Anglo-Chinese School (Junior)

END-OF-YEAR EXAMINATION (2024)

PRIMARY 4
SCIENCE
(BOOKLET A)

24 October 2024

Name: _____( ) Class: 4.( )

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

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

This booklet consists of 15 printed pages.

Downloaded from SingaKids.com

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) and shade your answer on the Optical Answer Sheet.

(56 marks)

---

1 Which of the following is true about animals?

(1) They cannot grow.
(2) They can reproduce.
(3) They can make food.
(4) They cannot respond to changes.

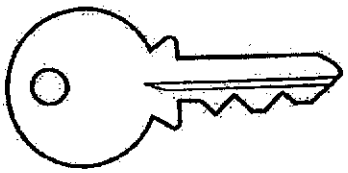
2 Which of the following objects float in water?

(1) A ceramic spoon

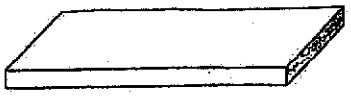
(2) A wooden cube



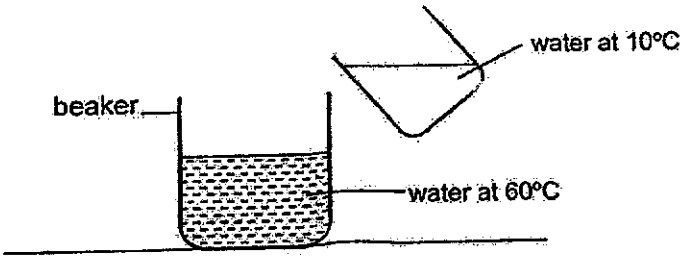
(3) A metal key



(4) A sheet of glass



3 Warm water at 60°C is mixed with cold water at 10°C.



What is a possible final temperature of water in the beaker?

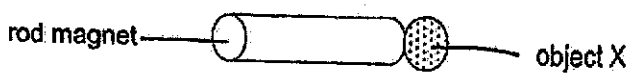
(1) 10°C
(2) 50°C
(3) 60°C
(4) 70°C

Downloaded from SingaKids.com

4 Which of the following is **not** a source of heat?

(1) A fire
(2) The Sun
(3) A blanket
(4) A lighted bulb

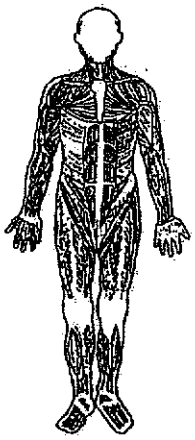
5 Object X was attracted to a rod magnet.



Object X is made of _____.

(1) steel
(2) wood
(3) paper
(4) plastic

6 Which human system is shown in the diagram?



(1) skeletal system
(2) muscular system
(3) circulatory system
(4) respiratory system

Downloaded from SingaKids.com

7 Which of the following is a correct function of the root?

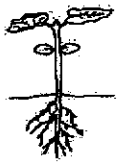
(1) keeps the plant upright
(2) takes in air for the plant
(3) makes food for the plant
(4) holds the plant firmly to the soil

8 Matter is anything that has mass and occupies space.

Which of the following is **not** matter?

(1) air
(2) ice
(3) soil
(4) shadow

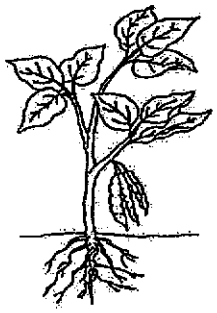
9 A, B and C are stages in the life cycle of a plant.



A



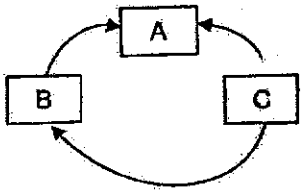
B



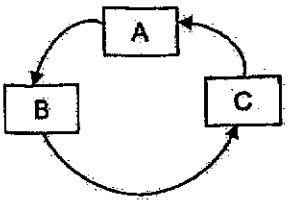
C

Which of the following shows the correct life cycle of the plant?

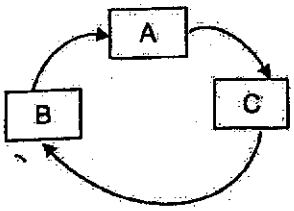
(1)



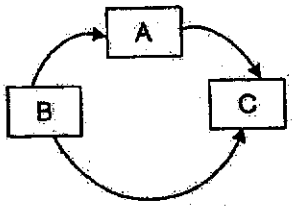
(2)



(3)

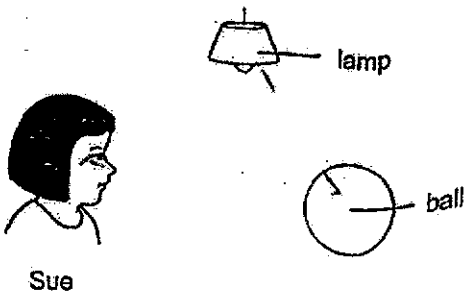


(4)

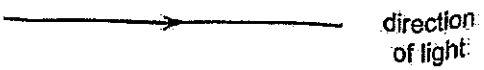


Downloaded from SingaKids.com

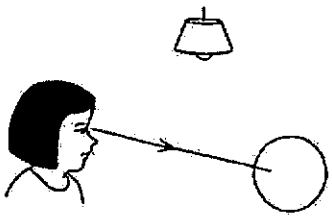
10 Look at the picture.



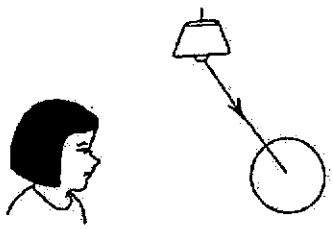
Which of the following explains why Sue can see the ball?



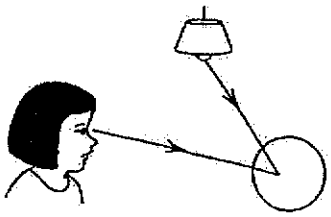
(1)



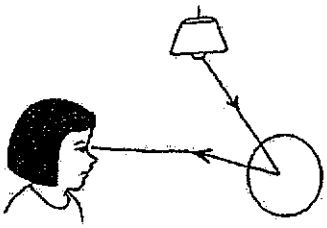
(2)



(3)



(4)



11 Which of the following statement(s) is/are true about the life cycle of animals?

A The adult of all animals can fly.

B All life cycles start with an egg stage.

C The young of some animals resemble their adult.

(1) C only

(2) A and B only

(3) B and C only

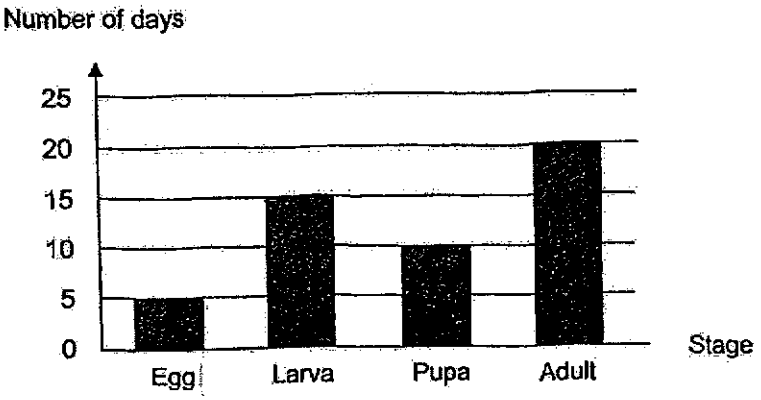
(4) A, B and C

Downloaded from SingaKids.com

12 Animals have different number of stages in their life cycles. Which of the following animals are classified correctly?

	Three-stage life cycle	Four-stage life cycle
(1)	cockroach	chicken
(2)	beetle	grasshopper
(3)	grasshopper	beetle
(4)	chicken	cockroach

13 The graph shows the number of days an insect spends at each stage in its life cycle.

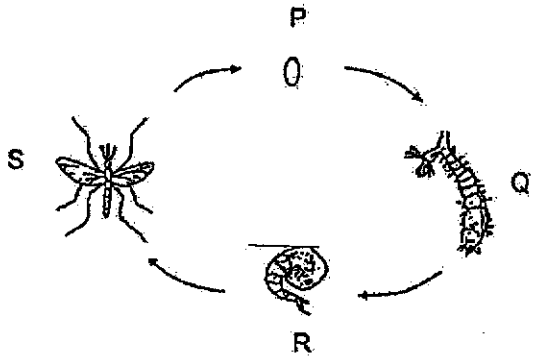


How many days did the insect take to become an adult after the egg hatched?

(1) 25 days
(2) 30 days
(3) 45 days
(4) 50 days

Downloaded from SingaKids.com

14 The diagram shows the life cycle of a mosquito.



Which of the following are true of the mosquito?

A It does not feed at stage Q.

B It can spread diseases at stage S.

C It moults several times at stage Q.

D It lives in water at all stages of its life cycle.

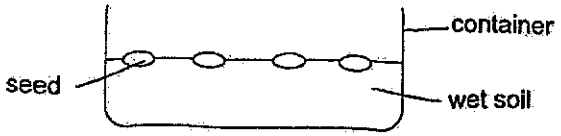
(1) A and B only

(2) B and C only

(3) C and D only

(4) A, B and C only

15 Shuqin placed four green bean seeds into four identical containers, A, B, C and D. She provided different conditions for each of the containers as shown in the table.



Container	Type of soil	Temperature of room
A	Sandy	0°C
B	Clayey	30°C
C	Loamy	30°C
D	Sandy	20°C

Which two containers should she use to find out if warmth is needed for growth of seeds?

(1) A and B

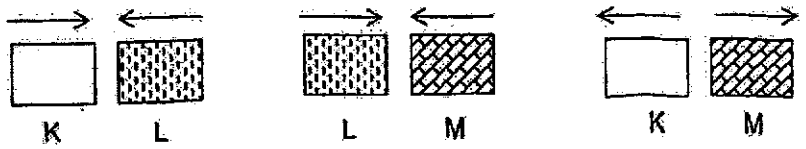
(2) A and D

(3) B and C

(4) C and D

Downloaded from SingaKids.com

16 Mala had three objects K, L and M. She placed two different objects beside each other each time. She drew arrows to show their interactions as shown.



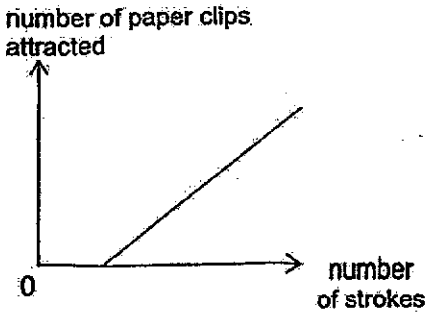
Which of the following could objects K, L and M be?

	Object K	Object L	Object M
(1)	Steel block	Magnet	Magnet
(2)	Magnet	Steel block	Iron block
(3)	Magnet	Steel block	Magnet
(4)	Steel block	Magnet	Iron block

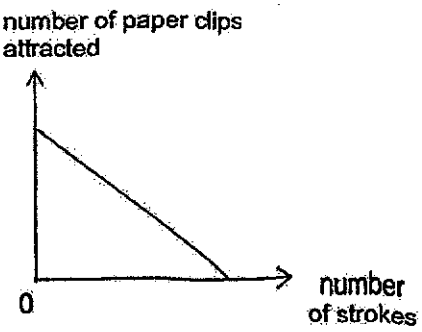
17 Shirley magnetised an iron nail using the stroke method. After every 10 strokes, she tested the number of paper clips it could attract.

Which graph correctly shows the results?

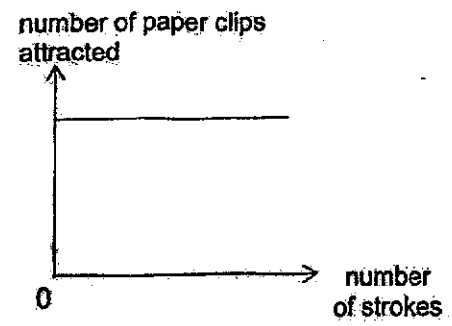
(1)



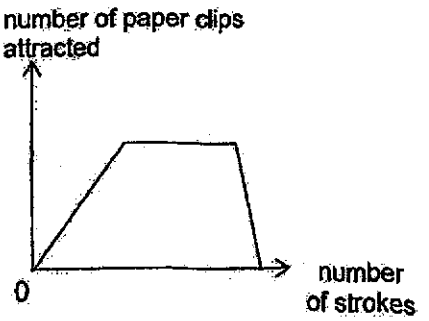
(2)



(3)

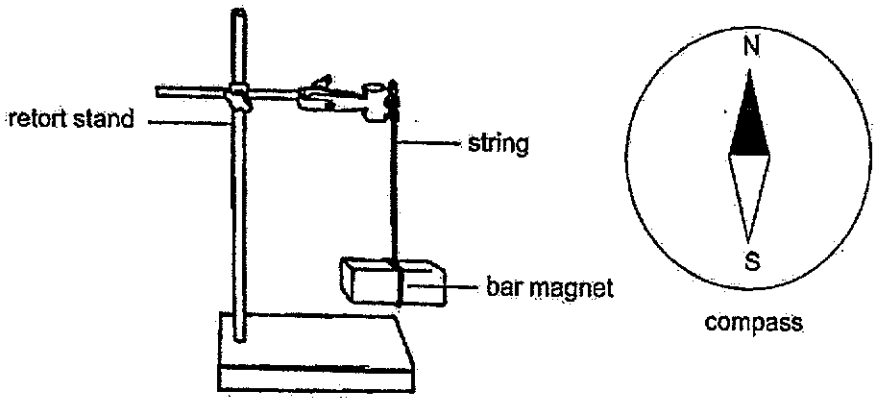


(4)

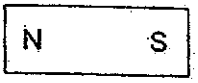
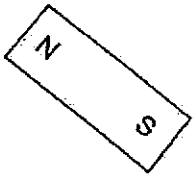
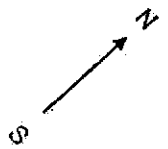


Downloaded from SingaKids.com

18 Kenny hangs a bar magnet with a string from a retort stand, as shown. The magnet spins for some time and eventually comes to rest in a particular direction.



Which of the following shows the correct resting position of the magnet after three minutes?

	Resting position	Direction of compass needle
(1)		
(2)		
(3)		
(4)		

Downloaded from SingaKids.com

19 Cindy used the stroke method to magnetise iron rod AB with a magnet as shown in diagram 1.

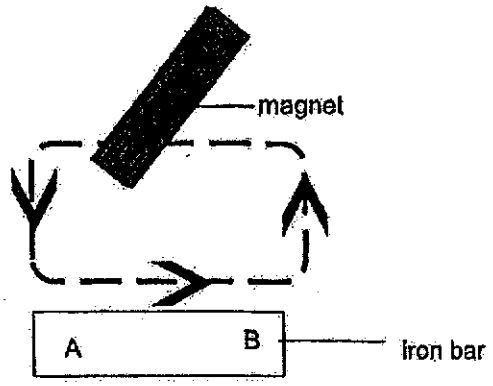


Diagram 1

Diagram 2 shows the North pole of iron rod AB after it was magnetised.

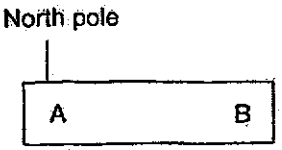


Diagram 2

A similar iron rod CD was magnetised using the magnet as shown in diagram 3.

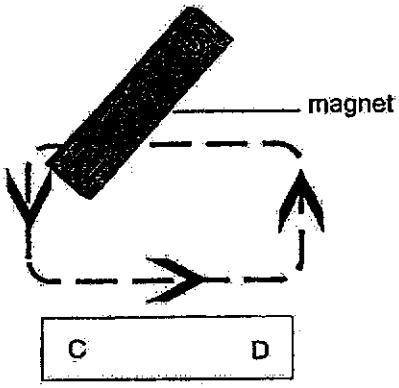
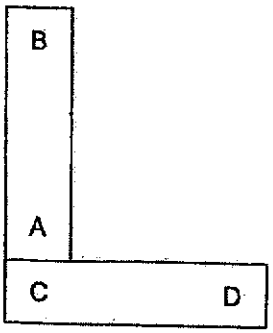


Diagram 3

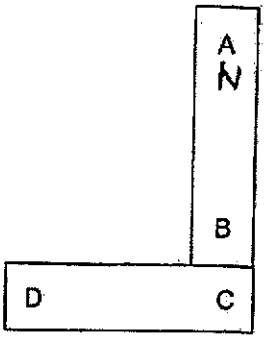
Downloaded from SingaKids.com

11

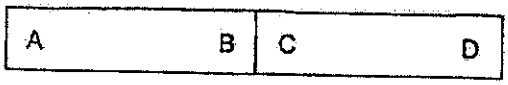
Which of the following shows a possible arrangement of bars AB and CD, after they were magnetized?



Arrangement X



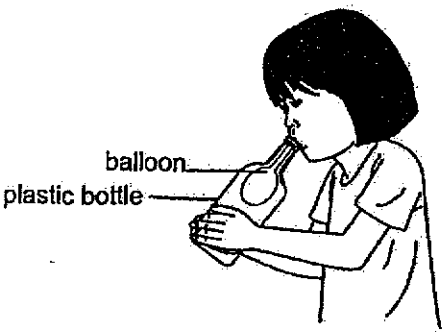
Arrangement Y



Arrangement Z

(1) X and Y only
(2) Y and Z only
(3) X and Z only
(4) X, Y and Z

20 Hui Min inserted a deflated balloon into an empty plastic bottle by fitting it over the mouth of the bottle. She then blew into the balloon as shown. The balloon inflated a little but could not inflate fully in the bottle.



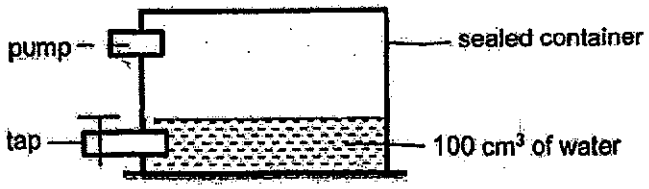
What does this observation tell us about the property of air?

(1) Air has mass.
(2) Air has no definite shape.
(3) Air cannot be compressed.
(4) Air took up space in the bottle.

Downloaded from SingaKids.com

21 Jack conducted an experiment using the set-up as shown. The sealed container has a volume of 500 cm^3 and contains 100 cm^3 of water.

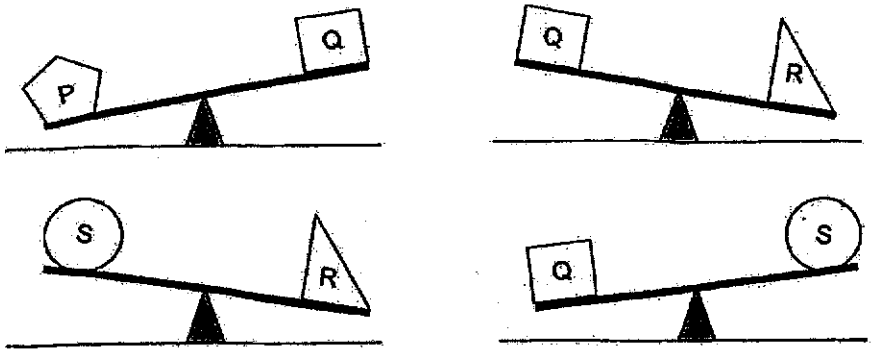
He used the tap to remove 50 cm^3 of water. He then used the pump to add 50 cm^3 of air into the container.



What was the final volume of air in the container?

(1) 350 cm^3
(2) 400 cm^3
(3) 450 cm^3
(4) 500 cm^3

22 Tom compared the masses of four objects, P, Q, R and S, using a balance as shown.



Which arrangement of the objects are in increasing order of mass, from the smallest to the greatest?

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

Downloaded from SingaKids.com

23 Which of the following happens to completely digested food?

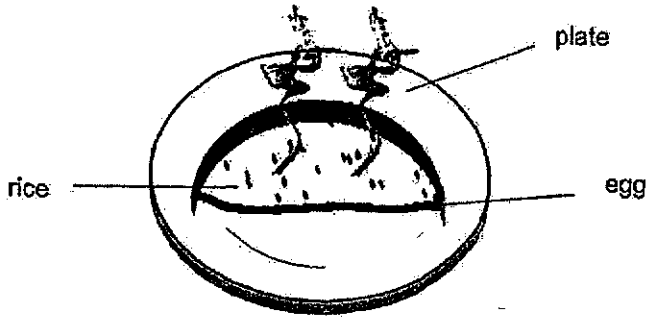
(1) Water is absorbed from it.

(2) It is absorbed into the blood at the small intestine.

(3) It is passed from the small intestine to the stomach.

(4) It is passed from the small intestine to the large intestine.

24 Mei Ling made an omelette rice dish. She completely wrapped the hot rice in a thick layer of egg. When she cut the omelette rice after a few minutes, the rice was still hot.



Which of the following best explains the above observation?

(1) The rice lost heat quickly to the surrounding.

(2) The egg lost heat quickly to the surrounding.

(3) The plate gained heat from the omelette rice.

(4) The air in the omelette rice gained heat slowly from the rice.

25 Which of the following is **not** a natural source of light?

(1) Stars

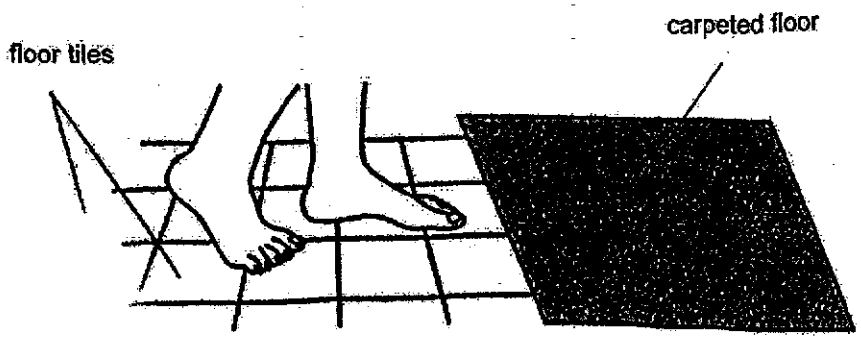
(2) Lightning

(3) Fireworks

(4) Glow-worms

Downloaded from SingaKids.com

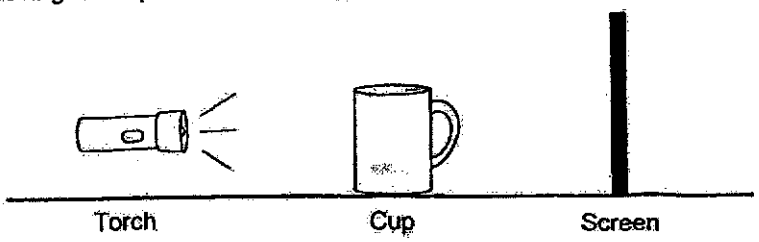
26 Xin Yu walked from the tiled floor to the carpeted floor of her room.



Why did her feet feel cold on the tiles but not the carpet?

(1) The temperature of the tiles is lower.
(2) The tiles trap less heat than the carpet.
(3) The tiles transferred coldness to her feet.
(4) The tile is a better conductor of heat than carpet.

27 Siti has a metal cup. She shines a lit torch at different parts of the metal cup by moving the cup to form different shadows.



Which of the following shadows is **not** formed by the metal cup?

(1)

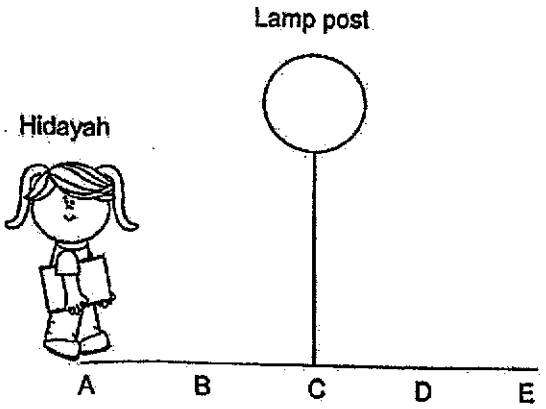

(2)


(3)


(4)

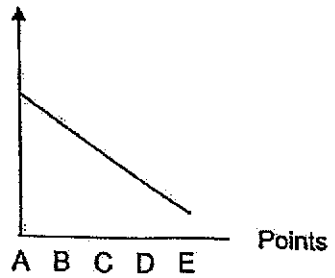

Downloaded from SingaKids.com

28 Hidayah walked from point A to E, which are equal distances apart. There was a lit lamp post at point C as shown.

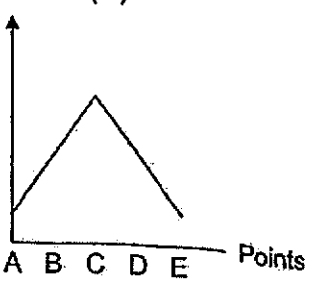


Which graph correctly shows the length of her shadow from points A to E?

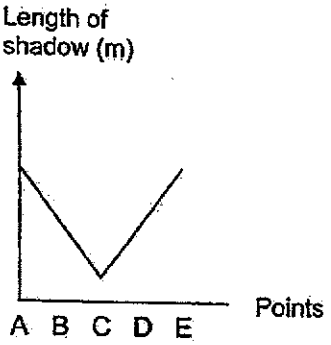
(1)



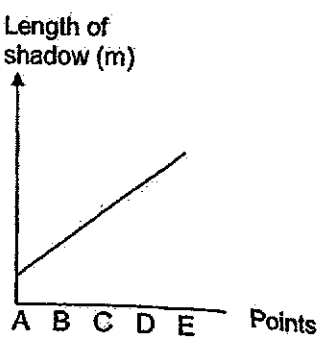
(2)



(3)



(4)



End of Booklet A

Downloaded from SingaKids.com

Anglo-Chinese School (Junior)

END-OF-YEAR EXAMINATION (2024)

PRIMARY 4
SCIENCE
(BOOKLET B)

24 October 2024

Name: _____ ( ) Class: 4.( )

Parent's Signature: _____

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

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

Booklet	Possible Marks	Marks Obtained
A	56	
B	44	
Total	100	

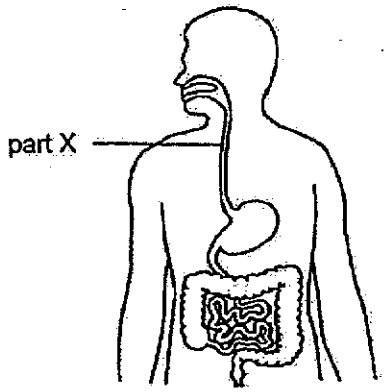
This question paper consists of 14 printed pages.

Downloaded from SingaKids.com

For questions 29 to 41, write your answers in this booklet. The number of marks available is shown in brackets [ ] at the end of each question or part question. (44 marks)

---

29 The diagram shows the human digestive system.



Fill in the blanks using the words in the box.

gullet	digest	mouth	transport

(a) Part X is known as _____. [1]

(b) Part X helps to _____ food to the stomach. [1]

30 Tick (✓) the box if each of the following is a matter. [3]

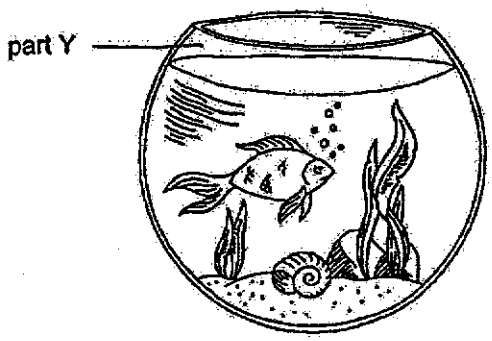
	has definite shape	has definite volume
(a) Air	☐	☐
(b) Pencil	☐	☐
(c) Oil	☐	☐

(Go on to the next page)

SCORE	
	5

Downloaded from SingaKids.com

31 The diagram shows an aquarium.

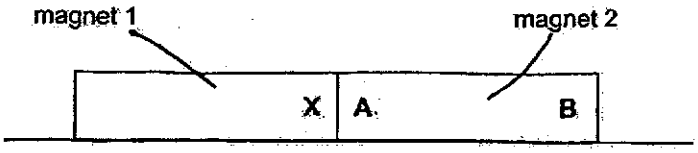


Fill in the blanks using the correct words in the box. [3]

breaks	glass	light	flexible	iron	heat

Part Y is made of _____ because it allows _____ to pass through so that we can see the fish clearly. However, part Y _____ easily when dropped.

32 Two magnets are placed together as shown.



The South pole of magnet 1 is labelled X.

Name the poles labelled A and B of magnet 2. [2]

A: _____

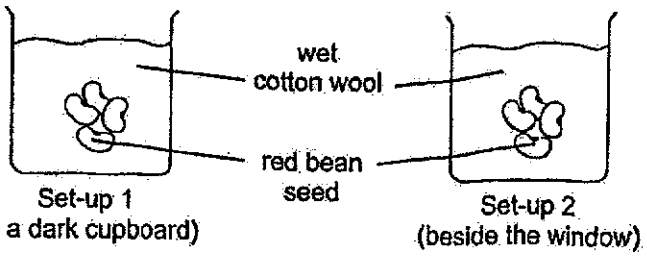
B: _____

(Go on to the next page)

SCORE 5

Downloaded from SingaKids.com

33 Mei Ling set up an experiment as shown. She placed four red bean seeds each in two identical beakers and placed the beakers in different parts of her room. After three days, she observed which seeds grew into plants.



(a) State the aim of Mei Ling's experiment. [1]

(b) State two other variables that she needs to keep the same for the experiment to be fair. [1]

(c) (i) Predict the setup(s), 1 and/or 2, in which the seeds will grow into plants. [1]

(ii) Explain your answer to c(i). [1]

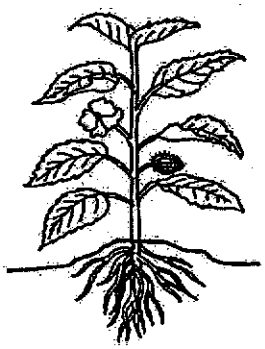
(Go on to the next page)

SCORE	
	4

Downloaded from SingaKids.com

34 Faizal saw a plant and a frog in the garden.

The diagram shows the plant.



(a) (i) Name the stage of life cycle that the plant is at. [1]

_____

(ii) Explain your answer in (a)(i). [1]

_____

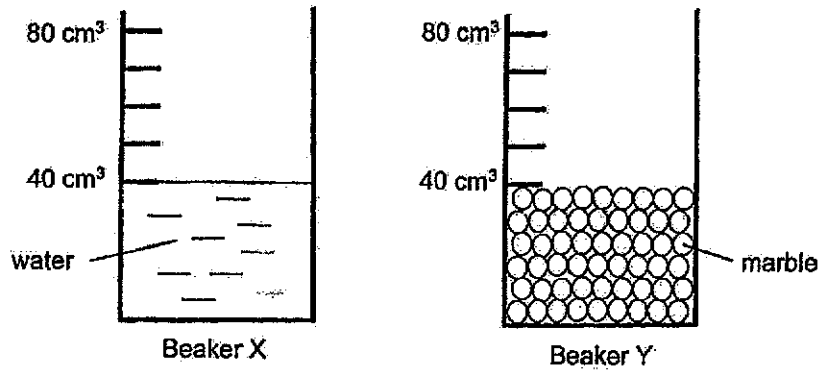
(b) Draw the life cycle of a frog in the box below. Do not draw pictures. [1]

(Go on to the next page)

SCORE	/ 3

Downloaded from SingaKids.com

35 Ben prepared two set-ups as shown. Beaker X contains 40 cm^3 of water and beaker Y contains marbles up to the 40 cm^3 mark.



(a) Identify the state(s) of matter found in beaker X. [1]

_____

(b) Ben poured all the water from beaker X into beaker Y.

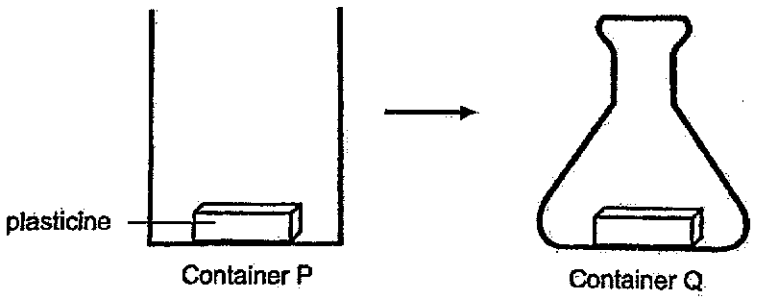
Will the volume of the water and marbles in beaker Y be more than, equal to, or less than 80 cm^3? Explain your answer. [2]

_____

_____

_____

(c) Ben carried out another experiment as shown. He placed a block of plasticine in container P. He then transferred the plasticine to container Q.



Explain his observation based on the property of matter. [1]

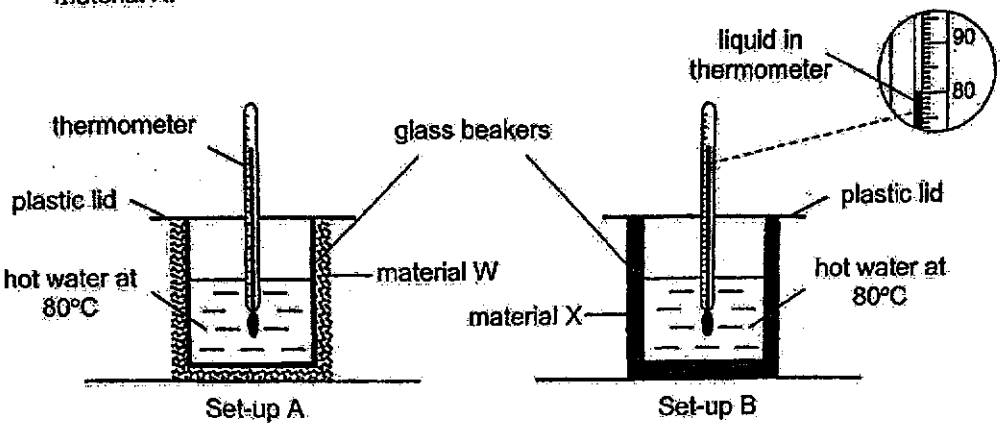
_____

(Go on to the next page)

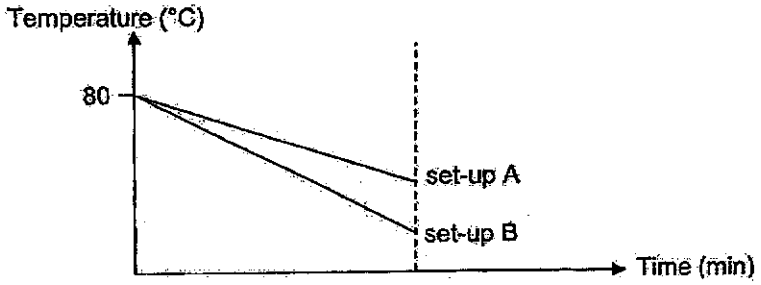
SCORE	
	4

Downloaded from SingaKids.com

36 Nathan carried out an experiment using two similar set-ups A and B as shown. He wrapped the glass beaker in set-up A with material W and set-up B with material X.



Nathan measured the temperature of the water over a period of time and plotted the graph based on the results as shown.



(a) Explain why the level of the liquid in the thermometer decreased over time. [1]

_____

(b) What could Nathan conclude about how the temperature of the water changes with time in set-up A compared to that in set-up B? [1]

_____

_____

(c) Material W in set-up A was used to make a jacket. This material has air spaces inside it.

Give a reason why the air spaces in material W would help keep a person wearing the jacket warm in cold weather. [1]

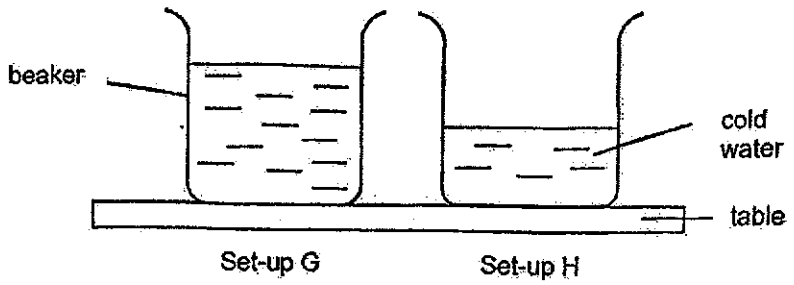
_____

(Go on to the next page)

SCORE	
	3

Downloaded from SingaKids.com

(d) Nathan prepared two identical beakers, G and H, with different volumes of cold water at 5°C.



In which set-up, G or H, would the water reach room temperature first? Give a reason why. [1]

_____

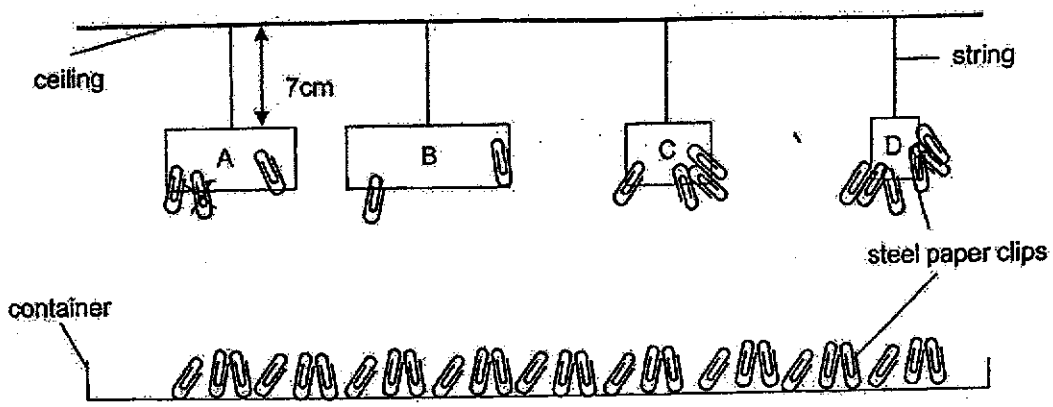
_____

(Go on to the next page)

SCORE 1

Downloaded from SingaKids.com

37 Shirley wanted to find out the strength of four magnets, A, B, C and D of different sizes. She hung the magnets 7cm from the ceiling above a container of steel paper clips as shown.



She recorded the number of steel paper clips attracted to each magnet in the table.

Magnet	A	B	C	D
Number of paper clips attracted	2	3	4	6

(a) Based on the results, how does the size of the magnets affect its magnetic strength? Explain your answer using magnets B and D. [1]

_____

_____

(b) Tick (✓) the variable(s) for Shirley's experiment based on the headings in the table. [1]

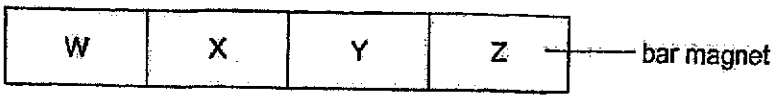
Variable	Variable to be kept the same	Changed variable	Measured variable
The size of each magnet			
Mass of each paper clip			
Height at which the magnets are hung			
Number of paper clips attracted to each magnet			

(Go on to the next page)

SCORE	/ 2

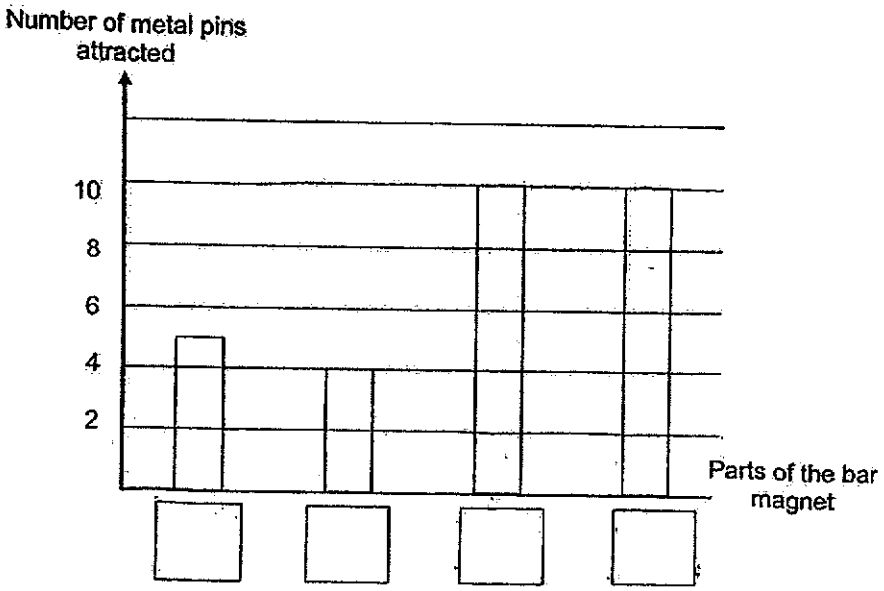
Downloaded from SingaKids.com

(c) Shirley's mother gave her a long bar magnet. She wrote the letters, W, X, Y and Z on different parts of the bar magnet as shown.



She lowered the bar magnet into a tray of metal pins and then counted the number of metal pins attracted to the different parts of the bar magnet. She then plotted a graph based on the results.

(i) In the graph, fill in the boxes with the parts of the bar magnet, W, X, Y and Z. [1]



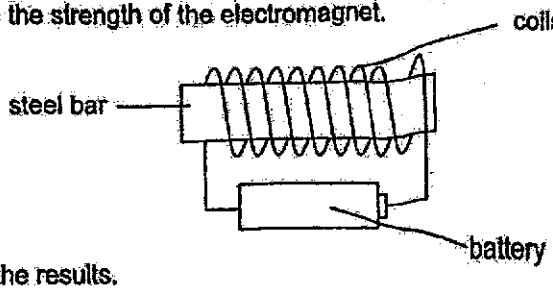
(ii) Explain the results in (c)(i). [1]

_____

SCORE	
	2

Downloaded from SingaKids.com

38 Susan carried out an experiment to find out how the number of coils of wire around a steel bar affects the strength of the electromagnet.



The table shows the results.

Number of coils of wire around the steel bar	Number of iron nails attracted
10	0
20	1
30	3
40	?
50	6

(a) Based on the results, how many iron nails were most likely attracted to the electromagnet when the number of coils of wire around the steel bar was 40? [1]

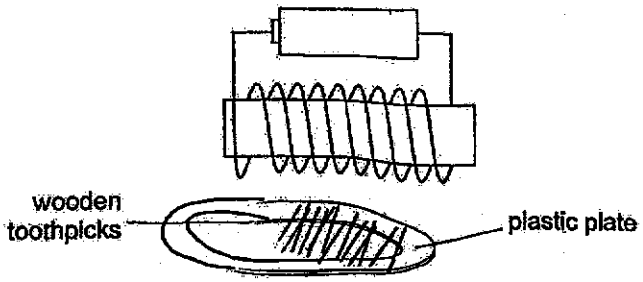
_____.

(b) State two ways to increase the strength of the electromagnet. [2]

_____

_____

Susan brought the electromagnet close to a plate of wooden toothpicks.



(c) Predict the number of wooden toothpicks that will be attracted to the electromagnet. Give a reason why. [1]

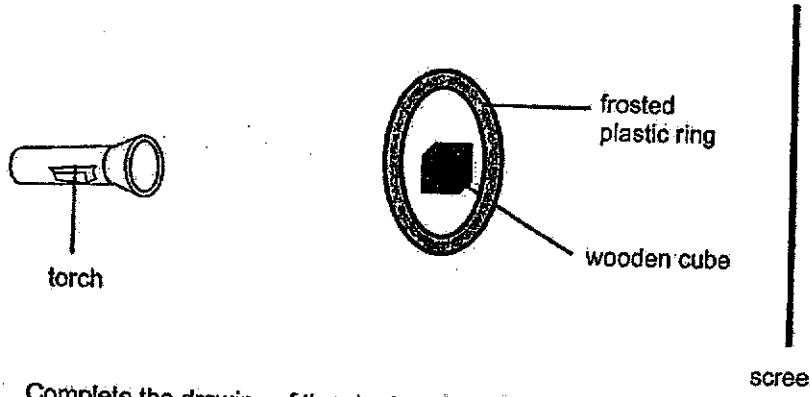
_____

(Go on to the next page)

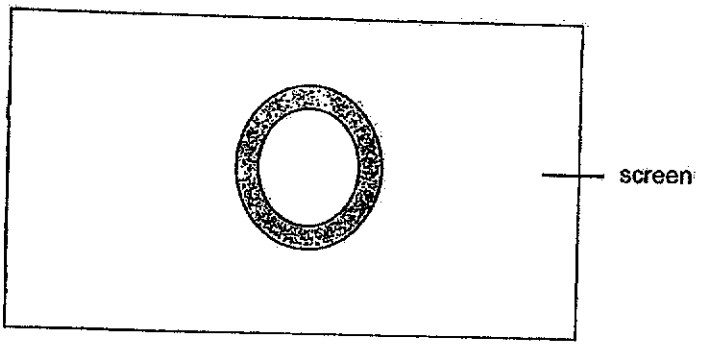
SCORE 4

Downloaded from SingaKids.com

39 Shanti placed two objects, a wooden cube and a frosted plastic ring, in front of a torch as shown.



(a) Complete the drawing of the shadow that will be formed on the screen when the torch is turned on. [1]



(b) Explain how the shadows in part (a) are formed. [1]

_____

_____

(c) Without moving the screen, state two ways to increase the size of the shadow of the objects formed on the screen. [2]

_____

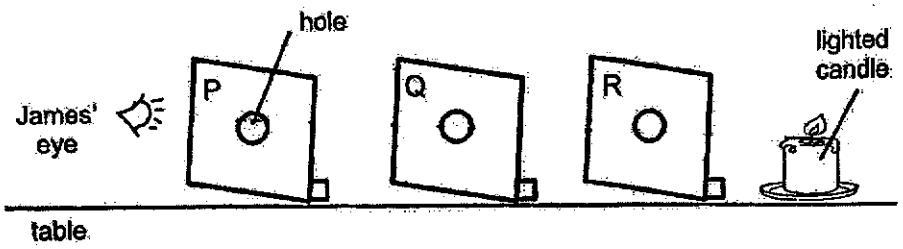
_____

(Go on to the next page)

SCORE	
	4

Downloaded from SingaKids.com

40 James set up an experiment as shown. He placed three sheets of identical cardboards, P, Q and R, in a row so that their holes are arranged in a straight line.



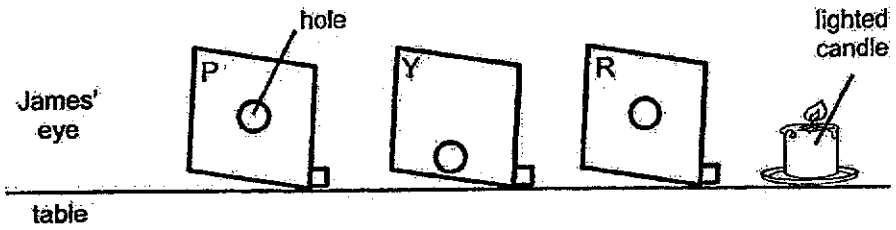
(a) James was able to see the lighted candle.

On the diagram above, draw an arrow to show how light travels. [1]

(b) State the property of light shown in this experiment. [1]

_____

(c) James replaced cardboard Q with cardboard Y as shown.



James is not able to see the lighted candle. Explain why. [1]

_____

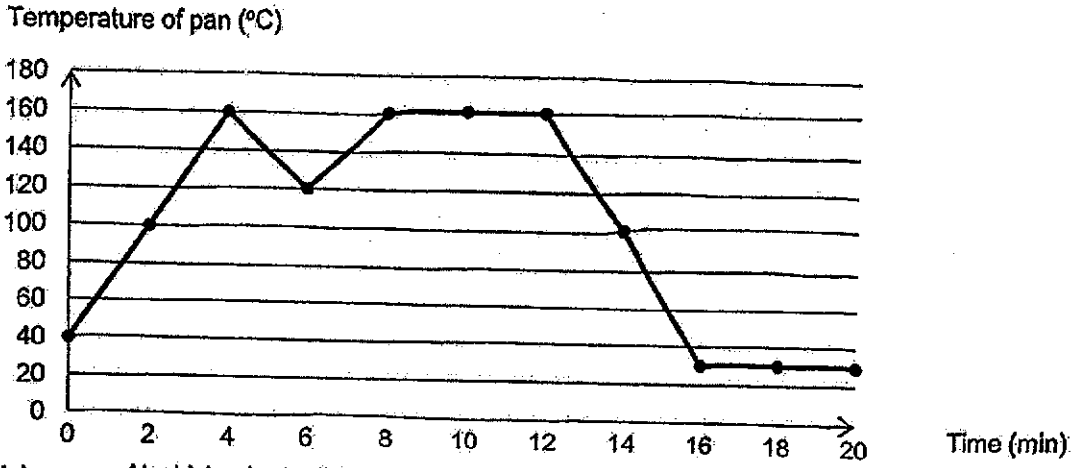
_____

(Go on to the next page)

SCORE	/ 3

Downloaded from SingaKids.com

41 Lucy cooked some vegetable using oil in a heated pan X at 40°C. She measured the temperature of the pan every two minutes. She did this before adding the vegetables, while cooking and after the pan was washed. Her results are as shown.



(a) At which minute did she put the vegetables into the pan? [1]

(b) State a reason why the temperature of the pan decreased to 30 °C after it was washed. [1]

(c) Lucy tried cooking vegetables using pans Y and Z made of different materials. The table shows the temperature of the pans over 10 minutes.

Material of pan	Temperature (°C) at different time				
	2 min	4 min	6 min	8 min	10 min
Y	100	160	160	160	160
Z	60	70	80	100	120

Which pan, Y or Z, would allow Lucy to cook vegetables faster? Explain why, based on the results. [2]

End of Paper

SCORE	
	4

Downloaded from SingaKids.com

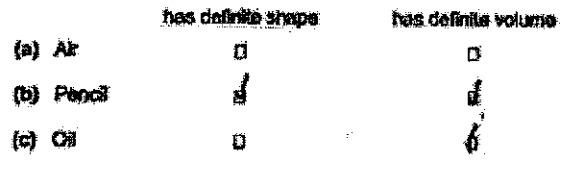
Downloaded from SingaKids.com

SCHOOL : ANGLO-CHINESE SCHOOL (JUNIOR)
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : SA2

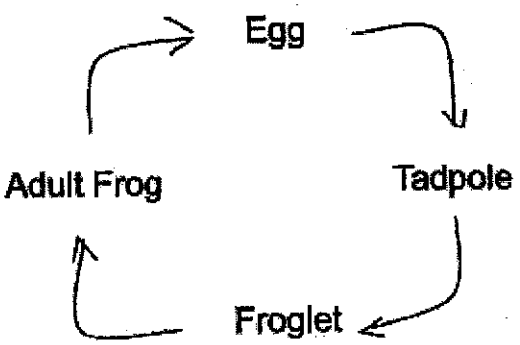
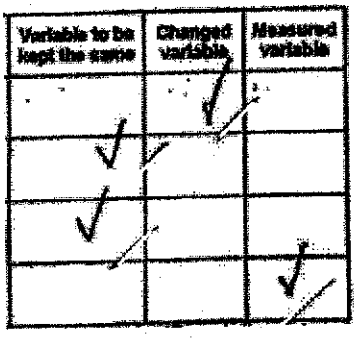
BOOKLET A

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

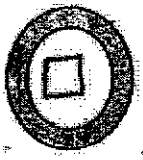
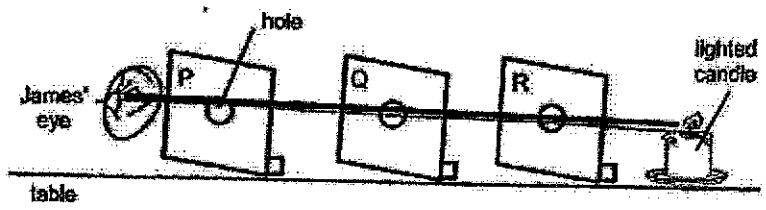
BOOKLET B

Q29 (a)	**Gullet**
Q29 (b)	**Transport**
Q30 (a) (b)(c)	
Q31	**Glass, Light, Breaks**
Q32	**A: North** **B: South**
Q33 (a)	**To find out if light is needed for seeds to grow.**
Q33 (b)	**The amount of cotton wool and amount of water.**
Q33 (c)	**(i) Setups 1 and 2.** **(ii) Both setups have water, oxygen and warmth.**
Q34 (a)	**(i) Adult**

Downloaded from SingaKids.com

	(ii) 
Q35 (a)	**Gas, liquid.**
Q35 (b)	**Less than $8cm^3$. The marbles have gaps between the marbles, water will fill in between the marbles.**
Q35 (c)	**Plasticine has a definite shape.**
Q36 (a)	**The liquid in the thermometer contracts as it loses heat over time.**
Q36 (b)	**The temperature of the water decreases lower in A than B.**
Q36 (c)	**Air is a poor conductor of heat.**
Q36 (d)	**Set-up H. H contains less water, which allows it to gain heat faster from the surroundings compared to G.**
Q37 (a)	**As the size of the magnet increases, its magnetic strength increases. For instance, Magnet D attracted more paper clips than Magnet B.**
Q37 (b)	
Q37 (c)	**(i) X, Y, W, Z** **(ii) The poles of the magnet has the strongest magnetic strength.**

Downloaded from SingaKids.com

Q38 (a)	4
Q38 (b)	Put more batteries or coil the steel bar more times.
Q38 (c)	Zero. Wood is a non-magnetic material.
Q39 (a)	
Q39 (b)	Shadows are formed on opaque or translucent objects that block light from falling on the surface.
Q39 (c)	Move the torch closer to the ring or move the ring closer to the torch.
Q40 (a)	
Q40 (b)	Light travels in a straight line.
Q40 (c)	The light was completely blocked by Y as it is opaque, so light did not pass through.
Q41 (a)	4 minutes.
Q41 (b)	The pan lost heat to the water.
Q41 (c)	Pan Y. Temperature of Pan Y increases faster as Pan Y is a better conductor of heat than Pan Z.

Downloaded from SingaKids.com

Downloaded from SingaKids.com