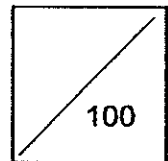




**HENRY PARK PRIMARY SCHOOL
2014 SEMESTRAL EXAMINATION 2
SCIENCE
PRIMARY 4**

Duration of Paper: 1 h 45 min



Name: _____ ()

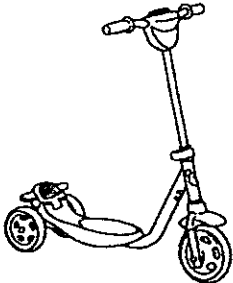
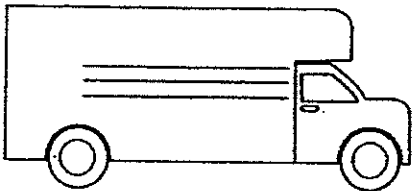
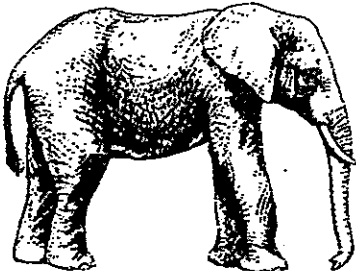
Class: Pr 4 _____

Parent's Signature: _____

Booklet A (60 marks)

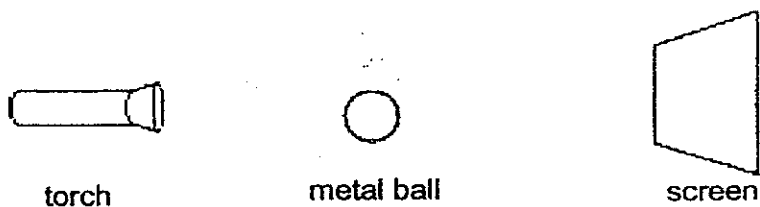
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which one of the following is a living thing?

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

()

2. The set-up below shows light shining on a metal ball.



Which one of the following would likely be seen on the screen?

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

()

3. Which one of the following substances has a definite shape?

- (1) petrol
- (2) coffee
- (3) eraser
- (4) oxygen

()

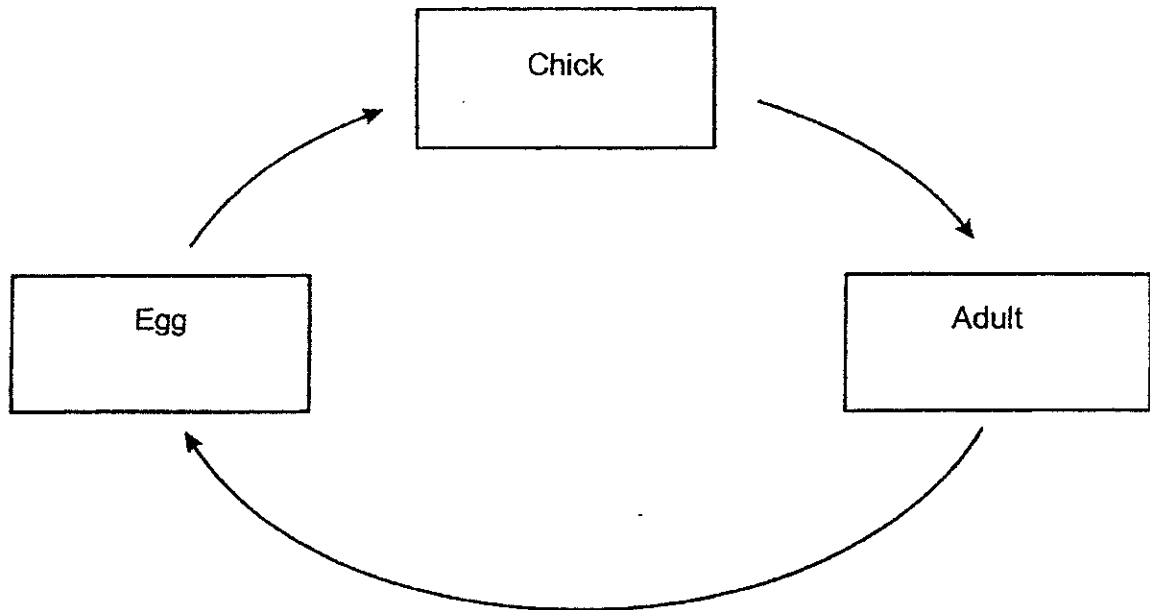
4. Which one of the following can be attracted by a magnet?

- (1) steel plate
- (2) paper plate
- (3) plastic plate
- (4) wooden plate

()



5. The diagram below shows the lifecycle of an animal.

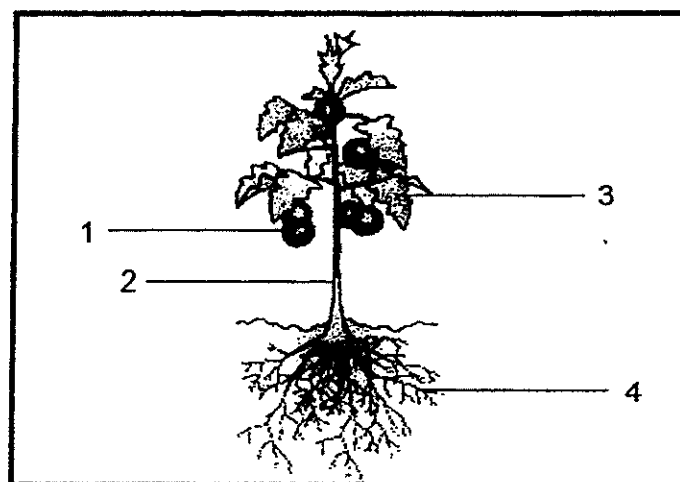


Which animal is likely to have the lifecycle as shown above?

- (1) beetle
- (2) chicken
- (3) butterfly
- (4) cockroach

()

6. The diagram shows a plant.

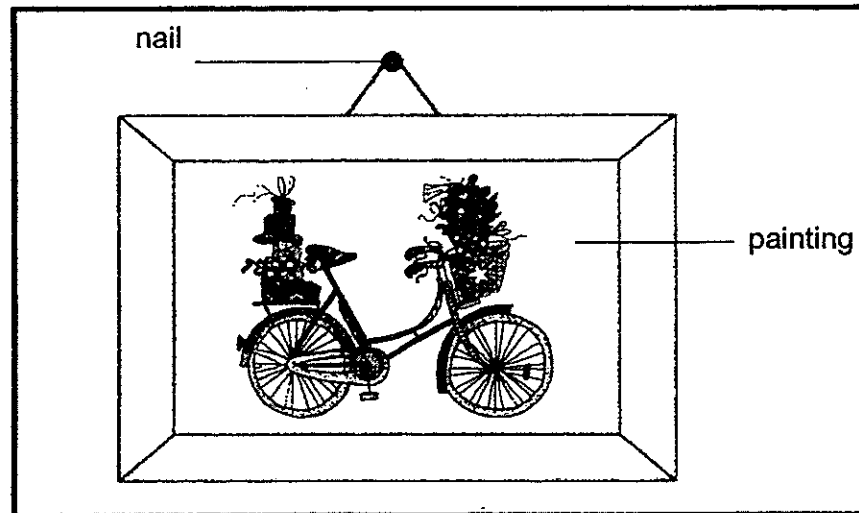


Which part, (1), (2), (3) or (4), is the stem?

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7. The diagram shows a painting hanging on a wall.

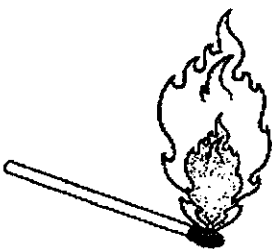
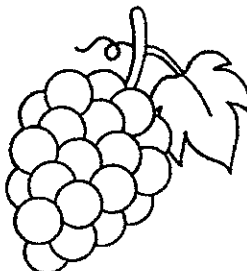
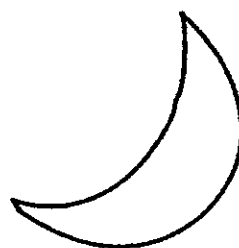


Iron is used to make nails because iron _____.

- (1) is shiny
- (2) is strong
- (3) sinks in water
- (4) conducts heat well

()

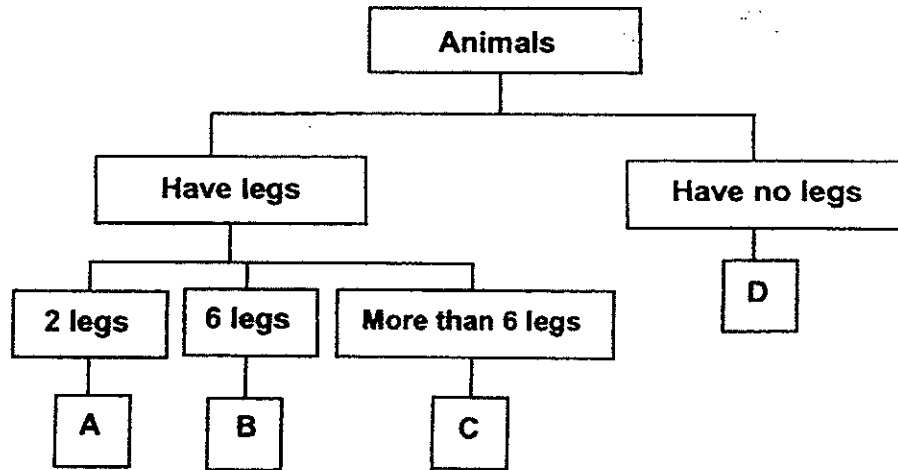
8. Which one of the following is a source of light?

(1)	a lighted matchstick	(2)	a bunch of grapes
			
(3)	a flower	(4)	the moon
			

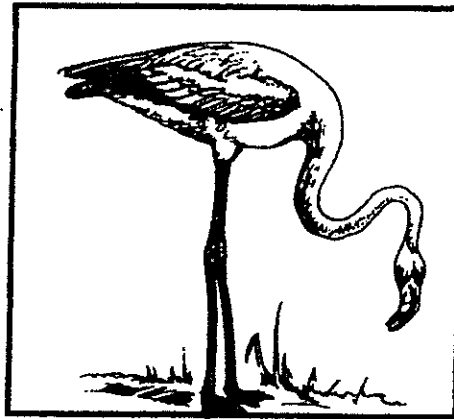
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9. Study the chart below.



Where would you put this animal in the chart above?



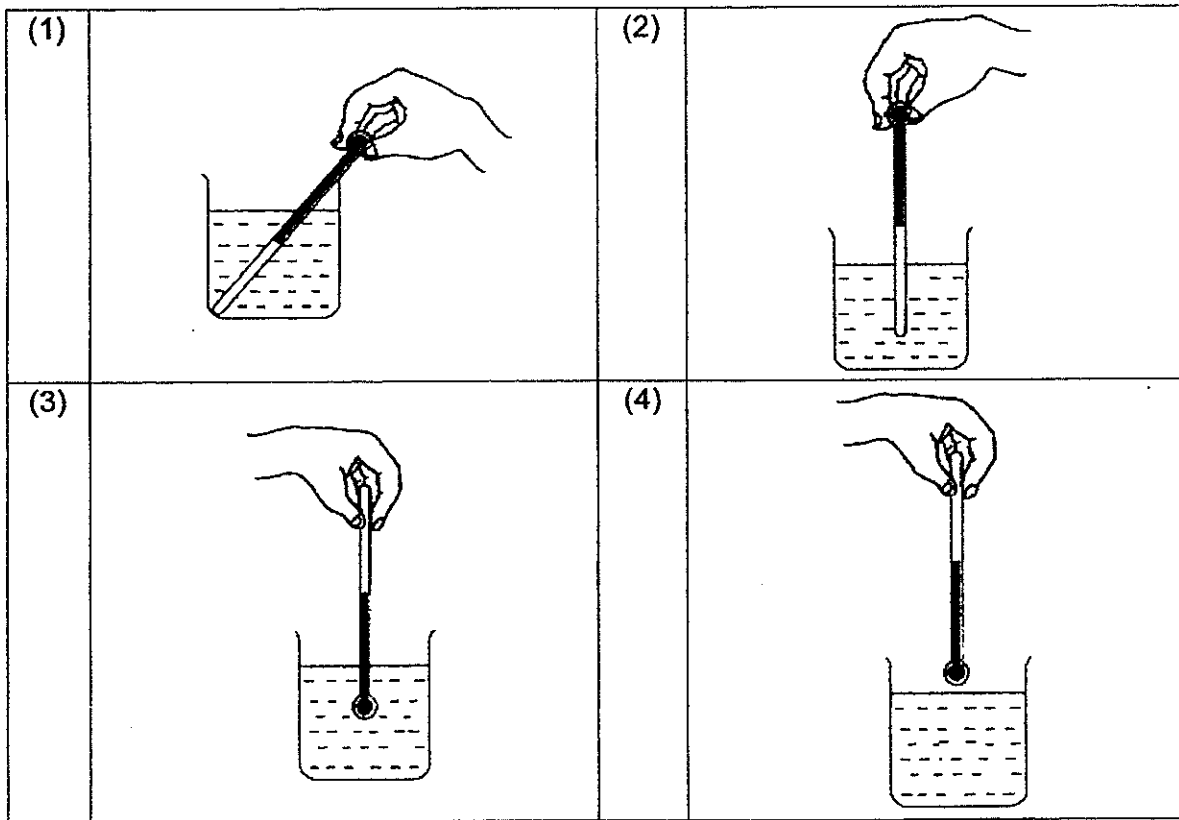
- (1) A
- (2) B
- (3) C
- (4) D

()



10. Rose wants to measure the temperature of water in a beaker.

Which one of the following diagrams shows the correct position of the thermometer when taking the temperature reading?



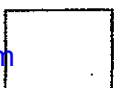
()

11. Which of the following statements about light is correct?

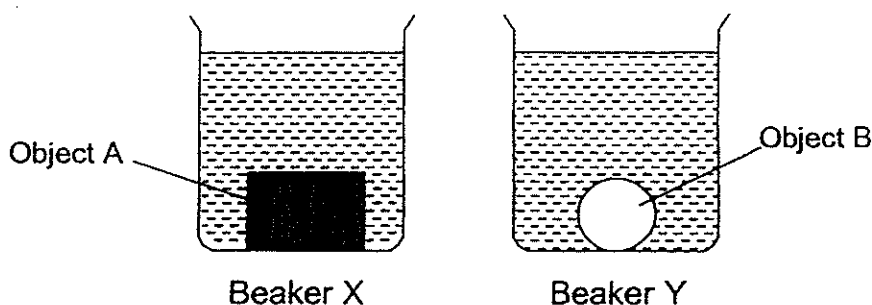
- A: Light is a form of matter.✗
- B: Light is a form of energy.✓
- C: Light cannot occupy space.✓
- D: Light cannot pass through any material.✗

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

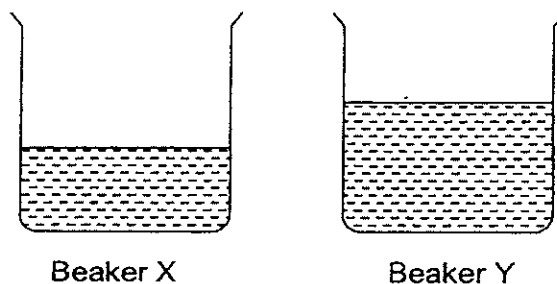
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12. Mary placed two objects, A and B, into two identical beakers, X and Y. She then poured water into the two beakers to the same level as shown below.



She then carefully removed the objects from the beakers and observed the amount of water left in each beaker as shown below.



Which one of the following statements about the objects A and B is correct?

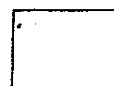
- (1) Object B is heavier than object A.
- (2) Object A is heavier than object B.
- (3) Object A has a larger volume than object B.
- (4) Both objects occupy the same amount of space.

()

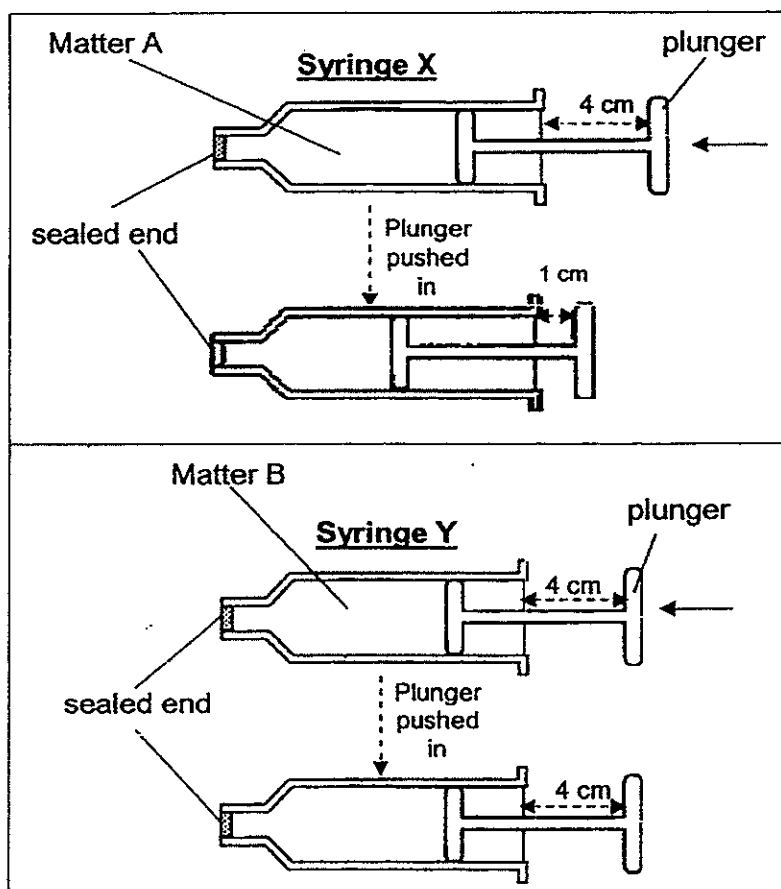
13. Which one of the following statements about matter is correct?

- (1) Both solids and liquids can be compressed.
- (2) Matter is anything that has mass and volume.
- (3) A smaller object is definitely lighter than a larger object.
- (4) Both liquids and gases have definite shape but no definite volume.

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14. Nick prepared two identical syringes, X and Y, each containing different types of matter, A and B.



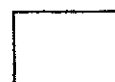
Nick tried pushing the plunger in each syringe and observed what happened. He recorded the distance the plunger moved for each syringe in the table below.

Distance moved by plunger (cm)	
Syringe X	Syringe Y
3	0

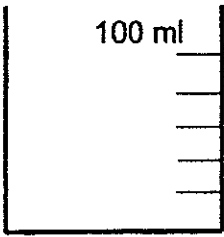
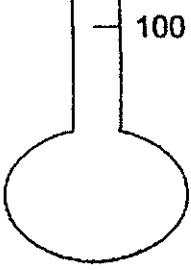
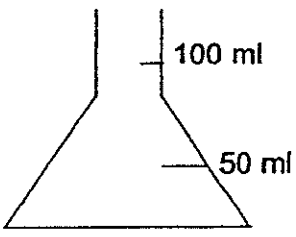
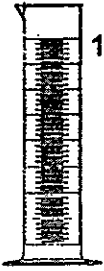
Which of the following correctly identifies A and B?

	A	B
(1)	Water	Soil
(2)	Flour	Oxygen
(3)	Salt	Water
(4)	Air	Oil

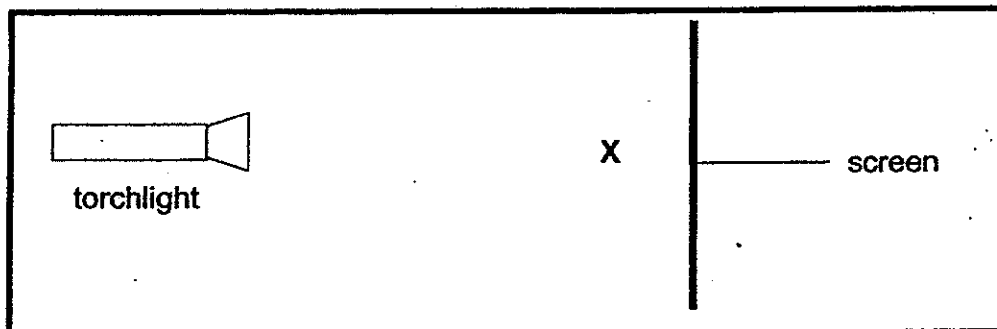
()



15. Which of the following apparatus can be used to measure 55 ml of water most accurately?

(1)	 beaker	(2)	 flask
(3)	 flask	(4)	 measuring cylinder

16. The diagram below shows a ~~light bulb~~ torchlight in front of a screen.

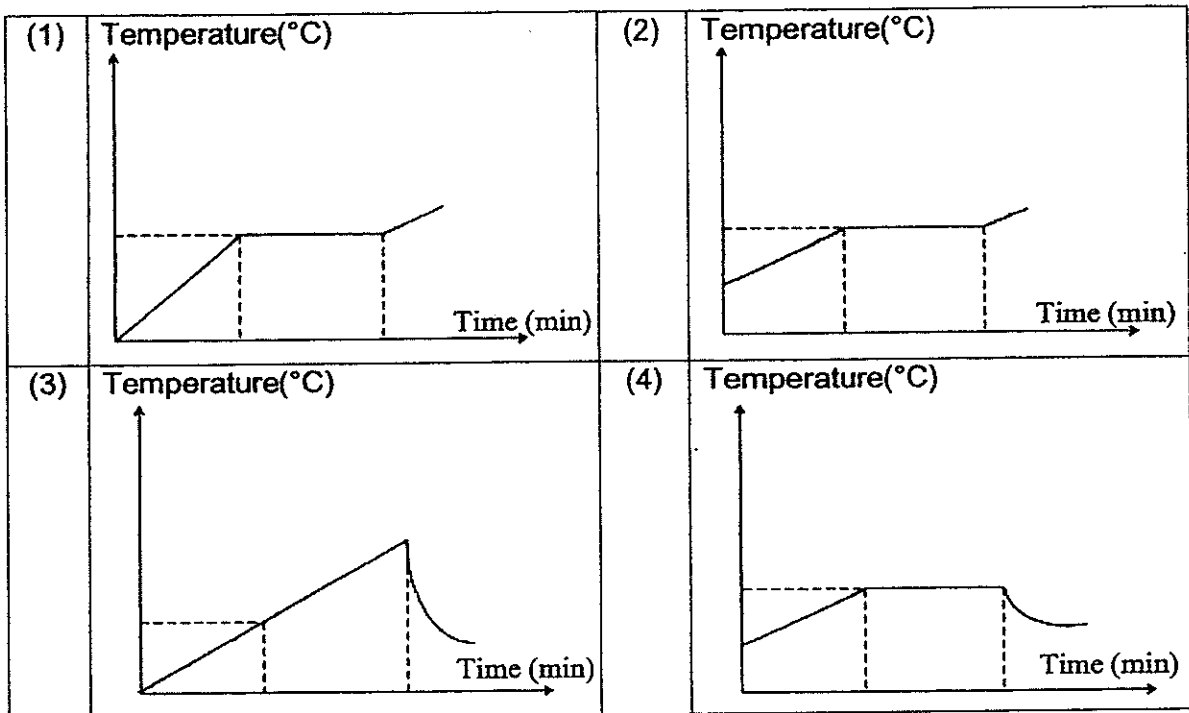


Which of the following objects would you place at point X to obtain a dark shadow on the screen?

- (1) Clear glass
- (2) Clear plastic
- (3) Tracing paper
- (4) Cardboard paper

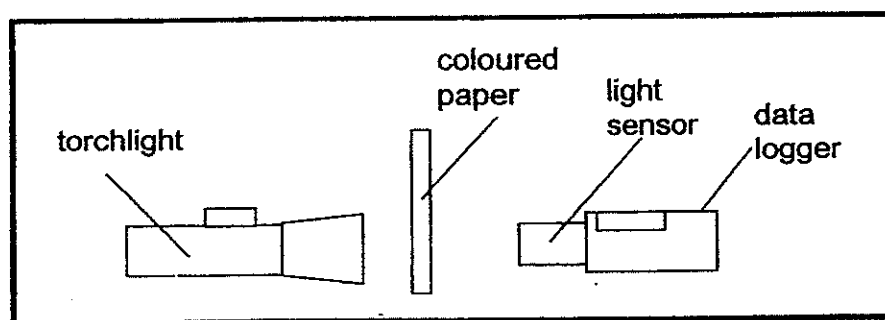
17. Joyce heated a pot of water in her kitchen for 10 minutes until it started boiling. She continued boiling it for another 10 minutes before adding an egg into the water.

Which one of the following graphs shows the changes in the temperature of water?



()

18. Sam used the set up below to find out how four different types of coloured paper affects the amount of light that passes through it.



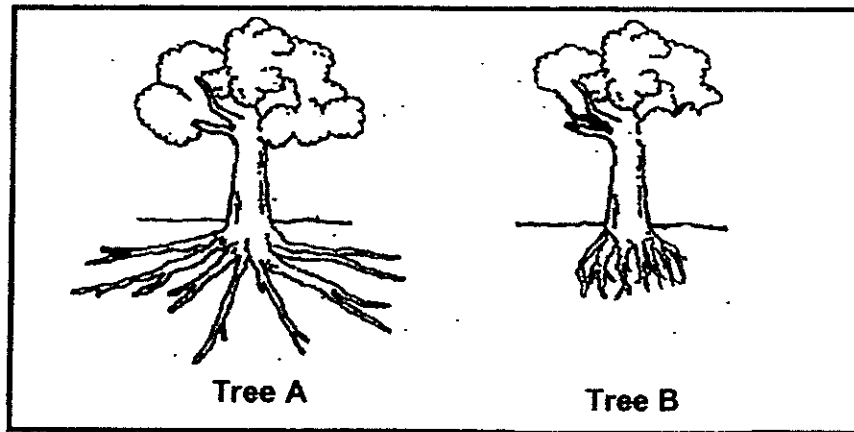
Which of the following is the correct way to carry out the experiment?

- (1) He should conduct the experiment in a dark room.
- (2) He should conduct the experiment in a bright roomX
- (3) He should use 4 papers of the same colour for the set-upX
- (4) He should measure the colour of the light with a light sensorX

()



19. The diagram below shows two trees, A and B. In a thunderstorm, Tree B was uprooted but not Tree A.

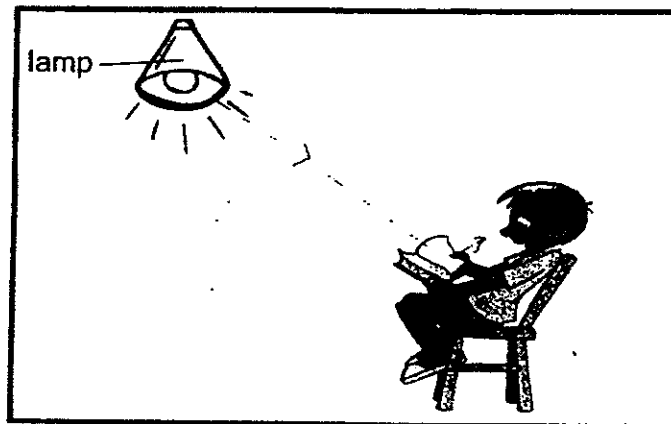


Which of the following could explain why Tree B was uprooted?

- (1) Tree B was shorter than Tree A.
- (2) Tree B has a weaker trunk than Tree A.
- (3) The roots of Tree B were less spread out than those of Tree A.
- (4) The roots of Tree B absorbed more nutrients than those of Tree A.

()

20. The diagram below shows Simon reading a story book.



Which of the following statement explains why Simon is able to see what he is reading?

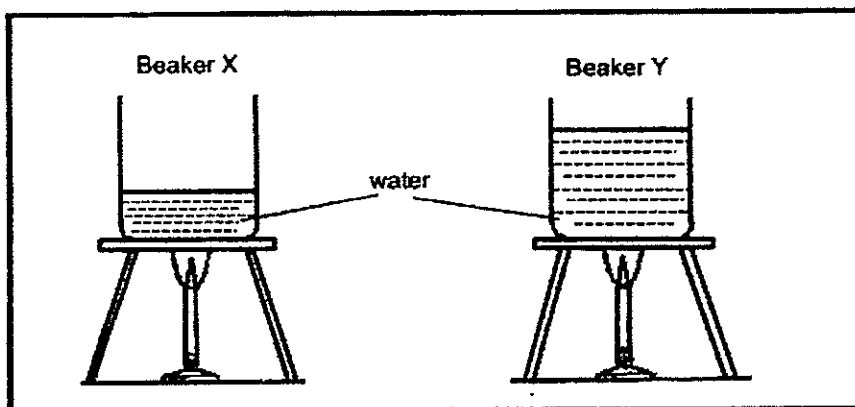
- (1) His eyes give out light and is reflected on the book.
- (2) The book gives out light and is reflected onto his eyes.
- (3) The light from the lamp enters his eyes and is reflected onto the book.
- (4) The light from the lamp shines onto the book and is reflected into his eyes.

()



21. A group of pupils wanted to find out how volume of water affects the time taken for it to boil.

They carried out an experiment using two identical beakers, X and Y, which contain different volumes of water. They also used the same amount of heat.

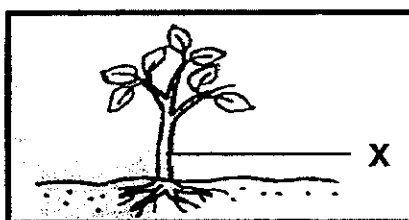


Which of the following hypothesis statements is the most suitable for the above experiment?

- (1) There is more heat in Beaker X than Beaker Y.
- (2) The water in Beaker Y has a lower temperature.
- (3) The lesser the volume of water the more heat it contain.
- (4) The lesser the volume of water the faster the water will boil.

()

22. The diagram below shows a plant.



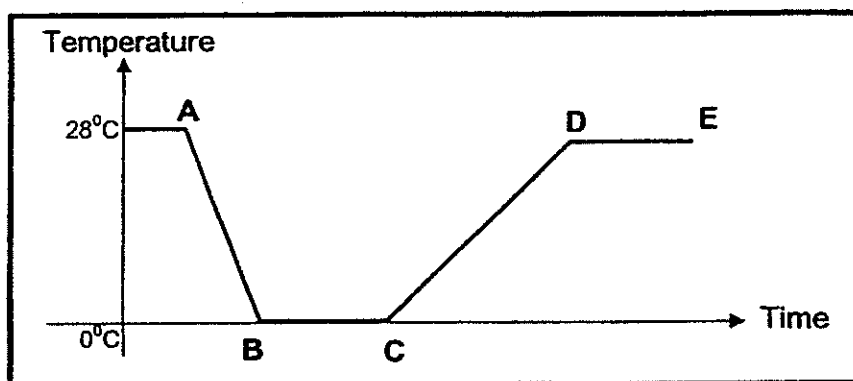
How is the part, labelled X, useful to the plant?

- A: X absorbs minerals and water
 B: X transports water to the leaves.
 C: X helps to keep the plant firmly to the ground.
 D: X supports the leaves to receive plenty of sunlight.
- (1) B and D only
 - (2) D and A only
 - (3) B and C only
 - (4) A and C only

()

23. Cindy wanted to drink a glass of cold water. She filled a glass with tap water at 28°C and placed it in the freezer compartment inside a refrigerator.

The line graph below shows how the temperature of the tap water in the glass changes.



Which of the following explains why the temperature of water starts to increase from point C to point D?

- (1) The tap water was losing heat in the freezer.
- (2) The tap water was turning into ice in the freezer.
- (3) Cindy had taken out the glass of tap water from the refrigerator.
- (4) Cindy had just placed the glass of tap water into the refrigerator.

()

24. Which of the following statements about magnets is **not** correct?

- (1) Iron is used to make magnets
- (2) Dropping magnets causes them to become weaker.
- (3) All silver coloured items are not attracted to magnets.
- (4) Size of magnets does not determine the strength of magnets

()

25. Which of the following is **not** a system?

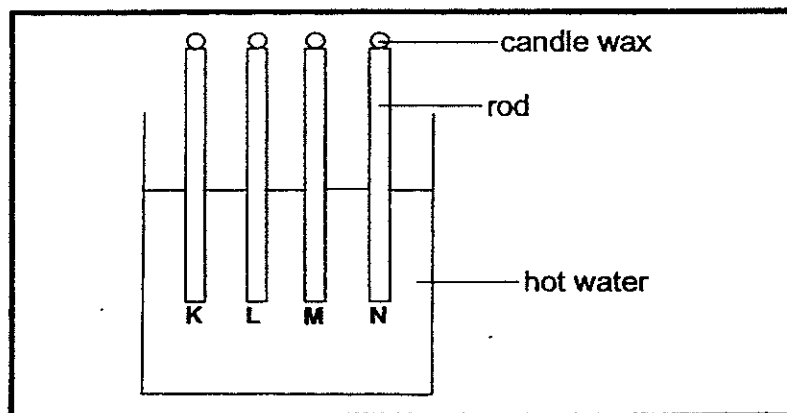
- (1) A plant
- (2) A wall clock
- (3) A table lamp
- (4) A piece of paper

()



26. Belinda wanted to find out which material can keep her soup warm for as long as possible. She conducted an experiment by using 4 rods made of different materials, K, L, M and N.

She dripped candle wax on one end of the rod and immersed the other end in a container of hot water.



Belinda then recorded her results in the table below.

Materials	Time taken for wax to melt completely
K	12 seconds
L	59 seconds
M	41 seconds
N	26 seconds

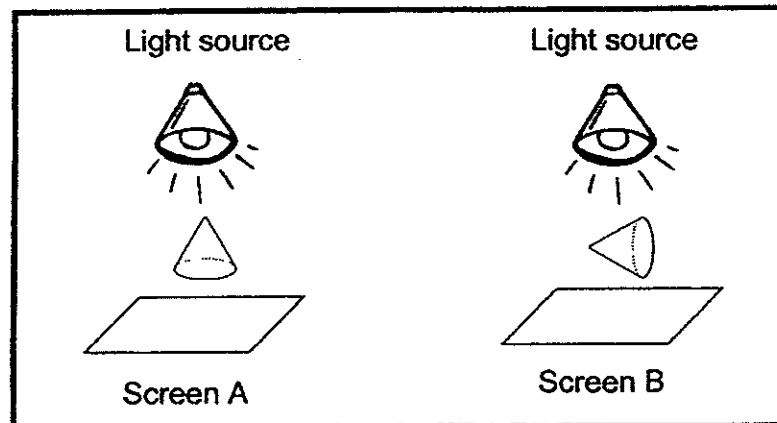
Arrange the rods according to how well they can prevent the soup from losing heat quickly, starting with the poorest conductor of heat.

- (1) K, N, M, L
- (2) L, M, N, K
- (3) M, N, K, L
- (4) N, M, L, K

()



27. David wanted to find out how shadows are formed by opaque objects. He carried out an experiment using two identical metal cones.



The cones were placed in different positions directly under identical light sources in a dark room. Shadows were formed on Screen A and B as shown below.

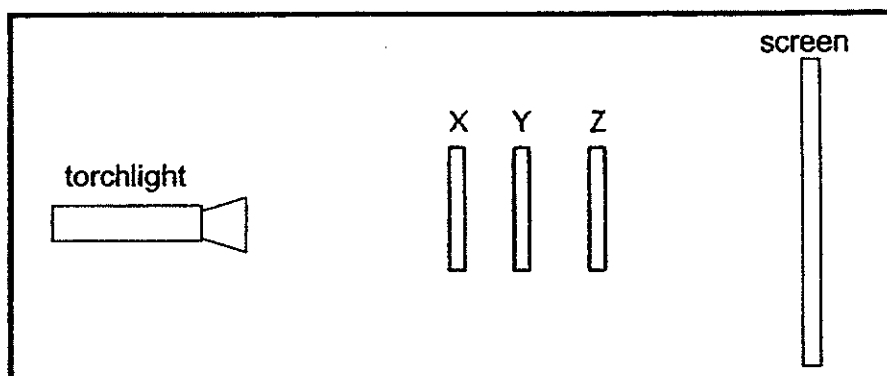
Which of the following shadows would be observed on the screens?

	Screen A	Screen B
(1)		
(2)		
(3)		
(4)		

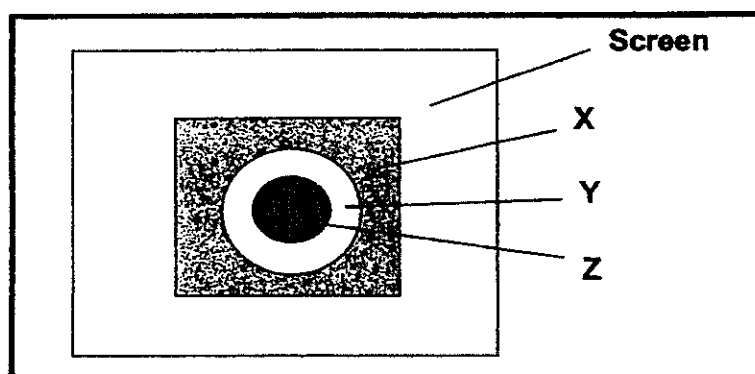
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28. Desmond carried out an experiment to find out more about the properties of shadows. He set up his experiment as shown in the diagram below.



When he shone the torchlight at object X, Y and Z, he observed the shadows as shown below.



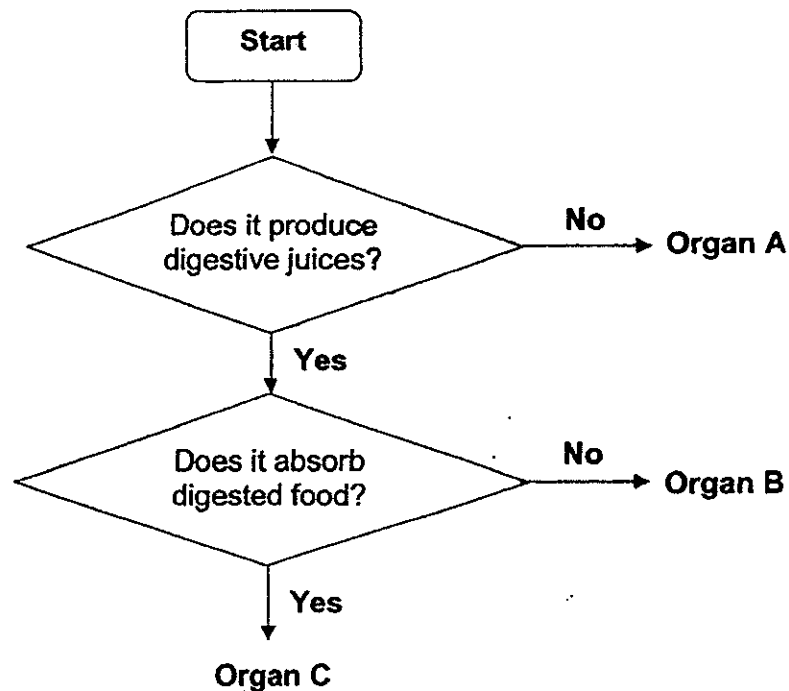
What could object X, Y and Z be?

	X	Y	Z
(1)	Tracing paper	Frosted glass	Cardboard
(2)	Frosted glass	Cardboard	Clear plastic
(3)	Frosted glass	Clear plastic	Cardboard
(4)	Tracing paper	Clear plastic	Frosted glass

()



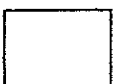
29. The flowchart below shows the characteristics of organs A, B and C of the human digestive system.



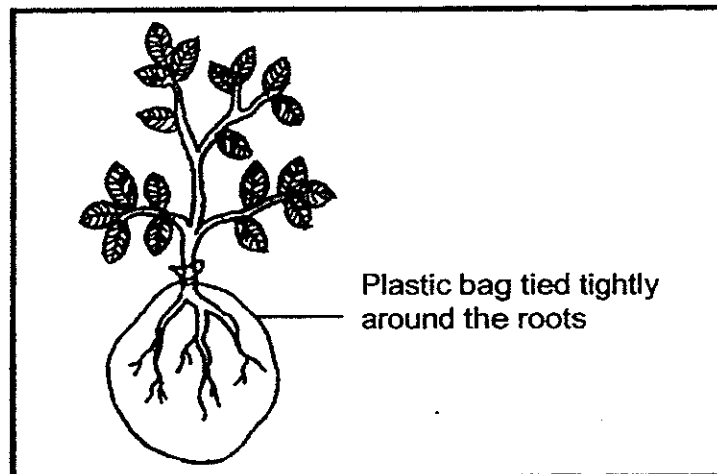
Which one of the following is correct?

	A	B	C
(1)	Gullet	Stomach	Small Intestine✓
(2)	Gullet	Small Intestine	Large Intestine
(3)	Stomach	Gullet	Large Intestine
(4)	Large Intestine	Stomach	Gullet

()



30. Alan brought home a plant as shown below.
He placed it in his garden and watered it daily without removing the plastic bag.
After ten days, he discovered the plant had died.



What could have caused the plant to die?

- A: The roots were unable to get water
 - B: The leaves did not receive light
 - C: The plant rotted from too much watering.
 - D: The leaves cannot make food.
- (1) A and B only
(2) A and D only
(3) B and C only
(4) C and D only

()

- End of Booklet A -

R

- 1 ☐ ☐ ☐ ☒
- 2 ☐ ☐ ☐ ☒
- 3 ☐ ☐ ☒ ☐
- 4 ☒ ☐ ☐ ☐
- 5 ☐ ☒ ☐ ☐
- 6 ☐ ☒ ☐ ☐
- 7 ☐ ☒ ☐ ☐
- 8 ☒ ☐ ☐ ☐
- 9 ☒ ☐ ☐ ☐
- 10 ☐ ☐ ☒ ☐
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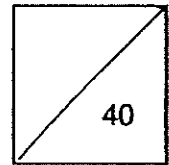
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**HENRY PARK PRIMARY SCHOOL
2014 SEMESTRAL EXAMINATION 2
SCIENCE
PRIMARY 4**

Name: _____ ()

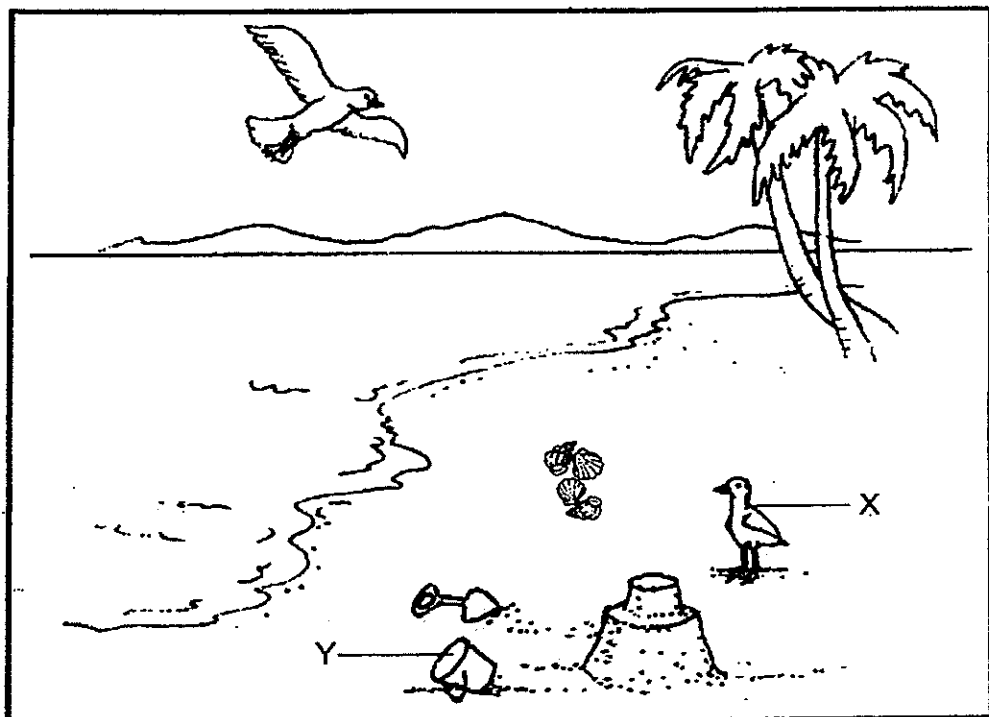
Class: Pr 4 _____



Booklet B (40 marks)

Write your answers to questions 31 to 44 in the spaces given.

31. Don saw some living and non-living things on the beach.



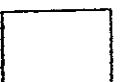
State if X and Y are living or non-living things.

(a) X is a _____

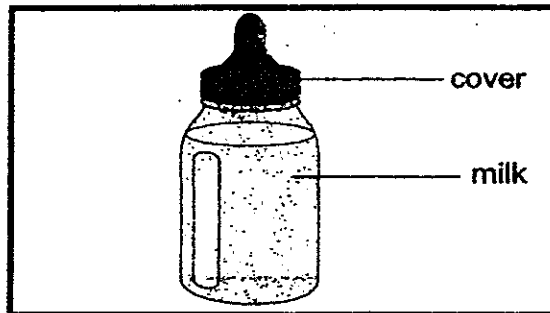
[1m]

(b) Y is a _____

[1m]



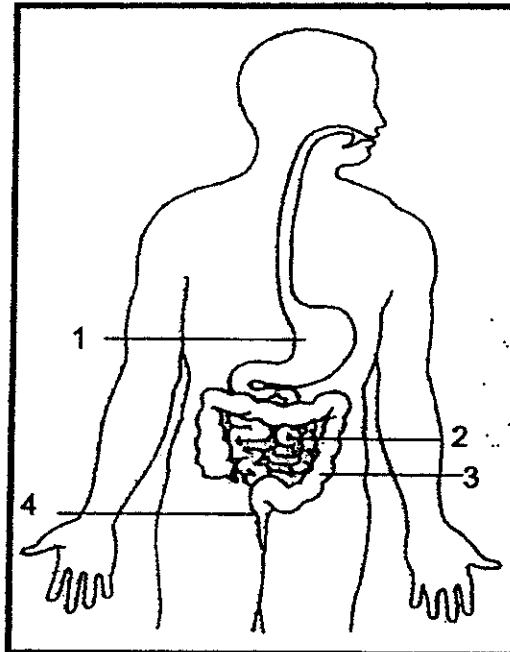
32. The diagram below shows a bottle of milk.



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

- (a) The cover is a _____ [1m]
- (b) Milk is a _____ [1m]

33. The diagram below shows the human digestive system.



Identify the part where

- (a) digestion is completed : _____ [1m]
- (b) water is removed from undigested food : _____ [1m]

34. Casper places a magnet near a steel toy car. The steel toy car moves towards the magnet.

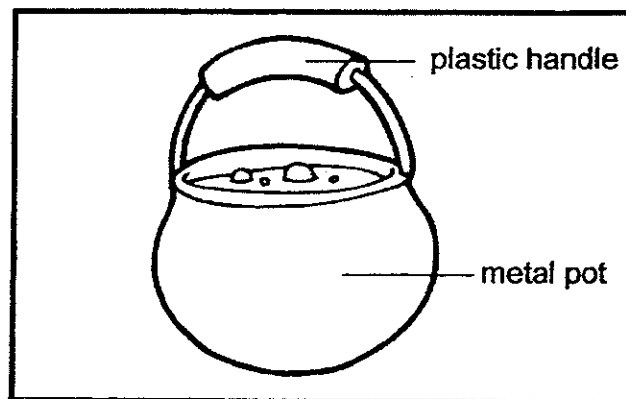


- (a) The magnet exerts a _____ on the steel toy car. [1m]
- (b) Choose the correct word from the box to answer the question below.

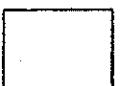


Casper's observation shows that steel is a _____ material. [1m]

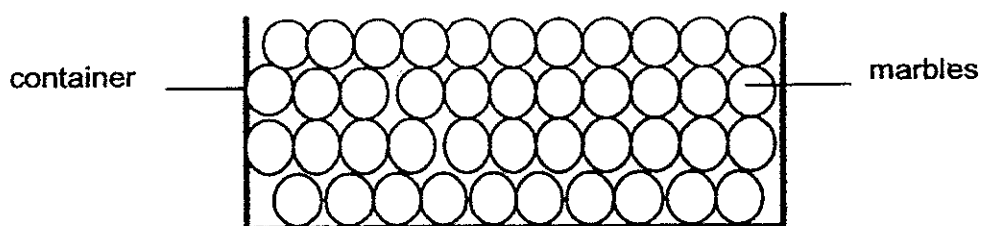
35. The diagram below shows a cooking pot.



- (a) The handle is made of plastic because it is a _____ conductor of heat. [1m]
- (b) The pot is made of metal because it is a _____ conductor of heat. [1m]



36. Maliki filled a container with 120cm^3 of marbles as shown below.

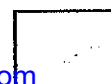


- a) Identify the state(s) of matter found in the above container. [1m]

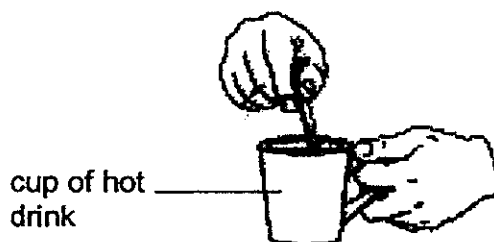
- b) Tick (✓) the box that shows the most likely volume of the container. [1m]

Volume of Container	Tick (✓) the correct volume
Less than 120 cm^3	
Is equals to 120 cm^3	
More than 120 cm^3	

- c) Explain your answer in (b). [2m]



37. Billy wanted to find out how the number of times he stirs the hot drink will affect the time taken for it to cool down.



He set up an experiment by using two identical cups, A and B which are filled with similar hot drinks of the same temperature. He measured the temperature of the drinks of both cups, A and B at five-minute interval.

The table below shows the result of the experiment.

Time (min)	Temperature of Cup A ($^{\circ}\text{C}$), stirred 20 times	Temperature of Cup B ($^{\circ}\text{C}$), stirred 10 times
0	90	90
5	82	85
10	76	80
15	71	75
20	67	72

- a) Write a suitable hypothesis for this experiment. [1m]

- b) What is the independent variable for this experiment? [1m]

- c) What is the dependent variable for this experiment? [1m]

- d) Billy's father told him that he could also place the cup of hot drink in a basin of cold water.

Explain how this will help to cool the hot drink.

[1m]

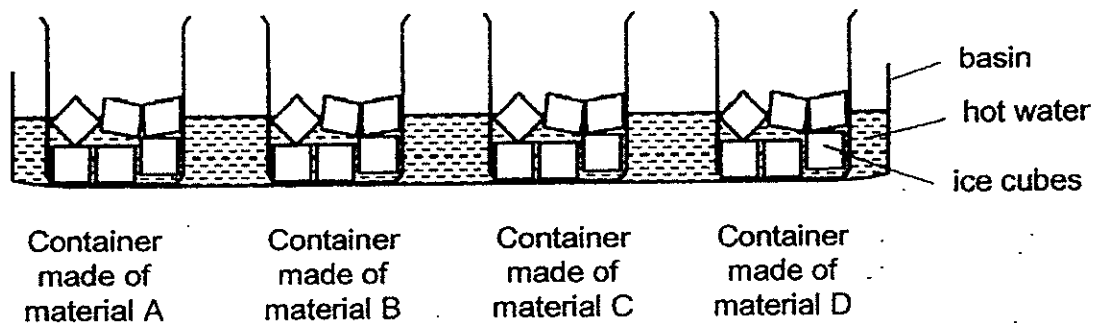


38. Write the steps (2, 3, 4, 5) next to the statements in the table below to show the process of digestion when Bob ate a sandwich. Step 1 has been done.

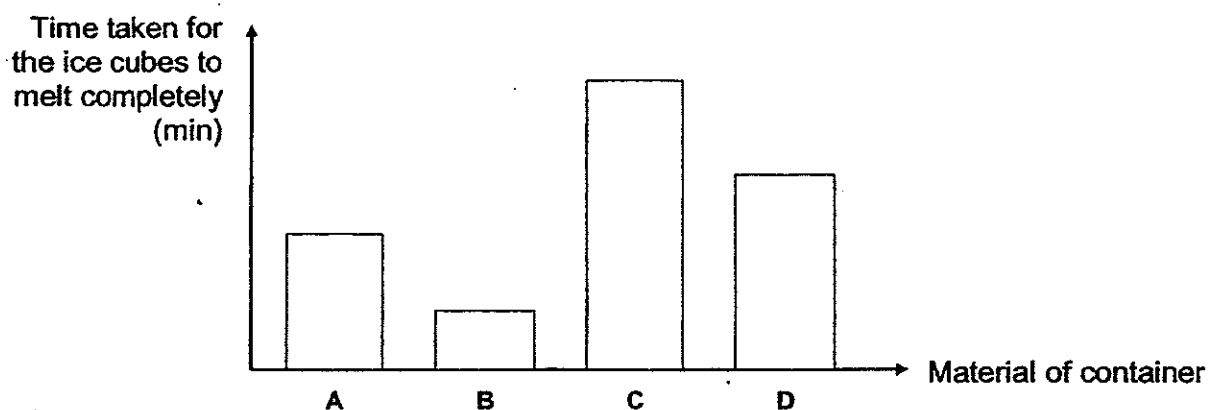
[2m]

Statement	Step
Digestion is completed and digested food is absorbed into the blood stream.	
Digestive juices in the stomach mix with the food to further break down the food into soupy liquid.	
Water is removed from the undigested food. Undigested food passes out from the anus.	
The food travels down the gullet to the stomach.	
Bob takes a bite of the sandwich. His teeth chew and grind the food into smaller pieces.	1

39. Doris had four similar containers made of four different materials, A, B, C and D. She put an equal amount of ice cubes into each container. Then, Doris placed all the containers into a basin of hot water as shown below.



Doris recorded the time taken for the ice cubes to melt completely in each container in the graph.



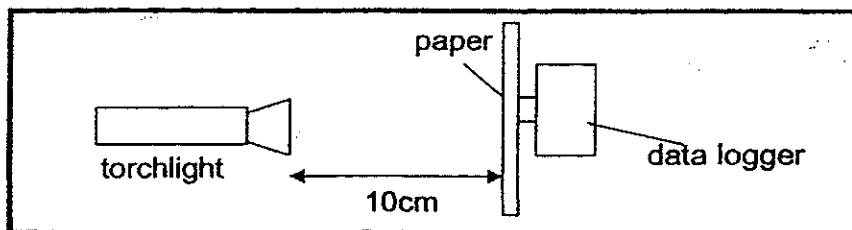
- a) From the results above, which material is the **most** suitable for making the handle of a cooking pot? [1m]

- b) Explain your answer in (a). [2m]

- c) Which material is the **most** suitable for making a container that keeps drinks cold for a very long time? [1m]



40. Jack set up an experiment in the diagram below.



He collected information on the amount of light passing through different thickness of paper as shown in the table below.

	Thickness of white paper			
	A (1 mm)	B (2 mm)	C (3 mm)	D (4 mm)
Amount of light passing through (units)	700	400	200	50

- a) Which paper, A, B, C or D allows the most light to pass through? [1m]

- b) Explain the reason in (a). [1m]

- c) If Jack were to use another set of paper of 5mm, what would the amount of light (in units) be? [1m]

Tick the correct box.

☐

Less than 50 units

☐

50 units

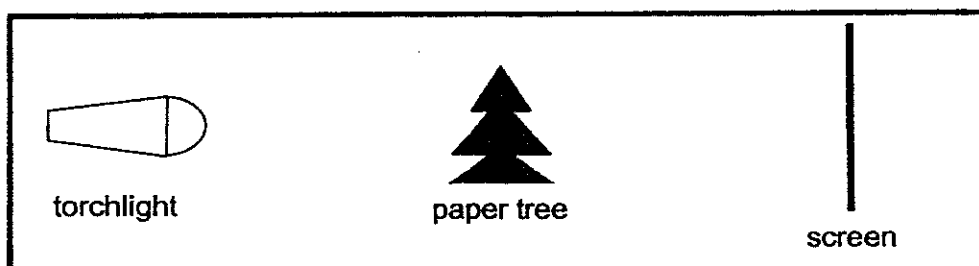
☐

More than 50 units

- d) Explain why the colour of each paper used in the experiment must be the same. [1m]



41. Elise shone a torch light onto a paper tree and a shadow was formed on a screen as shown below.



She recorded the results in the table below as shown.

Distance between paper tree and screen (cm)	Height of shadow (cm)
8	13
10	16
12	19
14	22

- a) Elise noticed the shadow created on the screen was not very dark.

Suggest a way in which she can create a darker shadow without changing the paper tree.

[1m]

- b) From the table, what is the relationship between the distance of the paper tree from the screen and the height of shadow?

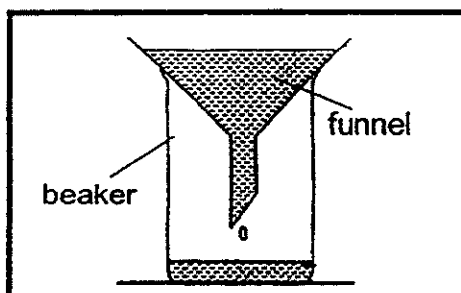
[1m]

- c) Explain how shadows are formed.

[1m]



42. Raymond placed a funnel on a beaker and poured some water in the funnel as shown below.



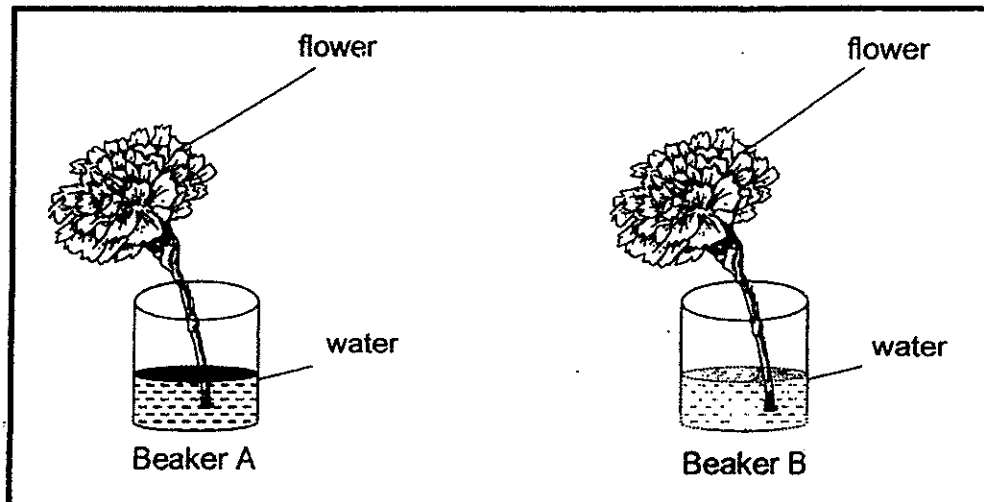
He realised that the water flowed very slowly into the beaker.

- a) What can Raymond do to allow the water in the funnel to flow into the beaker faster, without changing the apparatus or having any new addition to the set-up? [1m]

- b) Explain your answer in (a). [2m]



44. Colin placed two stalks of white flowers into two separate beakers of water as shown below.



He then added two drops of red food colouring to the water in beaker A.

After two days, Colin observed that the colour of the flower in beaker A has turned red while the colour of the flower in beaker B remained white.

- a) Explain why the flower in beaker A has turned from white to red. [1m]

- b) State two functions of the roots of a plant. [2m]

Function 1:

Function 2:

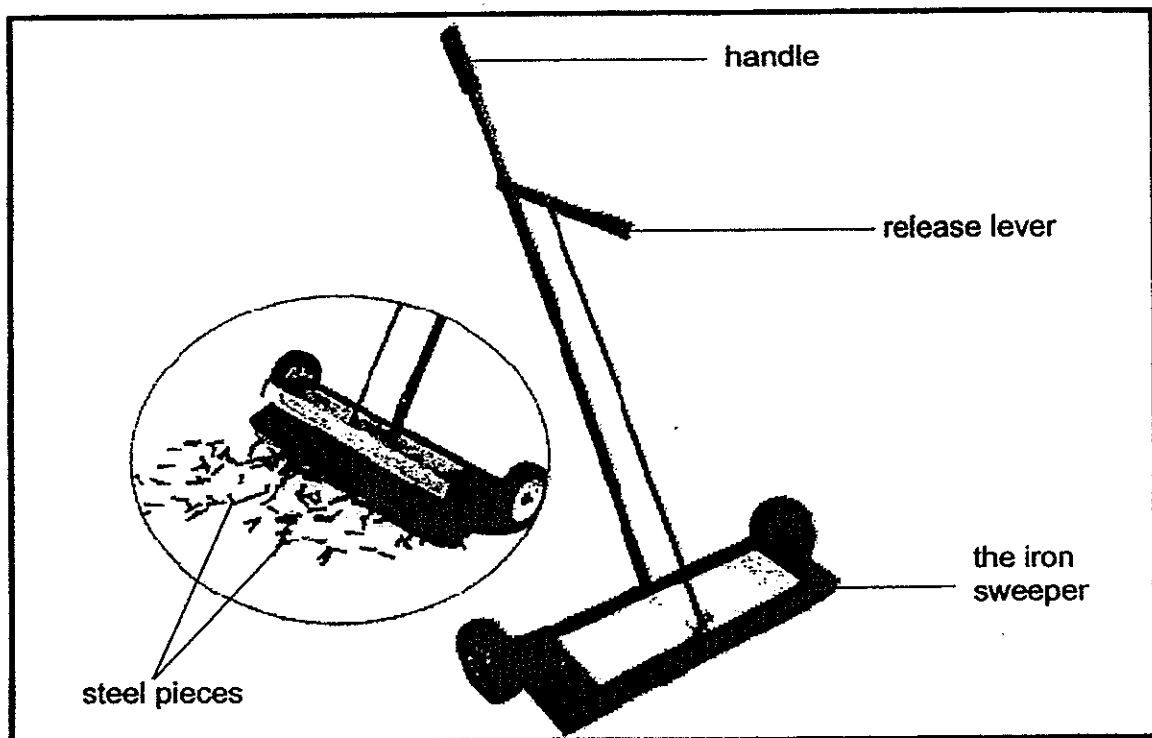
- End of Booklet B -

Setters: Mr Yuan KK, Mdm Fathlón Tawfik, Mdm Doris Heng



43. The picture below shows a special type of broom that is used in factories.

When the broom is pushed across the factory floor, all the steel pieces will be collected by the iron sweeper.



- a) What could the iron sweeper likely to be? [1m]

- b) When Frank was using the broom, he noticed a few objects "moving away" from the broom when it was brought closer to the objects. [1m]

What are these objects likely to be?

- c) Explain your answer in (b). [1m]



EXAM PAPERS 2014

SCHOOL: HENRY PARK PRIMARY SCHOOL
 SUBJECT: SCIENCE
 LEVEL: PRIMARY 4
 TERM: SA 2

BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	4	3	1	2	2	2	1	1	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	3	2	4	4	4	4	1	3	4
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	1	3	3	4	2	3	3	1	2

BOOKLET B

- Q31 a) Living thing b) Non-living thing
- Q32 a) solid b) liquid
- Q33 a) 2 b) 3
- Q34 a) magnetic pull b) magnetic
- Q35 a) poor b) good
- Q36 a) Solid and gas. b) more than 120cm³
 c) There are some air space in between the marbles in the container and air has weight.
- Q37 a) The more times you stir, the lesser time needed for drink to cool down.
 b) The number of times stirred.
 c) The temperature of the hot drinks and the type of cup.
 d) The hot drink will lose heat to the cold water.
- Q38 4,3,5,2,1.
- Q39 a) Material C.
 b) The ice melts the slowest time in the beaker so it is a poor conductor of heat.
 c) Material C.
- Q40 a) Paper A.
 b) It has the thinnest and allows most unit of light to pass through.
 c) Less than 50 units.
 d) To ensure that it is a fair test.
- Q41 a) She can darken the room.
 b) The further the distance between the paper tree and screen the longer the shadow.
 c) The object blocks prevents the light rays from reaching the screen.
- Q42 a) He could lift up the funnel.
 b) So the air that occupied the funnel can escape and the water can

replace the space.

- Q43
- a) A magnet
 - b) Magnets
 - c) Like poles repel each other.
- Q44
- a) Red water is transported to the flower by the xylem.
 - b) Function 1: It absorbs water and nutrients.
Function 2: It anchors the roots to the ground.

