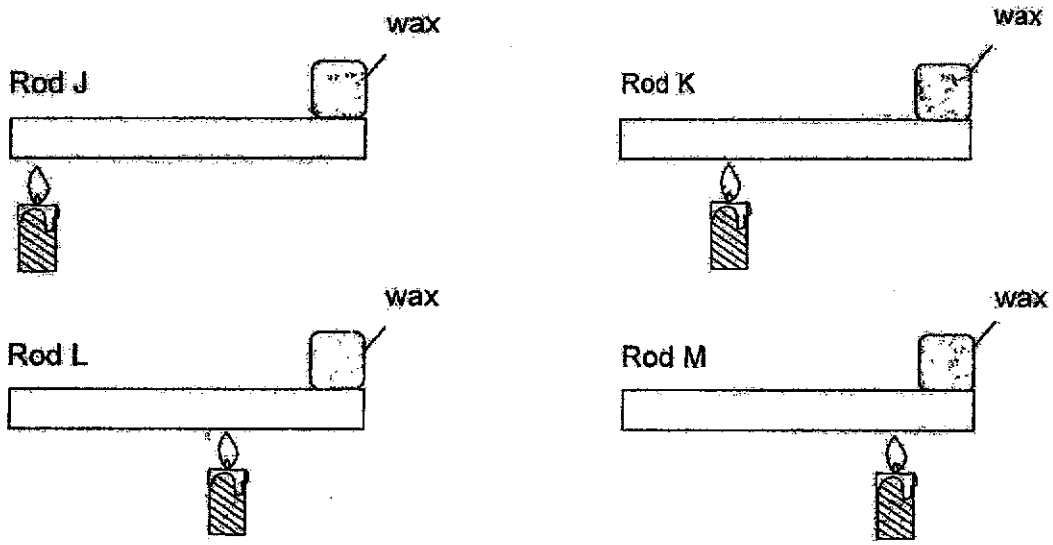
(3) 80°C

(4) 100 °C

www.testpapersfree.com

Downloaded from SingaKids.com

22. Ali wanted to find out how well different materials, J, K, L and M, conduct heat. He placed the same amount of wax at the end of each rod of similar length and thickness. He then heated the rods at different positions as shown below.



Ali recorded the time taken for the wax on each metal rod to melt completely.

Rod	Time taken (min)
J	4
K	8
L	4
M	8

Based on the results above, which rods, J, L, K or M is classified under the correct heading?

	Best conductor of heat	Poorest conductor of heat
(1)	M	J
(2)	L	K
(3)	J	K
(4)	J	M

End of Booklet A

www.testpapersfree.com

Downloaded from SingaKids.com

2020 PRIMARY 4 SEMESTRAL ASSESSMENT 2

Name : _____ ( )

Class : Primary 4 ( )

Parent's Signature : _____

Date: 28 October 2020

Time: 8.00 a.m. – 9.30 a.m.

Duration: 1 hour 30 minutes

SCIENCE

BOOKLET B

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
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 your answers in the booklet.

Booklet A	44
Booklet B	36
Total	80

www.testpapersfree.com

Downloaded from SingaKids.com

Booklet B (36 marks)

For questions 23 to 34, write your answers clearly in this booklet.

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

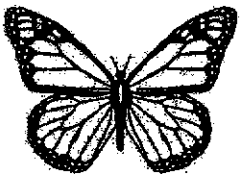
(36 marks)

---

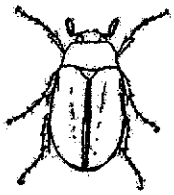
23. Classify the following animals according to the number of stages in their life cycle. [2]



chicken



butterfly



beetle



grasshopper

Three-staged life cycle	Four-staged life cycle

Score	2

www.testpapersfree.com

Downloaded from SingaKids.com

24. Jasmine observed and grouped some things as shown in the table below.

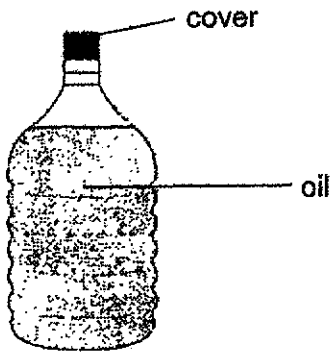
F	G
lion	stone
ant	cloth
mushroom	pencil

What are the suitable headings for F and G? [2]

(a) Group F: _____

(b) Group G: _____

25. The diagram below shows a bottle of cooking oil.



Complete the sentences to state if the parts are solid, liquid or gas.

(a) The cover is a _____. [1]

(b) Oil is a _____. [1]

Score	/ 4

www.testpapersfree.com

Downloaded from SingaKids.com

26.



Susan places a magnet near an iron rod. The iron rod moves towards the magnet.

(a) The magnet exerts a _____ on the iron rod. [1]

(b) Choose the correct word from the box to fill in the blank below.

flexible	magnetic	strong

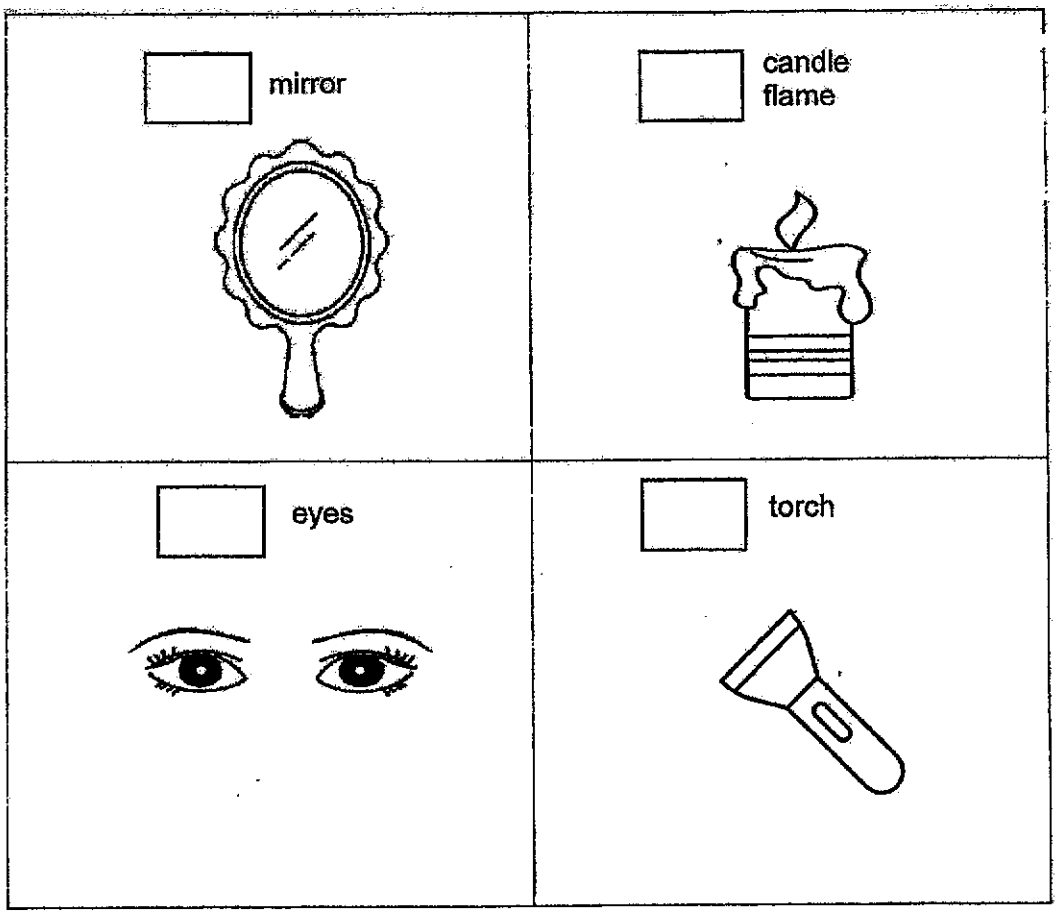
Susan's observation shows that iron is a _____ material. [1]

Score 2

www.testpapersfree.com

Downloaded from SingaKids.com

27. Look at the pictures below. Tick the box(es) if the item is a source of light. [2]

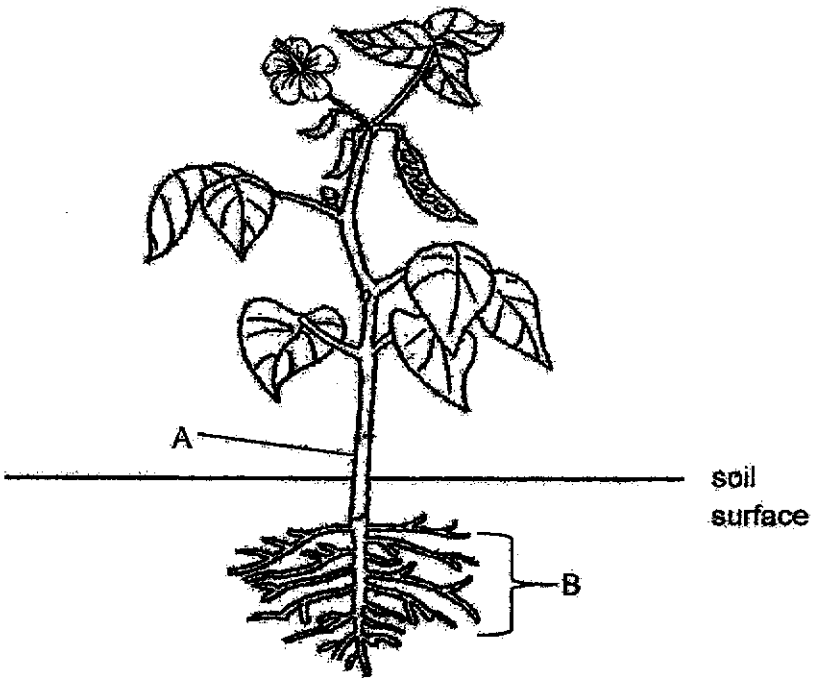


Score	/ 2

www.testpapersfree.com

Downloaded from SingaKids.com

28. The diagram below shows a plant.



Name the parts A and B and state their respective functions. [3]

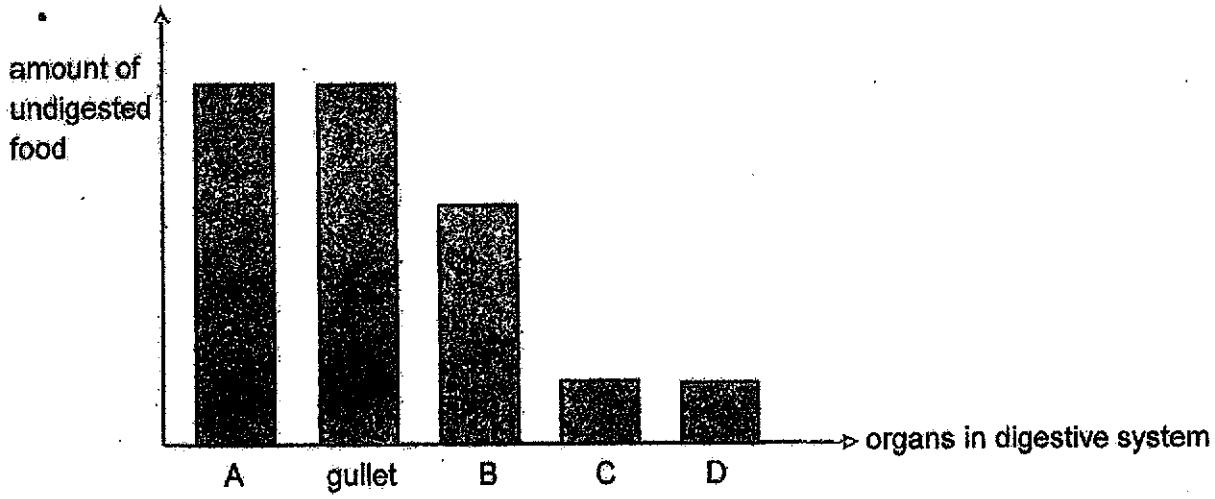
Part	Name	Function
A	_____	_____ _____
B	_____	_____ _____

Score	/ 3

www.testpapersfree.com

Downloaded from SingaKids.com

29. A, B, C and D are organs in the digestive system. The graph below shows the amount of undigested food leaving each organ after a meal.



(a) Identify Part D. [1]

_____

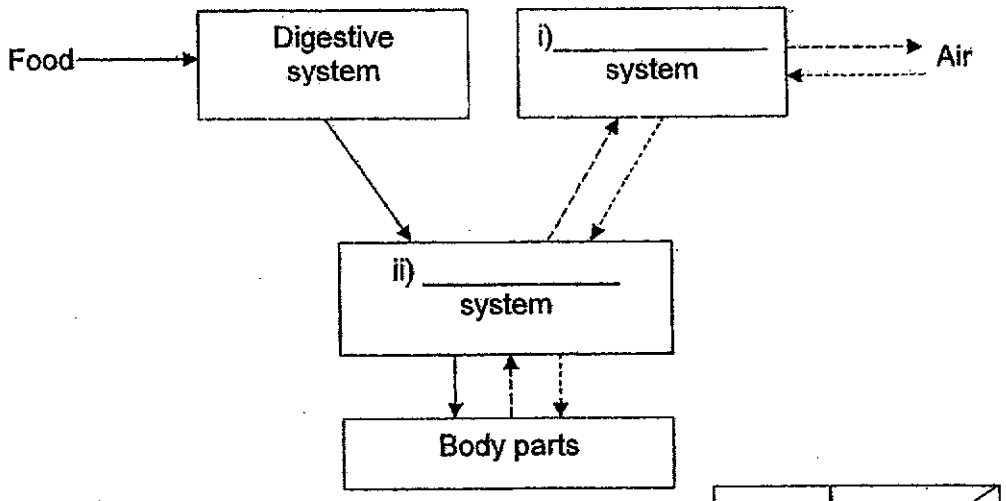
(b) What is a function of Part D? [1]

_____

_____

The diagram below shows how some human systems work together.

(c) Fill in the blanks with the correct human system. [2]

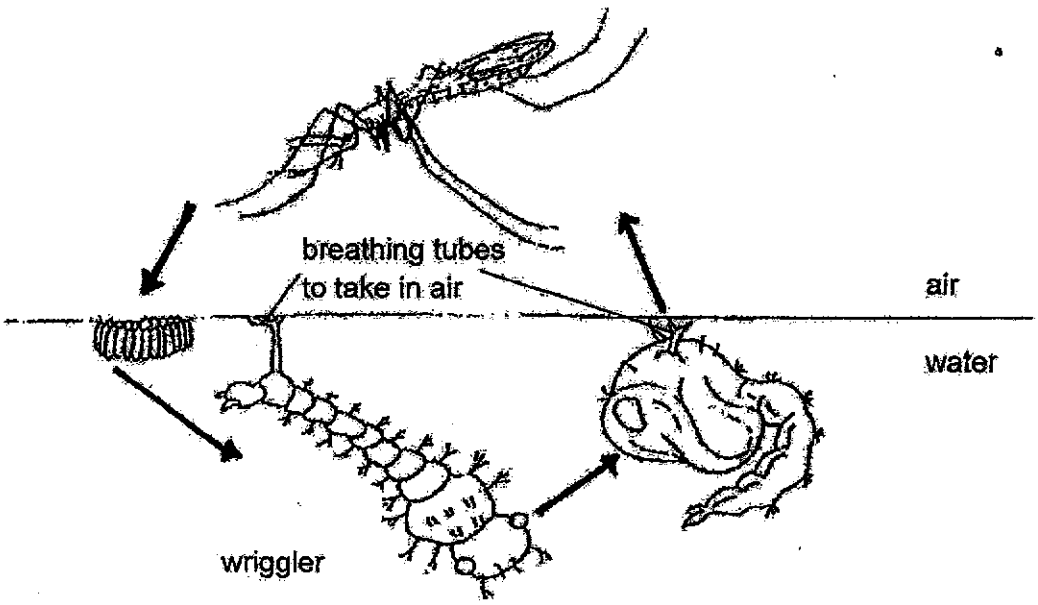


Score 4

www.testpapersfree.com

Downloaded from SingaKids.com

30. The diagram below shows the life cycle of an Aedes mosquito.



(a) Based on the diagram above, how many stages are there in the life cycle of the Aedes mosquito? [1]

Dengue fever is caused by Aedes mosquitoes. During the rainy periods, more Singaporeans may contract dengue fever.

A teacher asks Amelia to suggest a way to stop mosquitoes from breeding in a fish pond. She suggested spraying oil on the surface.

(b) Based on the diagram of the wriggler shown above, explain how Amelia's suggestion would kill the wrigglers. [1]

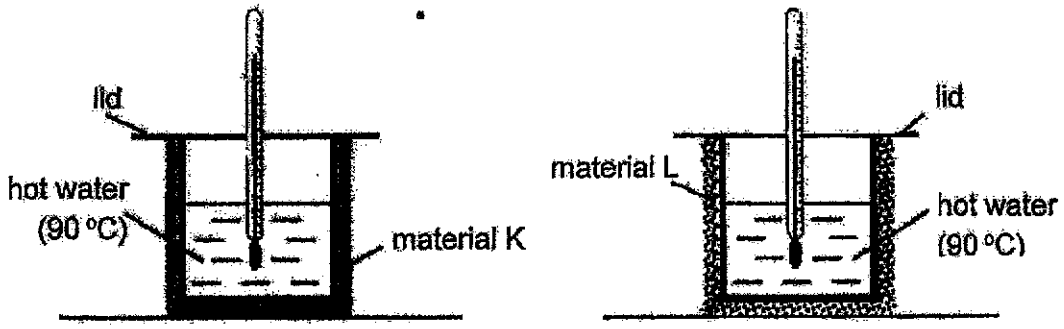
(c) Suggest another way to stop the breeding of mosquitoes, without harming the living things in the pond. [1]

Score 3

www.testpapersfree.com

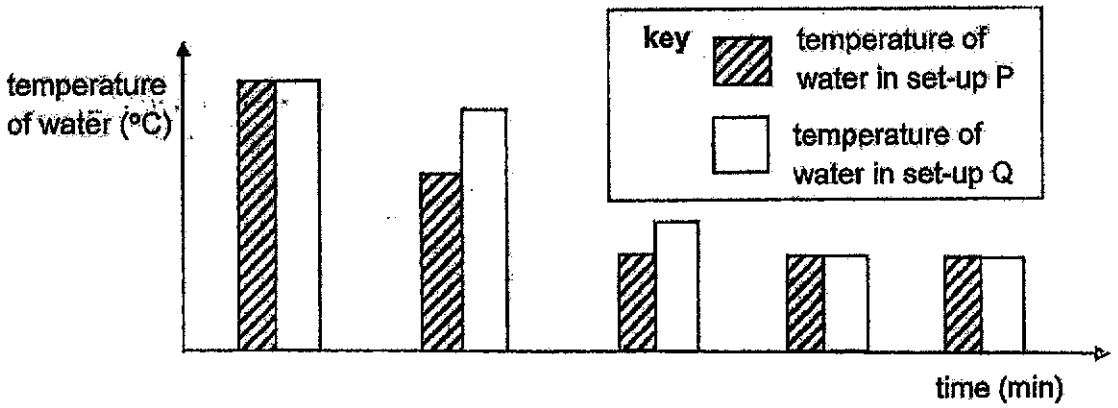
Downloaded from SingaKids.com

31. Endy conducted an experiment using set-ups P and Q as shown below. He wrapped two identical glass beakers with materials K and L. He filled both beakers with the same volume of hot water that are of the same temperature.



set-up P set-up Q

Endy measured the temperatures of the water in both set-ups over a period of time and plotted his results in the graph below.



a) Based on the graph for set-up P, state the relationship between the temperature of water and time. [1]

b) What must Endy do to ensure his results are reliable? [1]

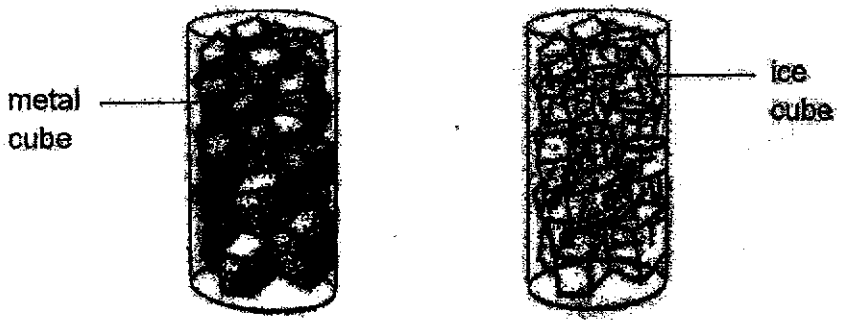
c) Which materials, K or L, would be more suitable to keep a tub of ice cream frozen for a longer period of time? Explain why. [2]

Score 4

www.testpapersfree.com

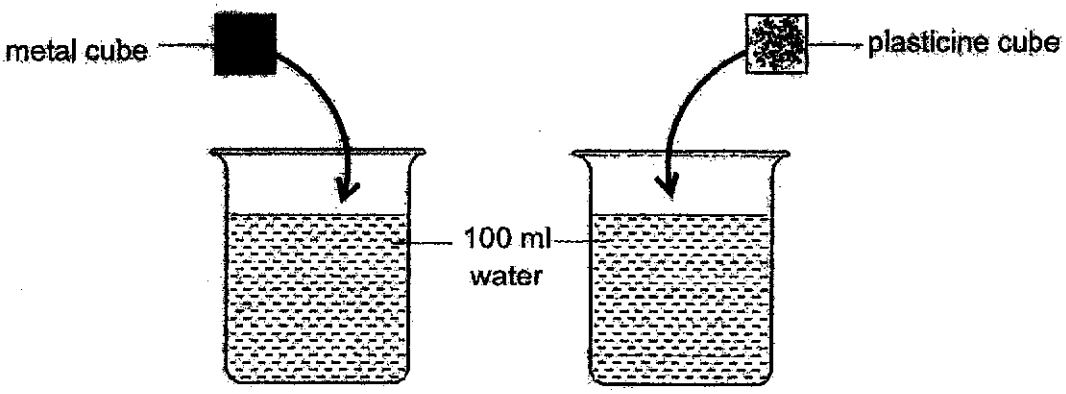
Downloaded from SingaKids.com

32. Containers A and B were completely filled to the brim with cubes made of different materials but of identical size.



(a) After 15 minutes, more cubes could be added to Container B but not container A. Explain why. [2]

A metal cube weighing 100 g and a plasticine cube weighing 50 g of similar sizes were gently placed into two separate beakers as shown below.



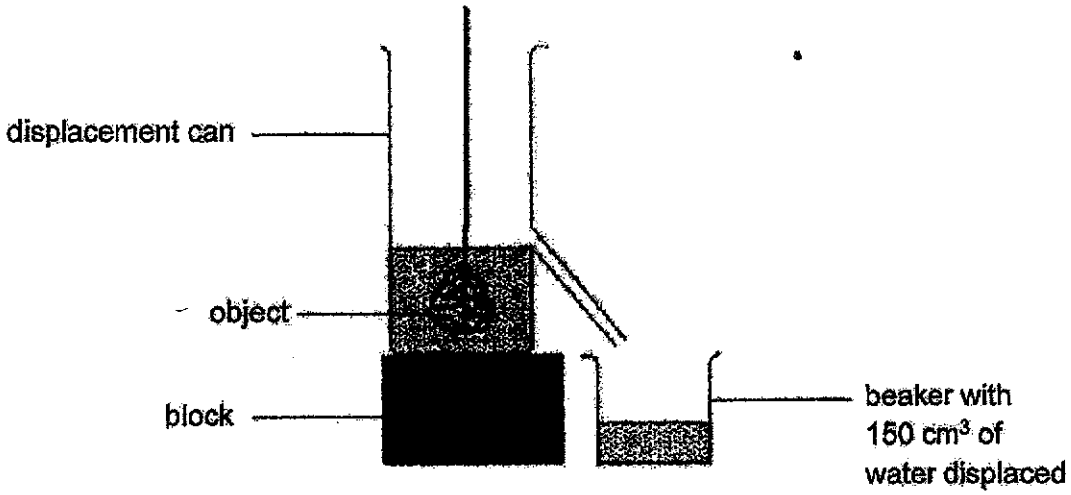
(b) Will the increase in water level be the same for both beakers? Explain your answer. [1]

Score 3

www.testpapersfree.com

Downloaded from SingaKids.com

The diagram shows an object after it is dropped into a displacement can. Water displaced from the displacement can and flowed into a beaker.



(c) Is the volume of the object 150 cm^3? Explain your answer. [1]

_____

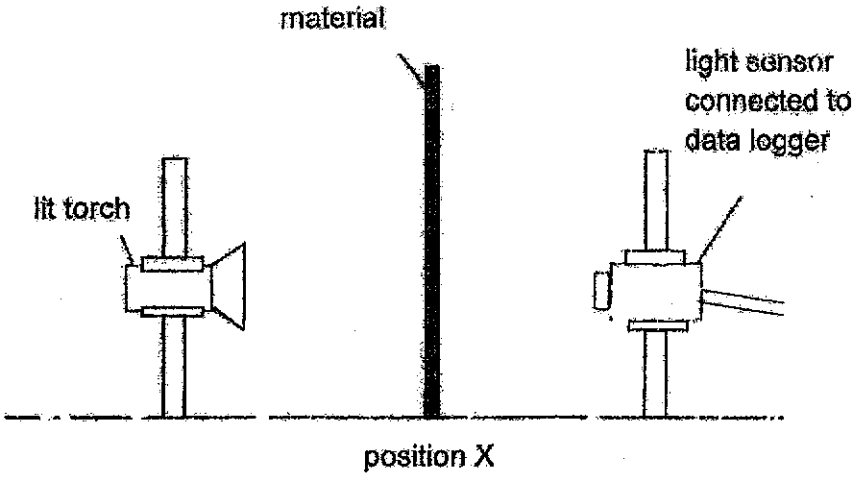
_____

Score	/ 1

www.testpapersfree.com

Downloaded from SingaKids.com

33. Mr Lee conducted the experiment below in a dark room.



He placed materials, P, Q and R, of equal thickness at position X. He recorded the amount of light detected by the light sensor. He observed that when no materials was placed at position X, the amount of light detected by the light sensor was 5000 units.

His results are shown below.

Materials	Amount of light detected (units)
P	5000
Q	0
R	900

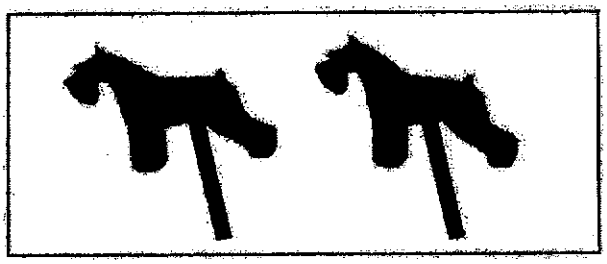
(a) Is the experiment a fair test? Explain why. [1]

Score 1

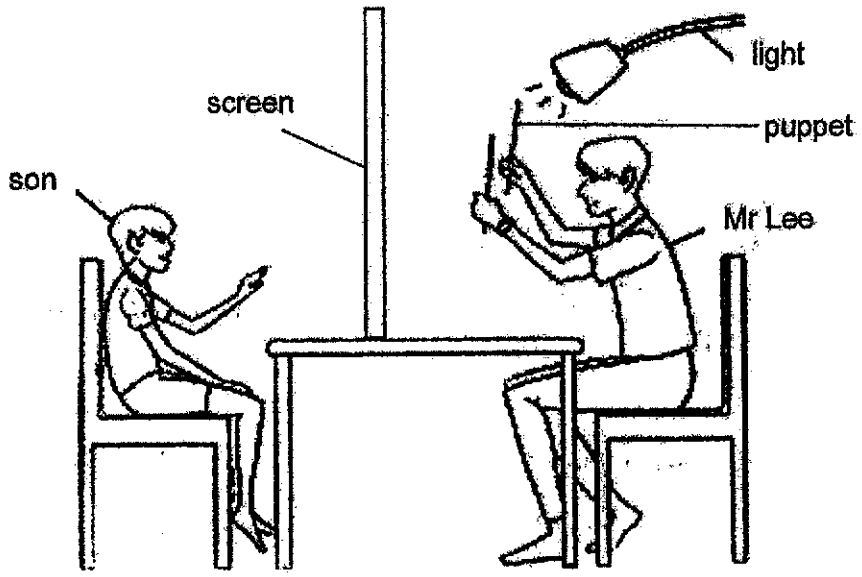
www.testpapersfree.com

Downloaded from SingaKids.com

Mr Lee put up a puppet show and the shadows cast at the screen are as shown below.



His son saw the shadows of the puppet from where he was seated as shown below.



(b) Based on the results of Mr Lee's experiment, which materials, P, Q or R, is most suitable to be used as a screen? Explain your answer. [2]

_____

_____

(c) What must Mr Lee do to the position of the puppets if he wants to create a smaller shadow on the screen? [1]

_____

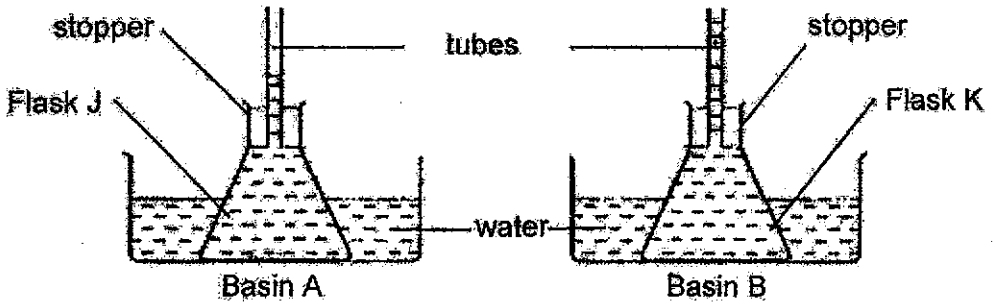
_____

Score	3

www.testpapersfree.com

Downloaded from SingaKids.com

34. Megan filled two identical flasks, K and J, with the same amount of similar coloured water. She placed them in two basins, A and B, with water at different temperatures as shown below. She observed that the water levels in both tubes rose.



(a) Compare the temperatures of the water in basins A and B. [1]

(b) Explain the difference in the water levels observed in Flasks J and K. [2]

Before the start of the experiment, Megan measured the mass of Flask K and its contents. Immediately after she saw the water level rise, the mass was recorded again.

(c) Compare the mass of Flask K and its contents before and immediately after the experiment. [1]

End of Booklet B

Score 4

www.testpapersfree.com

Downloaded from SingaKids.com

SCHOOL : TAO NAN SCHOOL

LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2020 SA2

SECTION A

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

Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
4	4	2	2	4	4	3	3	3	4

Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	4								

www.testpapersfree.com

Downloaded from SingaKids.com

www.testpapersfree.com

Downloaded from SingaKids.com

Primary 4 Science SA2 Suggested Answers

23	Three stages: chicken grasshopper Four stages: butterfly, beetle	
24a	Living	
24b	Non-living thing	
25a	Solid	
25b	Liquid	
26a	pull /magnetic pull/pulling/ magnetic attraction//force/ magnetic force	
26b	Magnetic	
27	Sources of light: Flame, torch	
28	A: Stem Function: Support plant/keep the plant upright B: Root Function: Hold plant firmly to the ground/absorb water from the soil	
29a	Large intestine	
29b	It absorbs water from the undigested food into bloodstream	
29 ci	Respiratory system	
29 cii	Circulatory system	
30a	There are 4 stages.	
30b	The wriggler's breathing tube would be blocked by the oil so the wriggler cannot take in air.	
30c	Introduce a fish in the pond	
31a	As the time increases, the temperature of the water decreases until it reaches room temperature.	
31b	Repeat the experiment several times	
31c	Material L is a poorer conductor of heat. (property) Temperature of water in Material L decreased slower over time compared to temperature of water in Material K. (evidence from the table) Ice cream (heat destination) will gain less heat from the surrounding (heat source) - Heat direction must be clearly stated. (application)	

www.testpapersfree.com

Downloaded from SingaKids.com

Primary 4 Science SA2 Suggested Answers

32a	Metal cube has a definite shape and definite volume. Ice melted and the water takes over the space previously occupied by the air, making space for more cubes.	
32b	Yes. The volume of both cubes are the same.	
32c	Yes. The object sinks. The volume of water displaced is the volume of the object which is 150 cm^3. (linking volume of object to the volume of water)	
33a	Yes. The type of materials used is the only variable affecting the results as all other variables are kept constant.	
33b	R allows some light to pass through so the shadows of the puppets can be cast on the screen.	
33c	He can move the puppet further away from the light source.	
34a	Temperature of the water in Basin A is lower than that in Basin B.	
34b	The water in Flask K has gained more heat from the water and expanded more.	
34c	The mass remains unchanged.	

www.testpapersfree.com

Downloaded from SingaKids.com