SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

SECOND SEMESTRAL ASSESSMENT 2020

NAME: _____ ( ) DATE: 28 October 2020

CLASS: PRIMARY 4 SY / C / G / SE / P

Parent's Signature:

SCIENCE

BOOKLET A

28 questions

56 marks

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

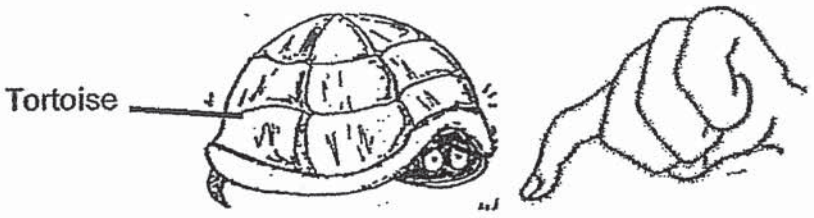
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part I (56 marks)

For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

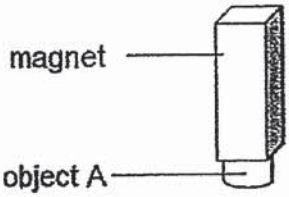
1. A tortoise hides itself in its shell when touched.



This shows that the tortoise is a living thing because it can _____.

(1) breathe
(2) grow
(3) reproduce
(4) respond

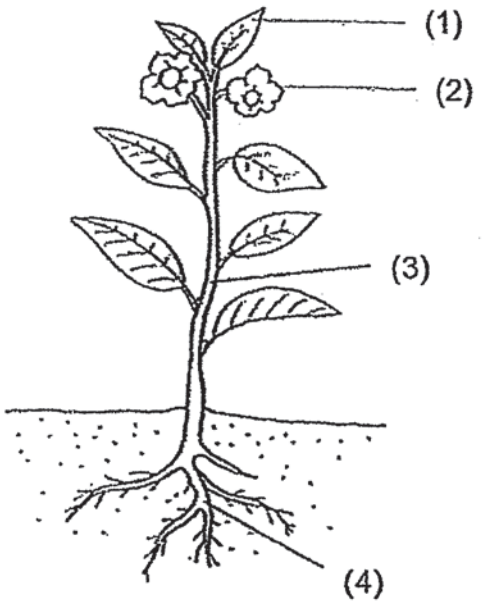
2. Object A was attracted to a magnet as shown in the figure below.



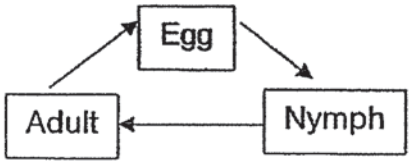
Object A is made of _____.

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

3. Which part, (1), (2), (3) or (4), makes food for the plant?



4. The diagram below shows the life cycle of an animal.



Which animal is likely to have the life cycle as shown above?

(1) Beetle
(2) Butterfly
(3) Chicken
(4) Cockroach

5. Which one of the following is a source of light?

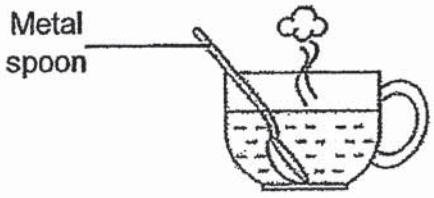
The Moon
(1)

A Mirror
(3)

A Candle Flame
(2)

A Leaf
(4)

6. Ronald places a metal spoon in a cup of hot tea.



a cup of hot tea

The spoon becomes hotter after a while.

Which one of the following explains this?

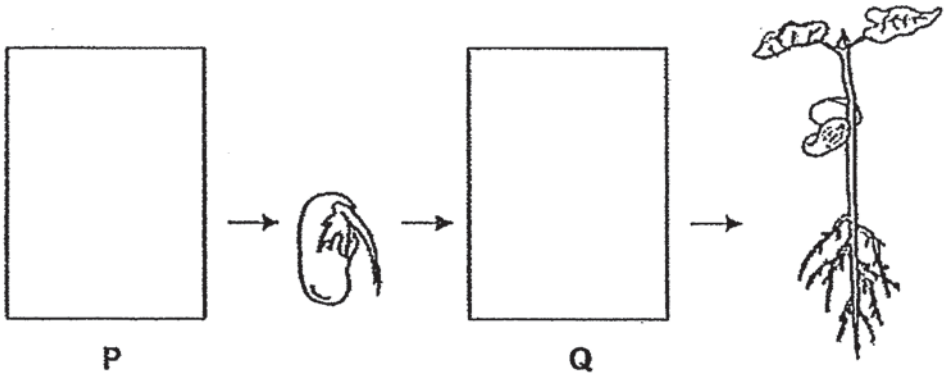
(1) The cup loses heat to the hot tea.

(2) The hot tea gains heat from the spoon.

(3) The spoon gains heat from the hot tea.

(4) The spoon loses heat to the hot tea.

7. The diagram below shows the growth of a young plant with two missing stages P and Q.

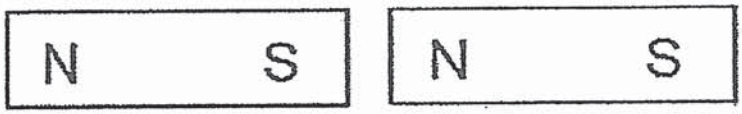


Which one of the following shows the correct stages for P and Q?

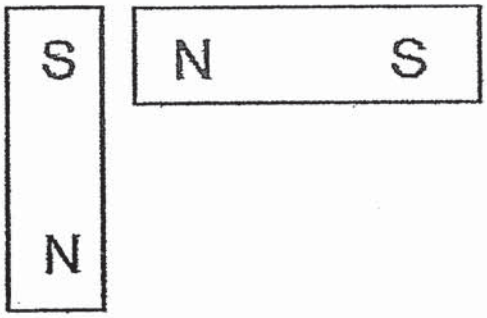
	P	Q
(1)		
(2)		
(3)		
(4)		

8. In which one of the following will the two magnets push each other away?

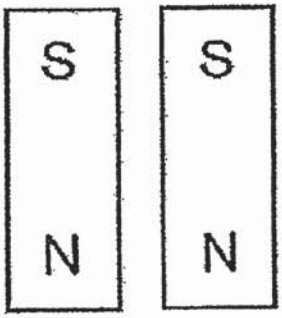
(1)



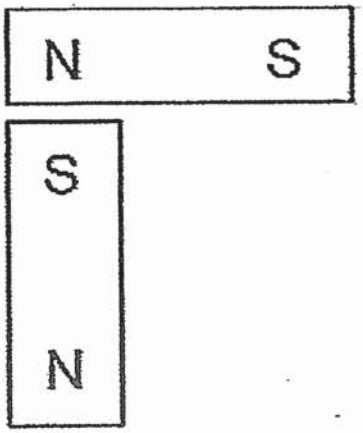
(2)



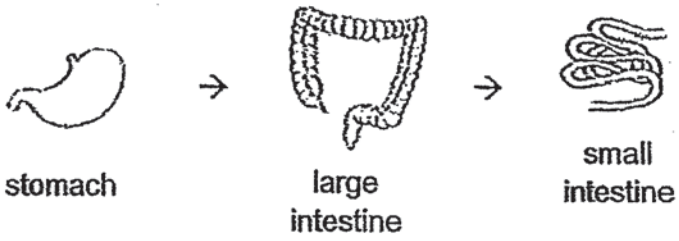
(3)

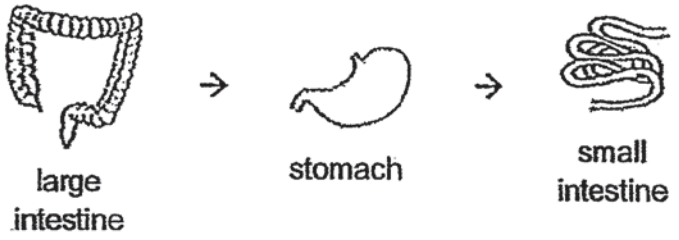


(4)

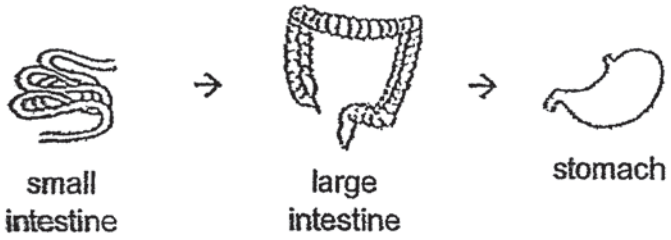


9. Which one of the following shows the correct order when food moves through some parts of the digestive system?

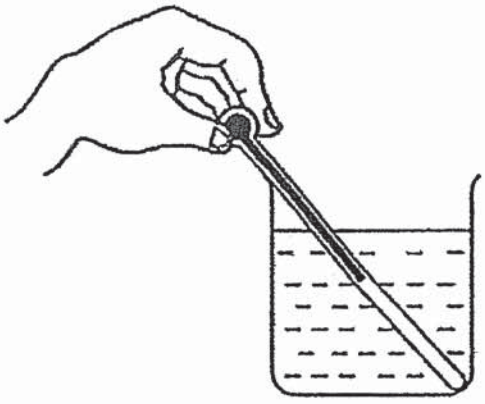
(1) 

(2) 

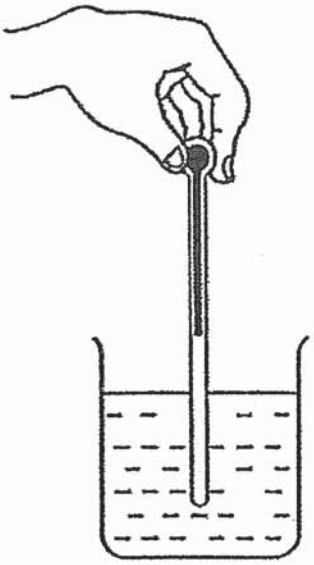
(3) 

(4) 

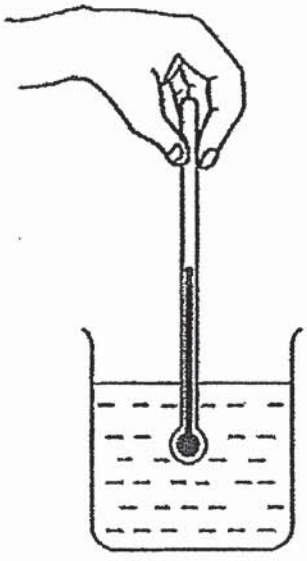
10. Catherine wants to measure the temperature of hot water in a beaker.
Which one of the following diagrams shows the correct position of the thermometer when taking the temperature reading?



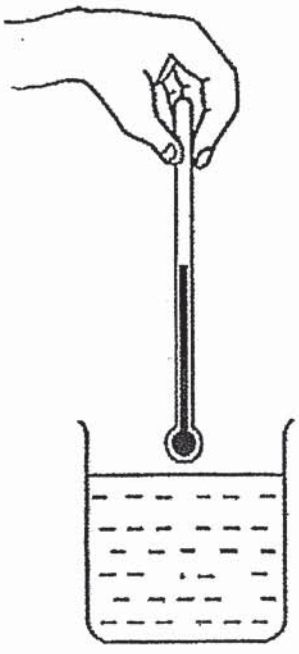
(1)



(3)

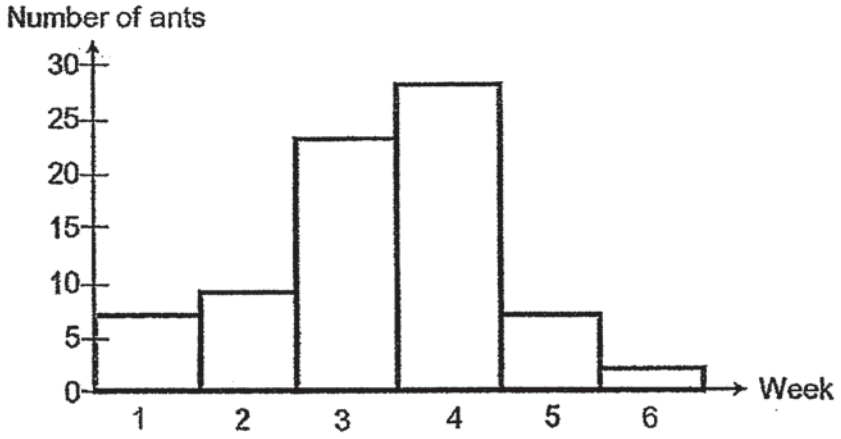


(2)



(4)

11. Janelle recorded the number of ants in an enclosed container over a period of time as shown below. The enclosed container has enough air, food and water for the ants.



Which characteristic of living things does the graph show from **Week 4 to 6**?

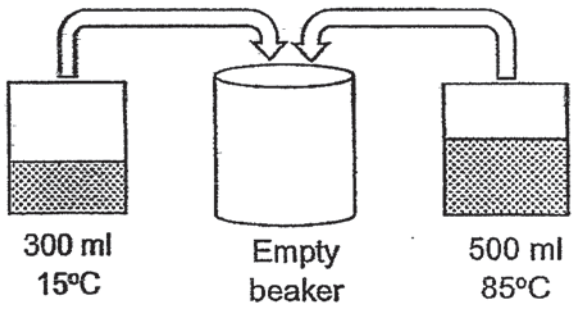
(1) Living things can die.

(2) Living things can grow.

(3) Living things can reproduce.

(4) Living things can respond to changes around them.

12. Paul poured 2 cups of water at 15°C and 85°C respectively into an empty beaker as shown below.



What is the temperature of water in the beaker likely to be?

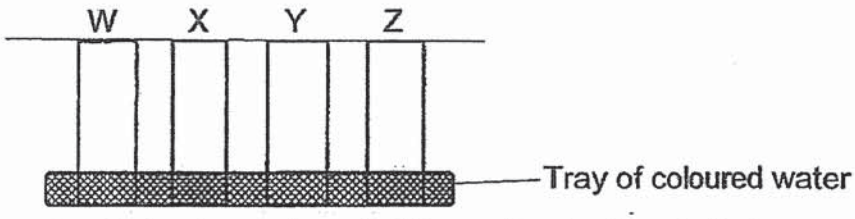
(1) 10 °C

(2) 15 °C

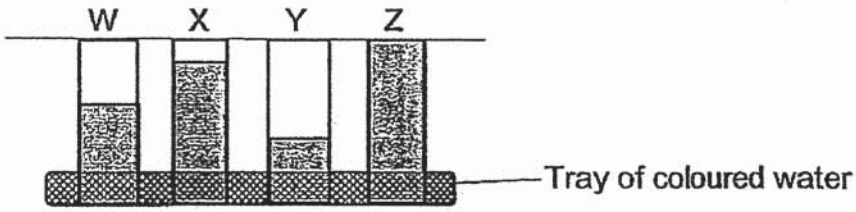
(3) 60 °C

(4) 100 °C

13. Elvin placed Materials W, X, Y and Z in a tray of coloured water as shown below.



He observed the amount of water each material can absorb after 3 minutes as shown below.



What can Elvin conclude about his experiment?

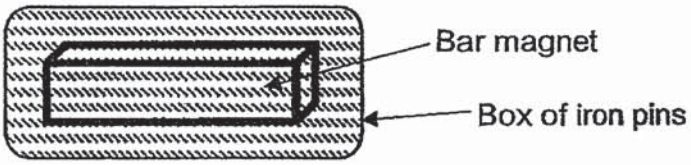
(1) Material Y is the most absorbent.

(2) Material W absorbs more water than Material Z.

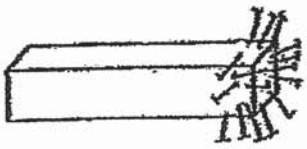
(3) Material Z is the least absorbent.

(4) None of the materials is waterproof.

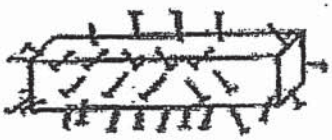
14. A bar magnet is placed into a box of iron pins for 2 minutes as shown below.



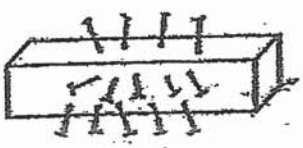
Which one of the following diagram shows how the bar magnet would most likely look like when it removed from the box of iron pins?

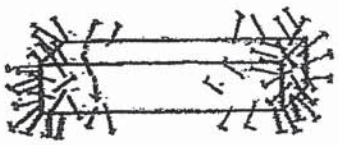


(1)



(3)





(4)

15. Eunice was given a steel rod and a bar magnet. She brought the End B of the steel rod to the north pole of the bar magnet and observed that both objects move towards each other as shown below.

Steel Rod Bar Magnet

She concluded that the steel rod is also a magnet.
Which one of the following explains why Eunice's conclusion may be wrong?

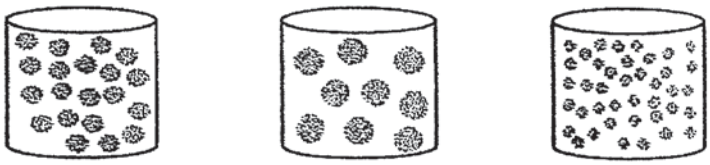
(1) She did not find out if the steel rod is able to attract any plastic clips.

(2) She did not test End A of steel rod with south pole of the bar magnet.

(3) She did not test End B of steel rod with south pole of the bar magnet.

(4) She did not find out if the steel rod is able to repel any steel paper clips.

16. Jasmine drew the sizes of digested food, E, F and G at various stages of the human digestive system as shown below.

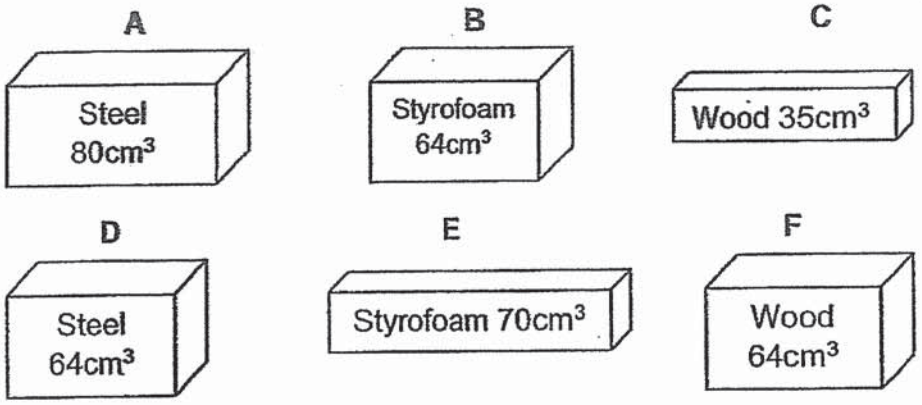


Digested food E **Digested food F** **Digested food G**

Which one of the following correctly represents the sizes of the digested food as it passed through the different parts of the digestive system?

	Mouth	Stomach	Small Intestine
(1)	E	F	G
(2)	F	E	G
(3)	F	G	E
(4)	G	E	F

17. Ally has 6 objects as shown below.



Which one of the following objects should Ally choose if she wants to find out if different materials with the same volume have the same mass?

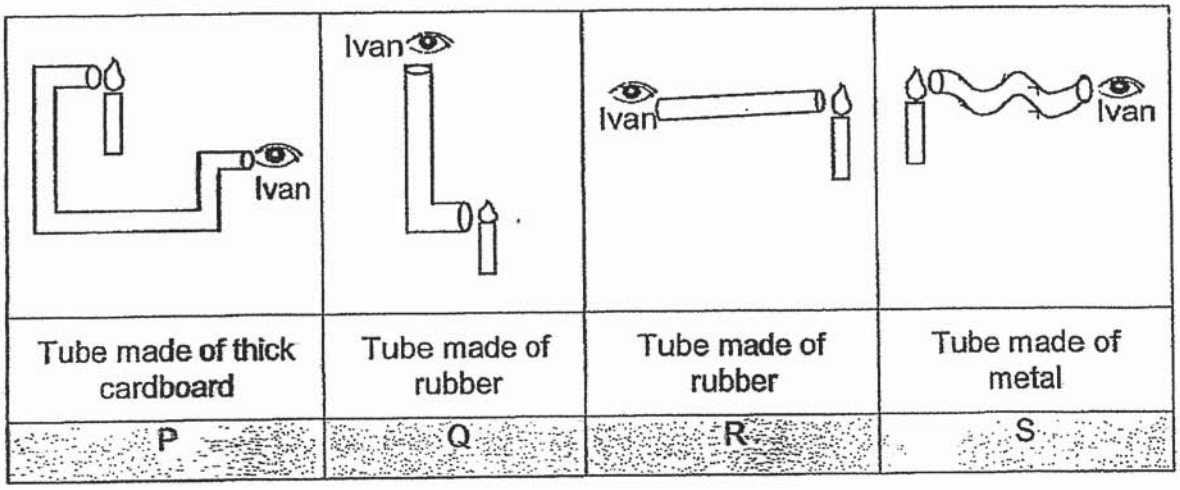
(1) C and E only

(2) A and D only

(3) A, B and D only

(4) B, D, and F only

18. Study set-ups P, Q, R and S as shown below.



Which set-up below allows Ivan to see the flame at the end of the tube?

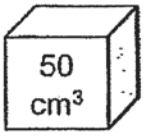
(1) P

(2) Q

(3) R

(4) S

19. Gopal has a container with a maximum capacity of $50cm^3$ as shown below.



He was given the following things:

A: $55cm^3$ of orange juice

B: $60cm^3$ of marbles

C: $100cm^3$ of air

D: $42cm^3$ of flour

Which of the above things can fit into the above enclosed container one at a time?

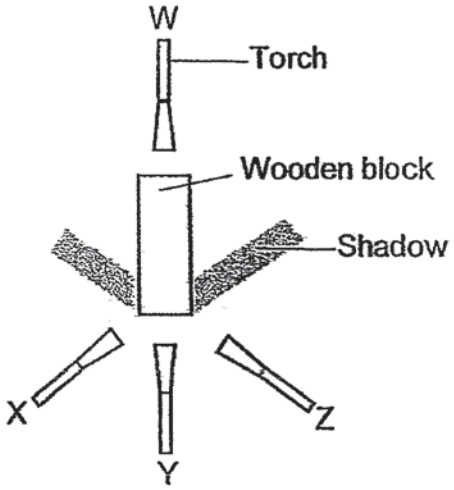
(1) C only

(2) A and B only

(3) B and C only

(4) C and D only

20. Natalia conducted an experiment in a completely dark room using 4 identical torches. W, X, Y and Z and a wooden block. She switched on 2 of the torches and observed the shadows as shown below.



Which 2 torches had been switched on?

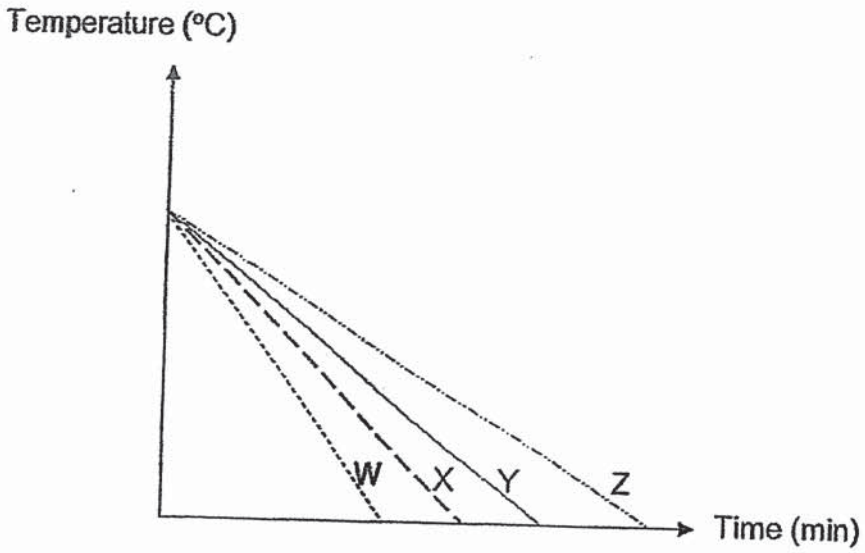
(1) X and Z

(2) X and Y

(3) W and Z

(4) Y and Z

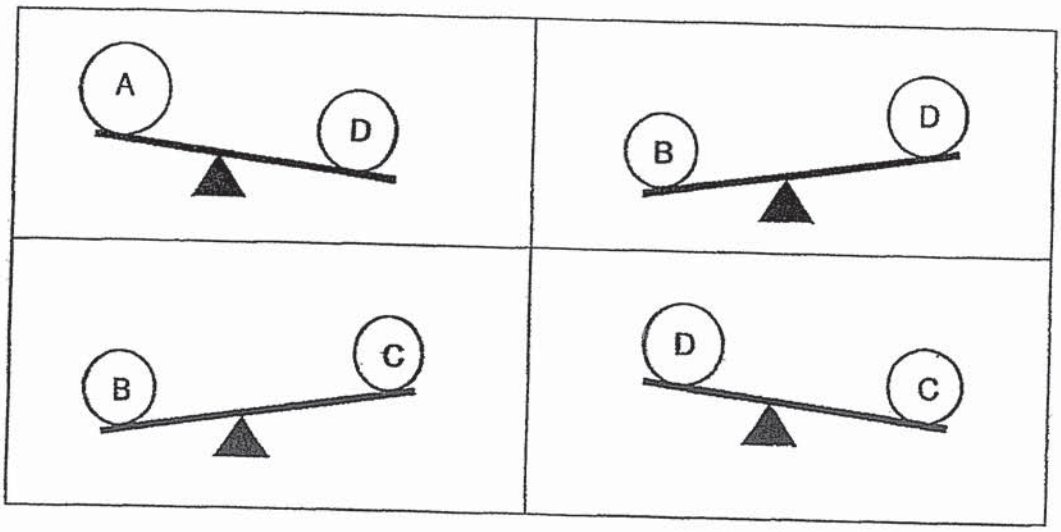
21. The graph below shows the change in temperature for Metals W, X, Y and Z.



Which Metal W, X, Y and Z, is the best conductor of heat?

(1) W
(2) X
(3) Y
(4) Z

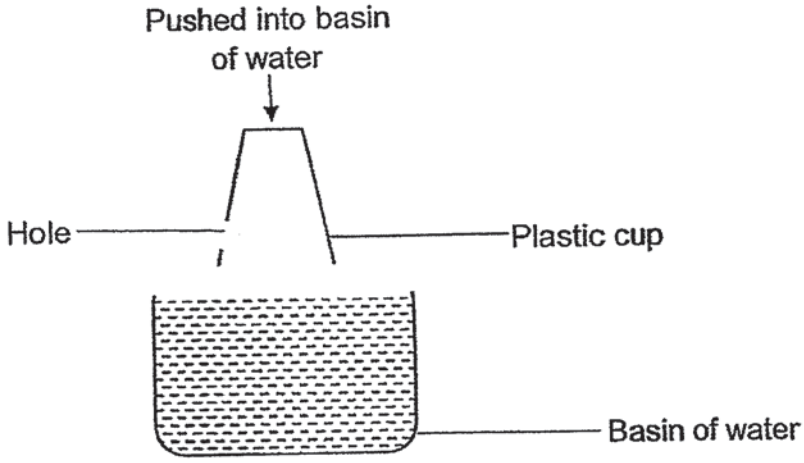
22. Study the 4 diagrams below.



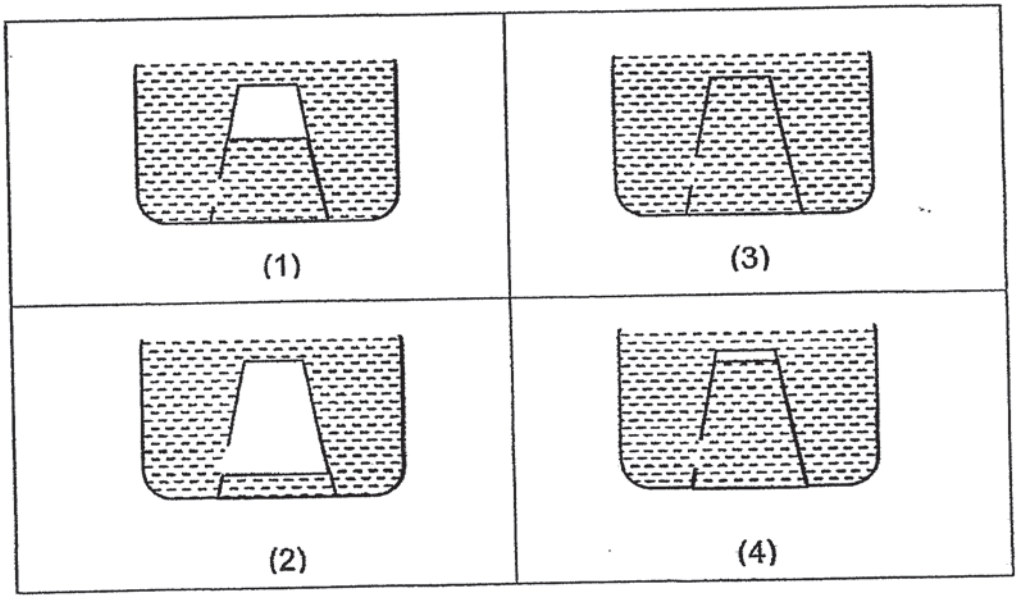
Arrange the mass of Objects, A, B, C and D, starting from the lightest.

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

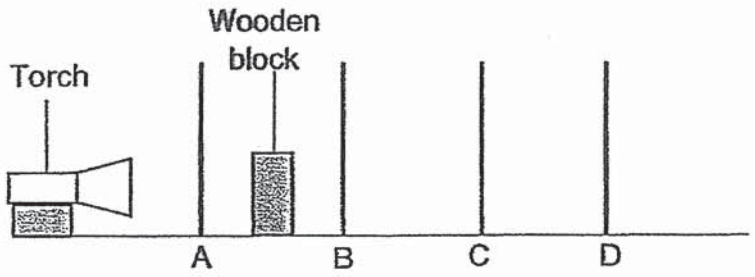
23. A plastic cup with one hole is inverted and pushed vertically into a basin of water as shown below.



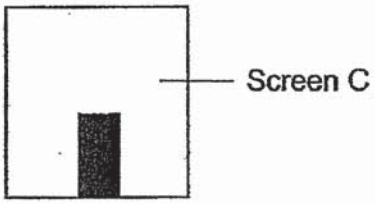
Which one of the following diagrams show the water level in the cup?



24. Polly set up an experiment in a dark room using Screens, A, B, C and D and a wooden block as shown below.



When the torched was switched on, a shadow was cast only on Screen C as shown below.



Which one of the following statements is true about Polly's experiment?

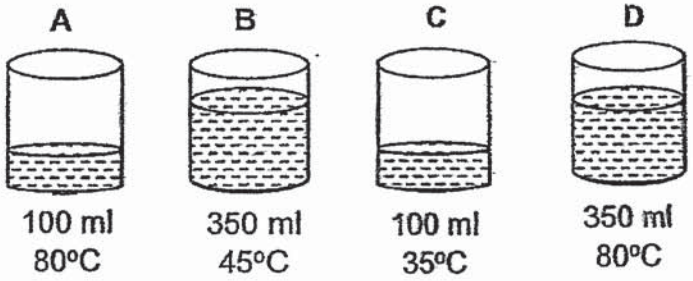
(1) Screen A allows light to pass through.

(2) Screen B does not allow any light to pass through.

(3) Screen C is made of transparent material.

(4) Screen D is made of opaque material.

25. There are 4 beakers of water as shown below.



Which beaker of water has the greatest amount of heat?

(1) A

(2) B

(3) C

(4) D

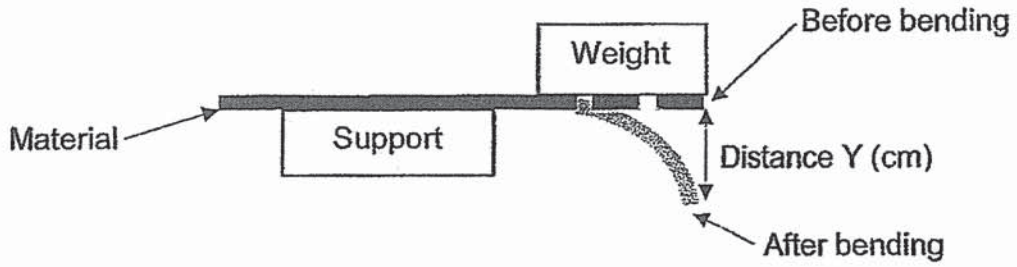
26. The table below shows the functions of the 4 human body systems which are represented by W, X, Y and Z.

Human Body System	W	X	Y	Z
Functions	Digests food	Allows exchange of gases with the surroundings	Gives the body its shape	Carries oxygen, water and digested food to different parts of the body

Which one of the following has all the 4 human body systems matched correctly to their functions?

	W	X	Y	Z
1)	Skeletal	Circulatory	Respiratory	Digestive
2)	Digestive	Respiratory	Skeletal	Circulatory
3)	Digestive	Circulatory	Skeletal	Respiratory
4)	Skeletal	Respiratory	Digestive	Circulatory

27. Gillian wanted to find out which materials A, B, C or D can bend the most. She set up an experiment as shown below. She added the same amount of weight on the end of materials A, B, C and D. She then measured the distance Y for each material.



She recorded the distance Y for each material in the table below.

Material	Distance Y (cm)
A	0
B	1
C	2
D	10

Which material is most suitable to be used as the wire for the headphone?

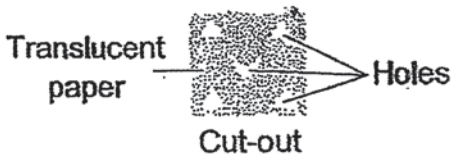
(1) Material A

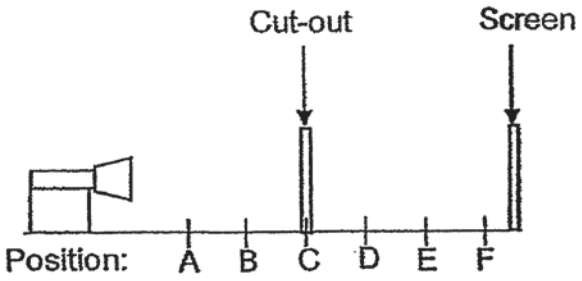
(2) Material B

(3) Material C

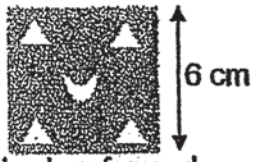
(4) Material D

28. Irene placed the cut-out between the torchlight and the screen as shown below.

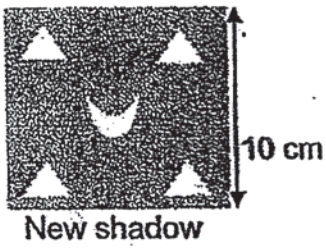




Irene placed the cut-out at Position C and turned on the torch. She observed the shadow formed on the screen as shown below.



Next, Irene changed the position of the cut-out and observed the shadow as shown below.



Which position did Irene place the paper?

(1) A or B

(2) B or E

(3) D or F

(4) E or F

SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

SECOND SEMESTRAL ASSESSMENT 2020

NAME: _____ ( ) DATE: 28 October 2020

CLASS: PRIMARY 4 SY / C / G / SE / P

Parent's Signature:

SCIENCE

BOOKLET B

	Total Actual Marks	Total Possible Marks
Booklet A		**56**
Booklet B		**44**
Total		**100**

13 questions

44 marks

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

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part II (44 marks)
Answer all the following questions.

29. a) Ali observed and grouped some things as shown below in the table.

F	G
Penguin	Stone
Ant	Cloth
Mushroom	Pen

What are the suitable headings for **F** and **G**? (2m)

Group **F**: _____

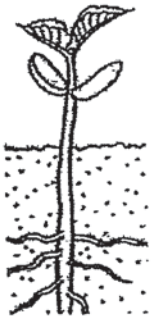
Group **G**: _____

b) Fill in the blanks in the table with the names of the main animal grouping. (2m)

Group	Characteristics
	Body covered with feathers
	Has dry skin, with scales

30. Natalie recorded the mass of the seed leaves and the shoot as the seedling grows in the table below.

Day	Mass of Part X (grams)	Mass of Part Y (grams)
0	1	0
4	0.8	0.1
8	0.6	0.15
12	0.4	0.2
16	0.2	0.25



Seedling

a) State the conditions required for a seed to germinate. (1m)

_____

b) Based on the table above, which part, X or Y, is more likely to be the seed leaves? Explain your choice. (2m)

_____

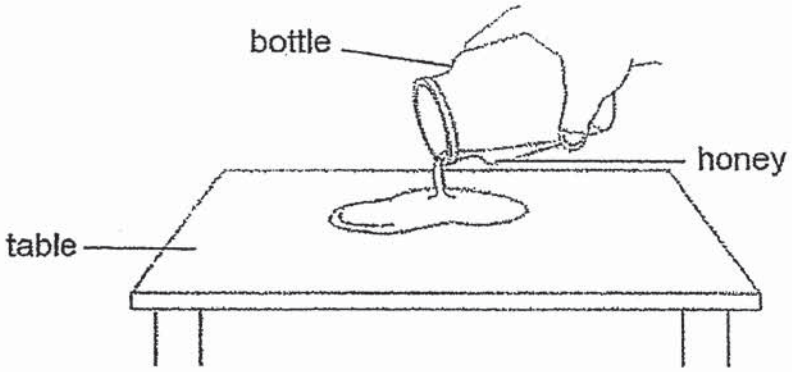
_____

7

31. Choose the correct words from the box to fill in the blanks below.

Solid	Liquid	Gas

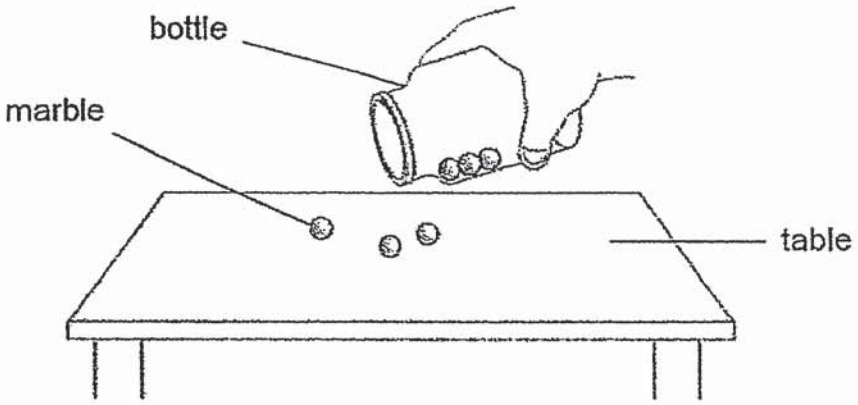
(a) Ali pours honey from a bottle onto a table as shown below.



The volume of honey remains the same but its shape changes.

This shows that honey is a _____. (1m)

(b) Ali pours some marbles from a bottle onto a table as shown below.

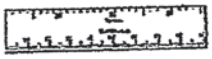


The shape and volume of the marbles remain the same.

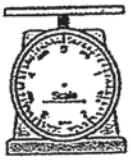
This shows that a marble is a _____. (1m)

2

32. a) Study the apparatus as shown below.

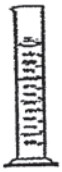


Ruler



Weighing scale

Thermometer



Measuring cylinder

Write the apparatus which Calvin should use if he wants to measure:

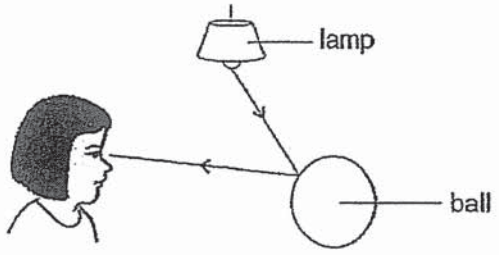
i) the volume of water: _____ (1m)

ii) the mass of flour: _____ (1m)

b) Read the statements below and tick (✓) in the correct boxes below. (2m)

	Statements	True	False
(i)	Heat is matter.		
(ii)	Temperature is measured in degree Celsius (°C).		
(iii)	Temperature is a form of energy.		
(iv)	The higher the temperature, the greater the amount of heat a substance has.		

33. a) The diagram below shows how Cara sees the ball.



Fill in the blanks below.

The _____ from the lamp is _____ by the ball and enters Cara's eye. (2m)

b) The table below shows the property of Materials A, B and C.

Property	Material A	Material B	Material C
Allow most of the light to pass through	✓		
Flexible	✓	✓	✓
Absorb water		✓	

i) Describe Material A by stating <u>all</u> its properties. (1m)

_____

_____

ii) State 2 similarities between Material B and C. (2m)

_____

_____

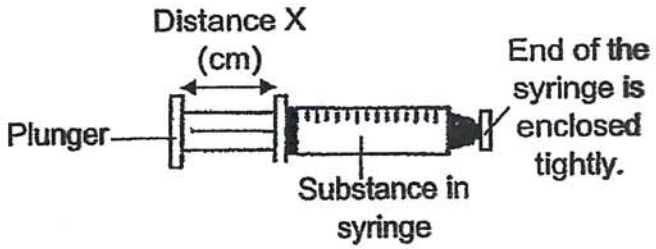
34. a) Classify the following into matter and non-matter. (2m)

Air	Sand	Shadow

Matter	Non-matter

b) Sasha filled 2 identical syringes with Substances P and Q. She put an equal amount of each substance into each syringe.

Then, she pushed the plunger in as far as she could and measured Distance X as shown below.



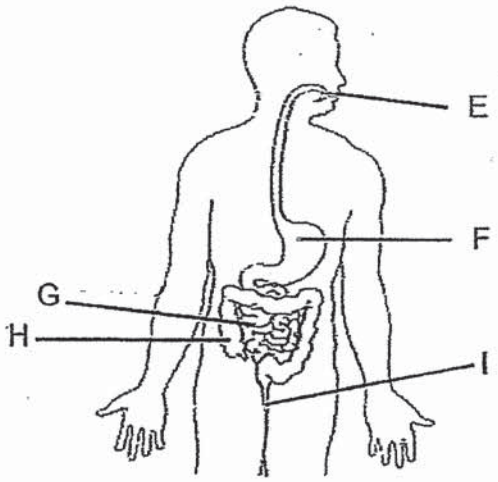
Sasha recorded Distance X as shown in the in the graph below.

Substance	Original distance X (cm)	Distance X after pushing (cm)
P	8	8
Q	8	2

Based on the results of her experiment, which substance is likely to be air? Explain your choice. (2m)

4

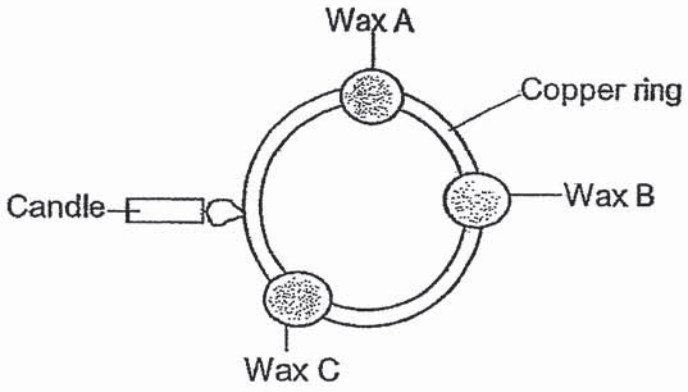
35. Parts E, F,G, H and I are parts of the human digestive system.



Fill in the boxes with the correct part that describes its function. (3m)

	Functions	Parts
(i)	Digestion begins here.	
(ii)	Water is removed from the undigested food.	
(iii)	Digestion is completed.	

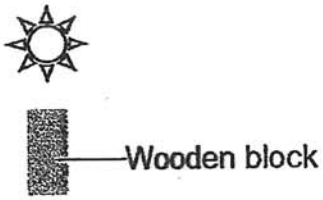
36. Janice placed equal amounts of wax A, B and C around a copper ring. Then, she placed a candle at one part of the copper ring as shown below.



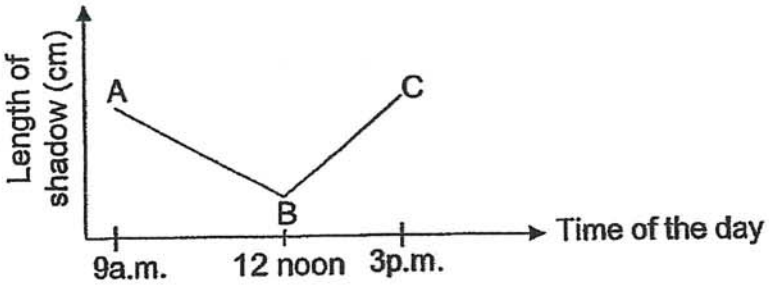
Which piece of wax A, B or C, will take the longest time to melt? Explain. (2m)

5

37. a) A wooden block is placed in an open field on a sunny day as shown below



The graph below shows how the wooden block's length of shadow changed in a day.



Circle the correct answer in the bracket below.

i) Describe how the length of the shadow changes during the time of the day.

The length of the shadow (increases / decreases) from 9a.m. to 12 noon. (1m)

From 12 noon to 3p.m, the length of the shadow (increases / decreases) (1m)

ii) Explain how the shadow of the wooden block is formed. (1m)

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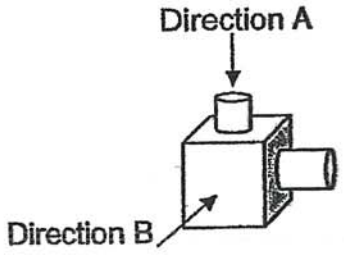
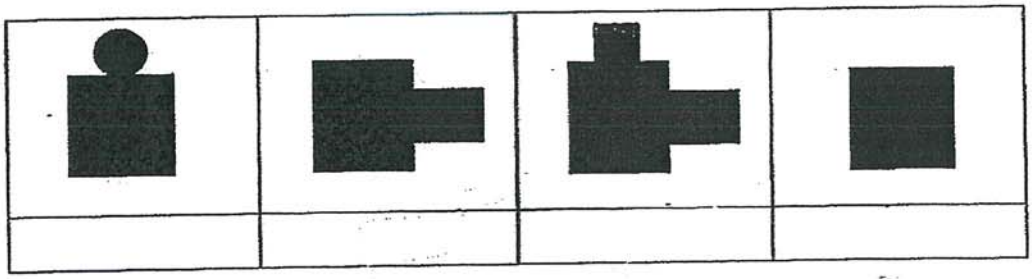
b) The object below is made of an opaque material. A torch light is shone on the object from Direction A and then from Direction B.

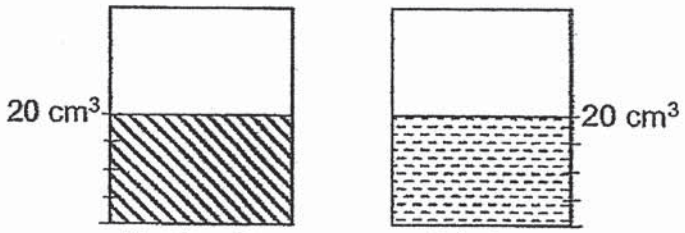


Write **"A" and "B"** in the correct boxes to indicate the shadows formed from Directions A and B. (1m)



4

38. a) Osman has 2 identical beakers, E and F, as shown below. Beaker E contains 20 cm^3 of oil and Beaker F contains 20 cm^3 of water.

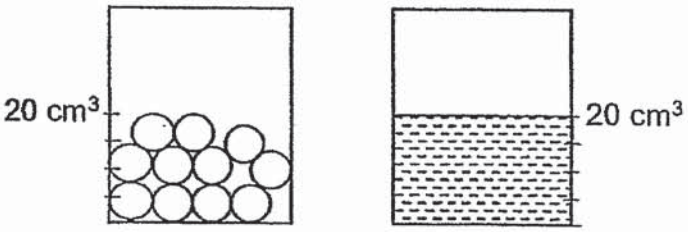


Beaker E containing oil **Beaker F containing water**

i) What is the total volume of oil and water in beakers E and F when the oil in beaker E is placed into the water in beaker F? (1m)

_____ cm^3

b) Next, Osman had a beaker of marbles and a beaker of water as shown below.



Beaker X containing marbles **Beaker Y containing water**

i) What would the total volume be when he added 20 cm^3 of water from Beaker Y into Beaker X? (1m)

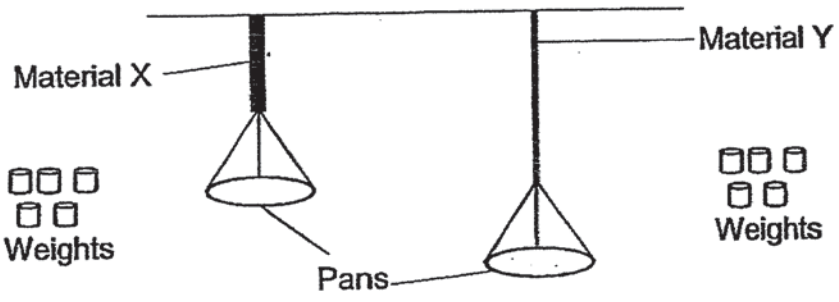
_____ cm^3

ii) Explain your answer in (bi). (1m)

_____

_____

39. Yvonne set up an experiment using Materials X and Y as shown below.



Yvonne placed some weights on each pan, one at a time until the materials broke.

a) What property of the materials do you think Yvonne is trying to test? (1m)

_____

b) Yvonne did not carry out a fair test. State a variable that she should keep constant to make the test fair. (1m)

_____

_____

c) After making changes to her set-up, Yvonne carried out a fair test and recorded the results in the table below.

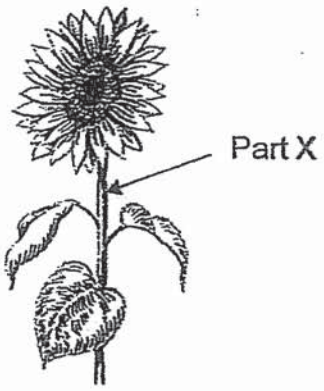
Material	Mass the material could carry before breaking
X	8 kg
Y	5 kg

Which material should Yvonne choose if she were to use it to carry books which weigh 6 kg? (1m)

_____

3

40. a) Study the plant as shown below.



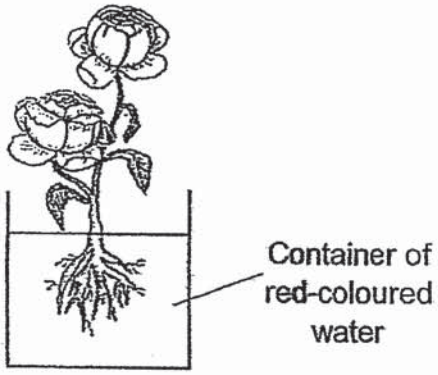
Plant

i) State a function of Part X. (1m)

_____

_____

b) A plant with white flowers is placed in a container of red-coloured water as shown below. The flowers turned red after a week.

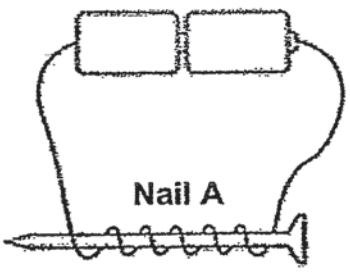


i) Explain how the flowers turned red. (2m)

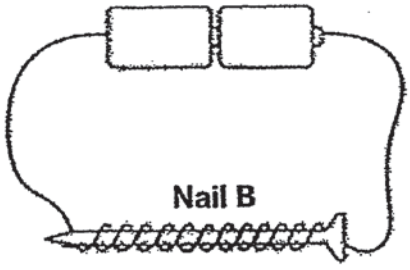
_____

3

41. Lucy conducted an experiment as shown below.



Number of coils: 5



Number of coils: 12

The batteries she used were all new and she recorded the number of steel pins which were attracted by each nail in the table below.

Nail	Type of nail	Number of coils
A	Iron	5
B	Iron	12

a) Based on Lucy's experiment, which magnet is able to attract more steel pins? Explain your answer (2m)

_____

_____

b) Lucy set-up another experiment using nail C. She changed the type of nail to copper.

Nail	Type of nail	Number of coils
C	Copper	12

Fill in the blank below to show the number of steel pins that will be attracted by the copper nail.

i) Number of steel pins attracted: _____ (1m)

ii) Explain your answer. (1m)

_____

Check your work. 😊

4

Singapore Chinese Girls (SA2)

NAME: _______ CLASS: _______

2020 SA2 PRIMARY 4 SCIENCE

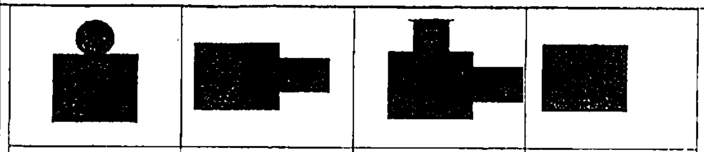
(1)	4	(6)	3	(11)	1	(16)	2	(21)	1	(26)	2
(2)	3	(7)	4	(12)	3	(17)	4	(22)	1	(27)	4
(3)	1	(8)	3	(13)	4	(18)	3	(23)	1	(28)	1
(4)	4	(9)	3	(14)	4	(19)	4	(24)	1		
(5)	2	(10)	2	(15)	3	(20)	1	(25)	4		

	Suggested Answers
Q29a	GroupF: living things Group G: Non-living things
Q29b	**Group** / **Characteristics**: **Birds** – Body covered with feathers; **Reptiles** – Dry skin, with scales
Q30a	Water, oxygen/ air and warmth
Q30b	X. the mass of the seed leaves will decrease as it provides food for the baby plant until the plant can make its own food.
Q31	a) Liquid b) Solid
Q32b	(see table below)
Q33a	The light from the lamp is reflected / bounced off by the ball and enters Cara's eye.
Q33b	i) A allows **most** light to pass through, is flexible and is waterproof/does not absorb water. ii) Both are flexible and do not allow **most** light to pass through.
Q34a	Matter: Air, Sand; Non-matter: Shadow
Q34b	Substance Q, as it can be compressed but Substance P cannot.
Q32a	i) measuring cylinder (ii) weighing scale

Q32b

	Statements	T	F
(i)	Heat is matter.		✓
(ii)	Temperature is measured in degree Celsius (°C)	✓	
(iii)	Temperature is a form of energy.		✓
(iv)	The higher the temperature, the greater the amount of heat a substance has.	✓	

	Functions	Parts
Q35 (i)	Digestion begins here.	E
(ii)	Water is removed from the undigested food.	H
(iii)	Digestion is completed.	G

Q36	Wax B. It is the furthest from the heat source/ candle/ flame.
Q37ai	The length of the shadow **decreases** from 9a.m. to 12 noon. From 12 noon to 3p.m, the length of the shadow **increases**.
Q37aii	Shadow is formed when light is blocked.
Q37b	 A B
Q38a	40 cm^3
Q38bi	Less than 40 cm^3
Q38bii	There were air spaces between the marbles and water displaced the air.
Q39a	Strength
Q39b	The length/thickness/width / size of the material used is not the same.
Q39c	Material X
Q40ai	To support the plant upright OR To transport water and food to other parts of the plant.
Q40bi	The roots absorbed the red-coloured water AND it was transported through (the water-carrying tubes in) the stem to the flowers.
Q41a	Magnet B B has the greater number of coils around the nail than A.
Q41b	i) 0 / Zero ii) Copper is not a magnetic material, thus it cannot be magnetized to become an electromagnet/ cannot become a magnet.

END