NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2 2015
PRIMARY FOUR
SCIENCE

Name : _____ ( )

Class : Primary 4 / _____

Date : 25 August 2015

Duration : 1 hr 30 min

Parent's Signature : _____

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	**/ 80**

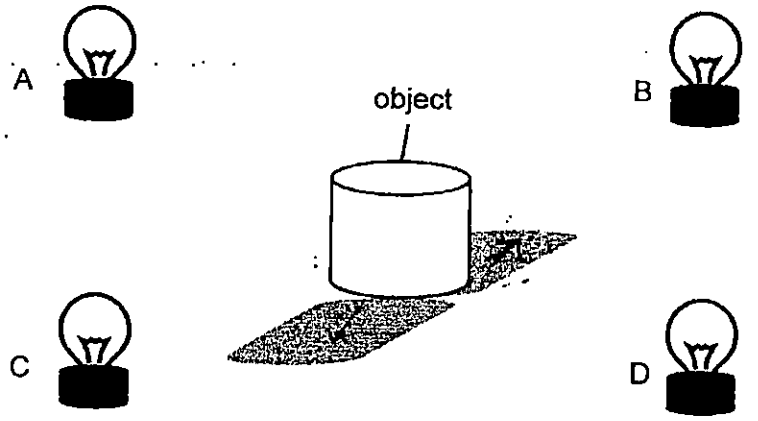
Section A: (20 x 2 marks = 40 marks)
For each question from 1 to 20, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which one of the following is/ are **not** source(s) of light?

   A fire
   B stars
   C mirror
   D diamond

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

2. Study the diagram below.



An object is placed at the centre of four light bulbs, A, B, C and D. Which light bulb(s) is/ are switched on to form the shadows shown in the diagram.

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

3. Ronald wanted to classify the following into matter and non-matter.

A Salt
B Light
C Oxygen
D Shadow

Which of the following consists of only non-matter?

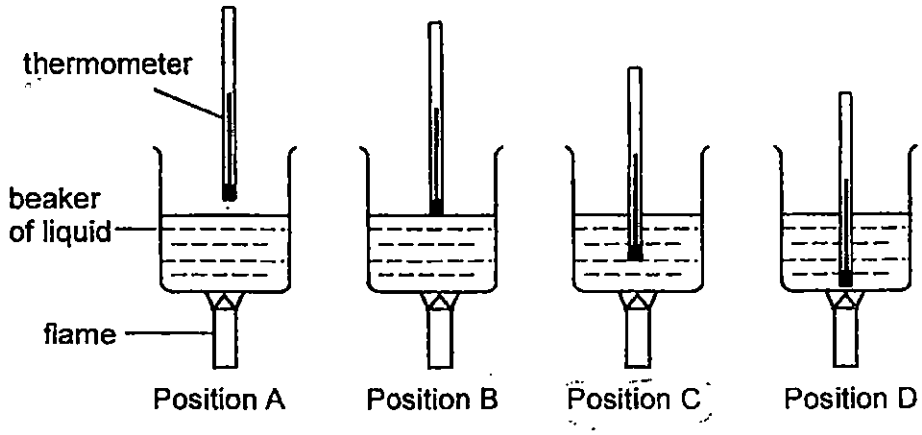
(1) A and B only
(2) A and C only
(3) B and D only
(4) B, C and D only

4. Kathy listed down the properties of solid and liquid in the table below. Which of the properties are true about solid and liquid?

	Solid	Liquid
A	Cannot be compressed	Can be compressed
B	Floats on water	Does not float on water
C	Has a definite shape	Takes the shape of the container
D	Has definite volume	Has definite volume

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

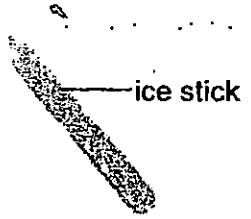
5. Four laboratory thermometers are held at positions A, B, C and D to measure the temperature change of a liquid as shown below.



At which position should the thermometer be held so as to give the best measurement of the temperature of the liquid?

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

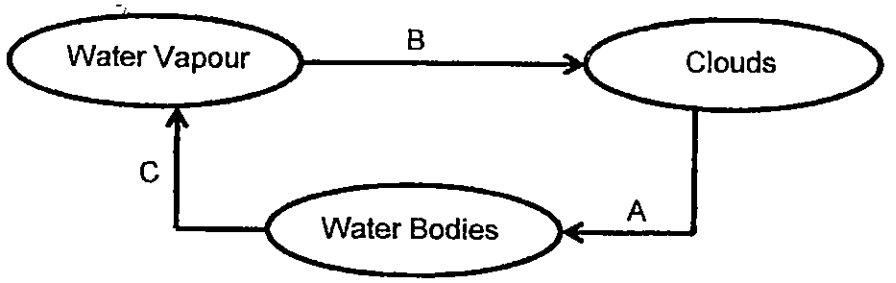
6. Jane wants to bring an ice stick to her friend who lives 10 minutes away from her house. She finds a sheet of tissue paper, a piece of newspaper, a cotton handkerchief and a piece of bubble wrap in her house.



Which is the best material for wrapping the ice stick so as to slow down the change in state of the ice?

(1) Newspaper
(2) Bubble wrap
(3) Tissue paper
(4) Cotton handkerchief

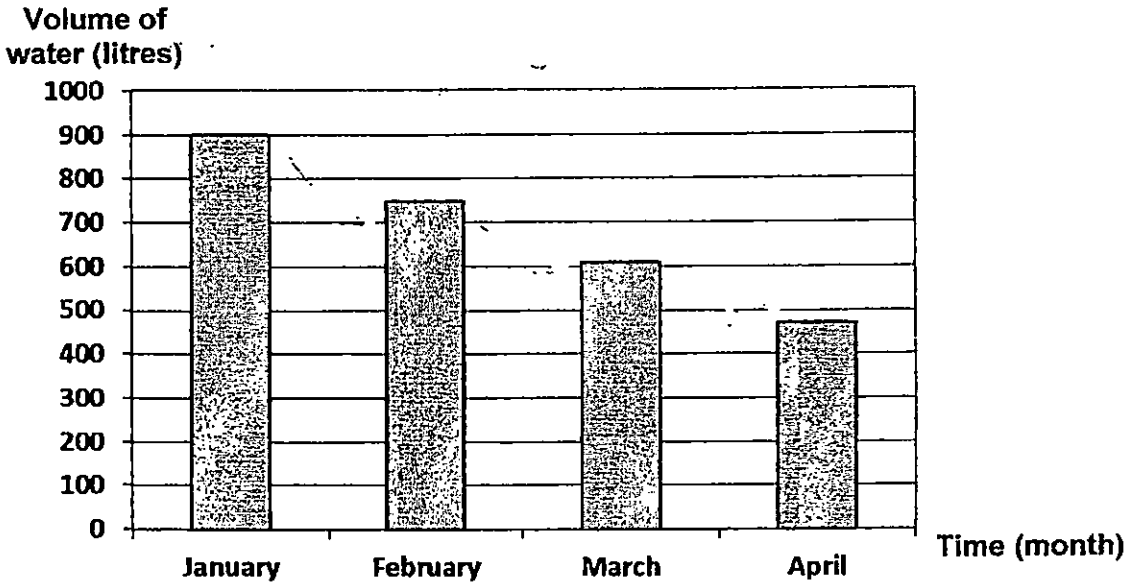
7. Study the water cycle diagram below. A, B and C are processes occurring in the water cycle.



Which of the following letters, A, B or C, correctly represent evaporation and condensation?

	Evaporation	Condensation
(1)	A	B
(2)	B	C
(3)	C	B
(4)	B	A

8. The chart below shows the household water consumption of the Tan family over 4 months.



Based on the chart above, which one of the following activities could have contributed to the change in the Tan's household water consumption?

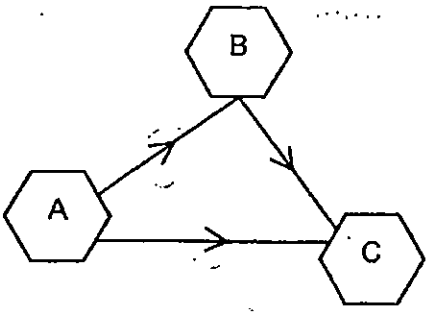
(1) Using a cup when brushing teeth

(2) Leaving the tap on when soaping their hands

(3) Washing the dishes and vegetables under a running tap

(4) Washing on a half load rather than full load when using the washing machine

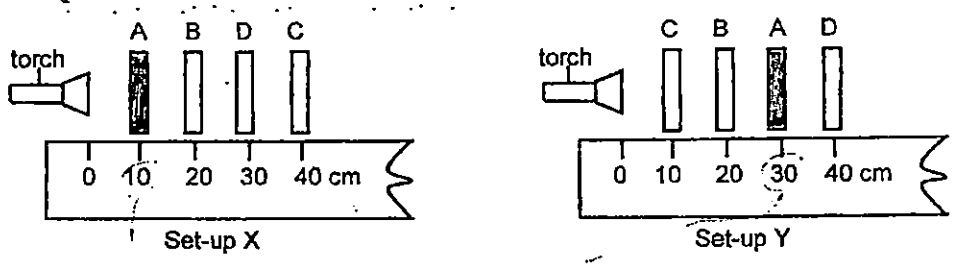
9. In the diagram below, the path of light is indicated by the arrows.



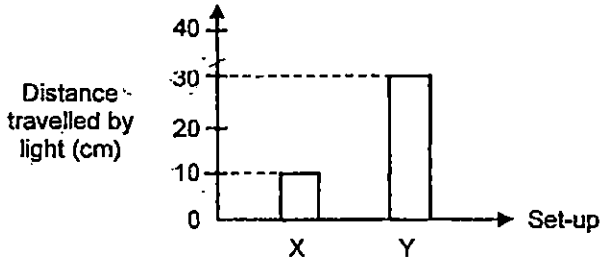
Choose the option that best fits A, B and C.

	A	B	C
(1)	Eyes	Object	Light source
(2)	Eyes	Light source	Object
(3)	Light source	Eyes	Object
(4)	Light source	Object	Eyes

10. An experiment was conducted to investigate whether light can pass through four sheets, A, B, C and D, made of different materials. The sheets were arranged in two set-ups, X and Y, as shown below.



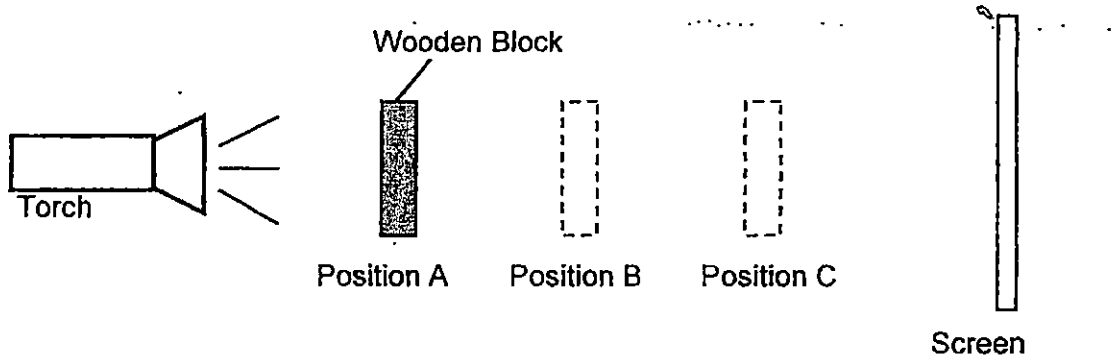
The distance travelled by the light for each set-up was measured and the results are shown in the chart below.



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

	Allow light to pass through	Does not allow light to pass through	Not possible to tell
(1)	A	C	B and D
(2)	B	C and D	~~B~~ A
(3)	A and C	B	D
(4)	B and C	A	D

11. Danny placed a piece of wooden block at Position A and measured the height of the shadow cast on the screen as shown in the diagram below.

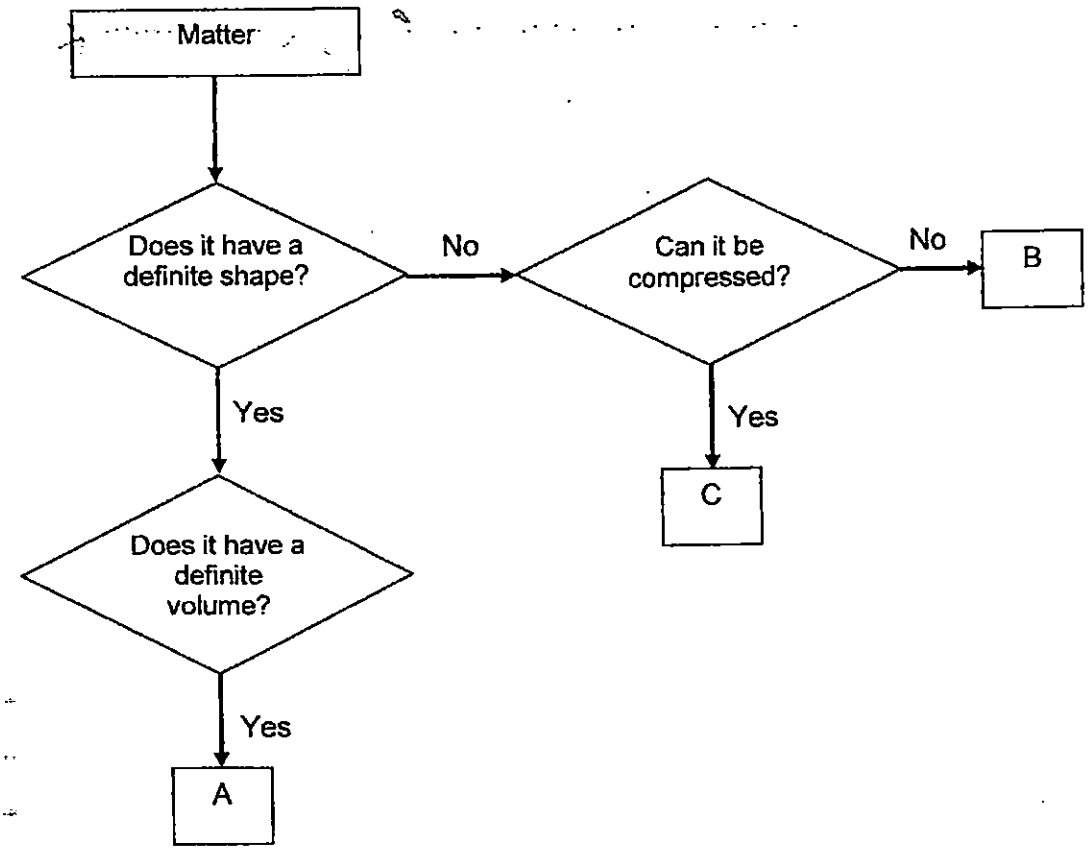


He repeated the experiment by placing the wooden block at Position B and Position C.

Which one of the following would most probably be his measurements of the shadows at the various positions?

	Height (cm) of shadow when wooden block is at Position		
	A	**B**	**C**
(1)	7	14	21
(2)	14	21	7
(3)	21	7	14
(4)	21	14	7

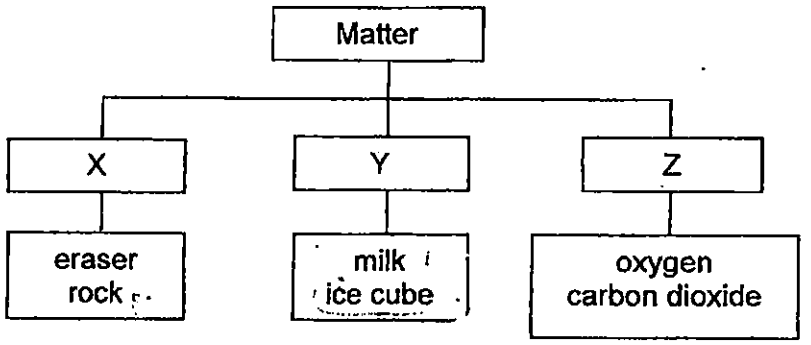
12. Study the flowchart below.



Based on the information given in the flowchart, which one of the following correctly represents A, B and C?

	A	B	C
(1)	Milk	Cooking oil	Book
(2)	Air	Coin	Milk
(3)	Book	Cooking oil	Air
(4)	Coin	Milk	Cooking oil

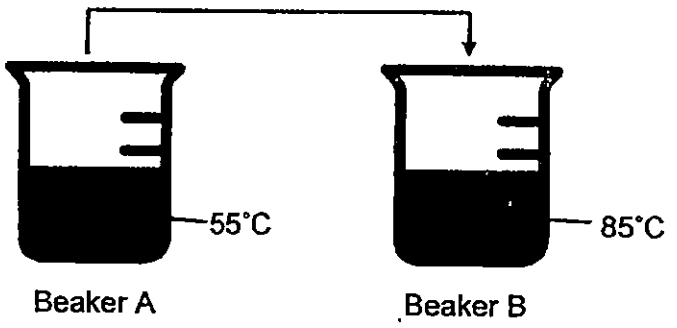
13. The classification chart below shows how different states of matter are grouped.



Which of the following is wrongly grouped?

(1) rock
(2) eraser
(3) ice cube
(4) carbon dioxide

14. The diagram below shows two beakers, each containing 100 cm^3 of water at different temperature.



What will immediately happen to the water in beaker B when water in beaker A is poured into it?

(1) The temperature of water in beaker B will decrease, and then increase.
(2) The water in beaker B will gain heat and increase in temperature to 140°C.
(3) The temperature of water in beaker B will decrease to 55°C, and then to the temperature of the surroundings.
(4) The temperature of water in beaker B will decrease to a temperature higher than 55°C but lower than 85°C.

15. Michael placed a balloon over the mouth of a flask as shown in Diagram 1. After a while, he placed the flask in a container of hot water as shown in Diagram 2.

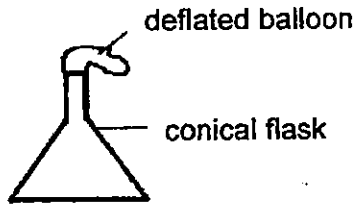


Diagram 1

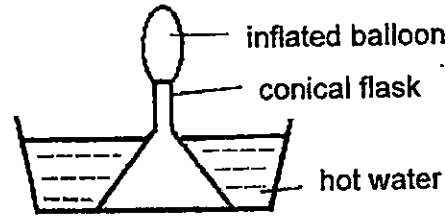


Diagram 2

What causes the balloon in Diagram 2 to inflate?

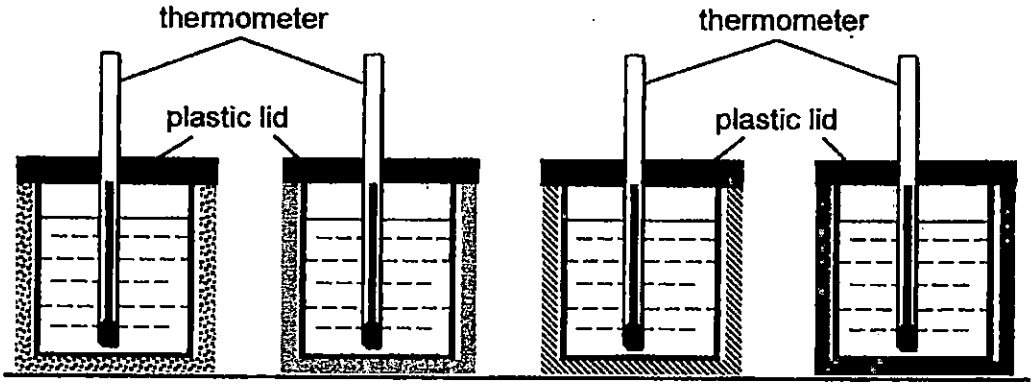
(1) The flask gains heat from the hot water and expands.

(2) The balloon gains heat from the hot water and expands.

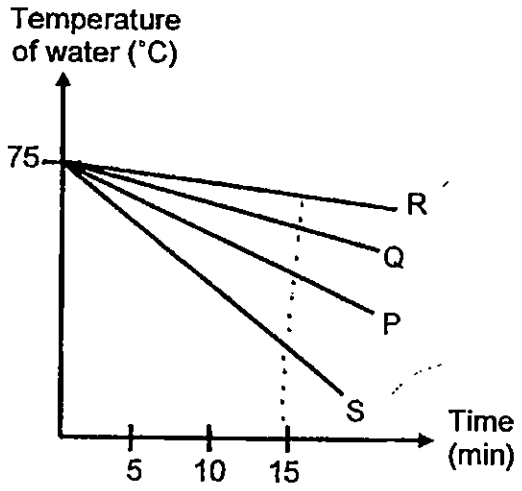
(3) The air in the flask gains heat from the hot water and expands.

(4) The air in the flask gains heat from the hot water and contracts.

16. Benny conducted an experiment using set-ups A, B, C and D as shown below. He wrapped the four identical glass beakers with materials P, Q, R and S respectively. He filled all four beakers with the same amount of hot water at 75°C.



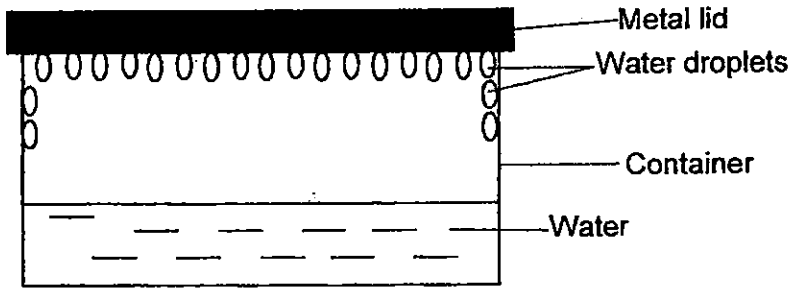
Benny measured the temperatures of the water in all four beakers over a period of 15 minutes and plotted his results as shown in the graph below.



Based on his observations, which material would be most suitable to make a winter jacket?

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

17. Lucas poured some water into the container shown below. He then placed a metal lid over the container and left it in his living room. At the end of 20 minutes, Lucas observed that there were water droplets on the inner surface of the metal lid.



What conclusions can Lucas make based on the experiment above?

A The water in the container was cooler than the metal lid.

B The water vapour in the container lost heat to the metal lid.

C The water vapour in the surrounding air condensed on the metal lid.

D The lower surface of the metal lid was cooler than the water vapour in the container.

(1) A and B only

(2) A and D only

(3) B and C only

(4) B and D only

18. Jamie recorded the states of Substances W, X, Y and Z at different temperature.

	30°C	50°C	90°C
W	liquid	gas	gas
X	solid	liquid	gas
Y	solid	solid	liquid
Z	liquid	liquid	gas

Based on the information given above, which of the following substances are likely to have boiling point that is above 50°C?

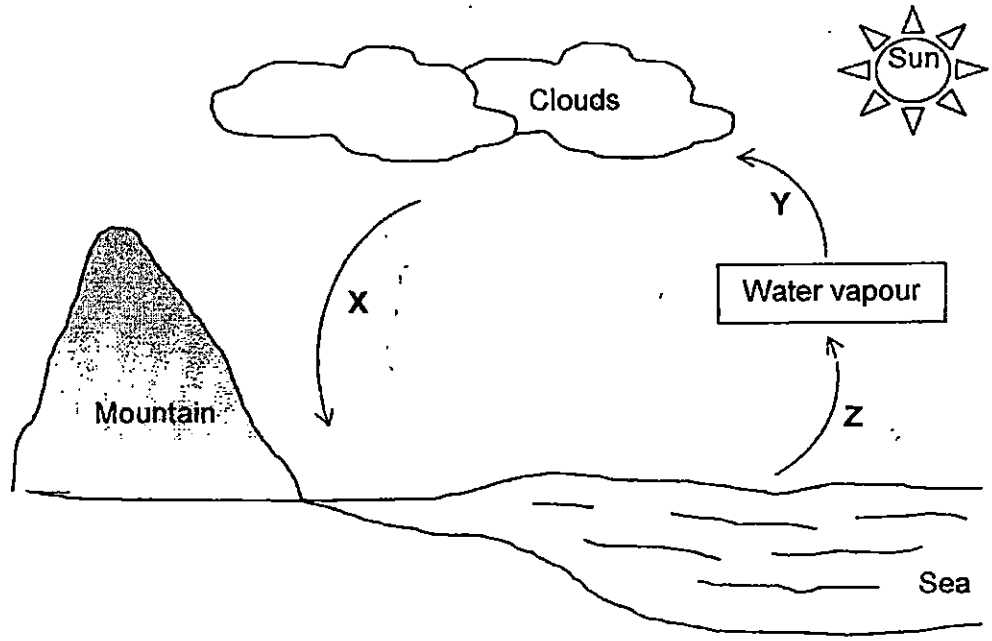
(1) W and X only

(2) X and Y only

(3) W, X and Z only

(4) X, Y and Z only

19. Study the diagram below. X, Y and Z shows the processes in the water cycle.



Which of the following statement(s) is/are correct?

A Water loses heat in Process Z.

B Water vapour loses heat in Process Y.

C Water changes from a liquid to a gas in Process X.

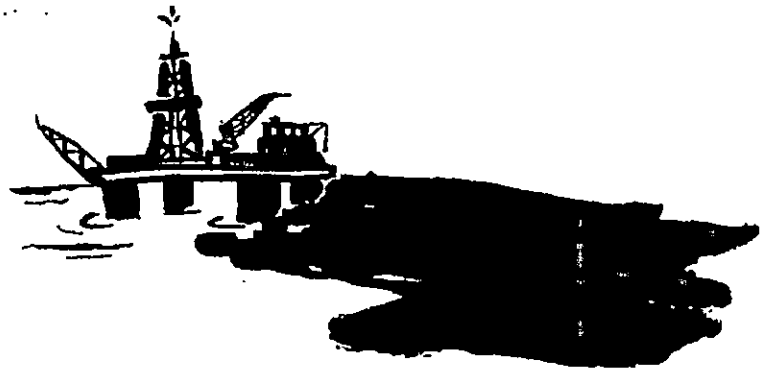
(1) A only

(2) B only

(3) B and C only

(4) A, B and C

20. Oil spills from ships can cause harm to the environment.



Which of the following are the effects of oil spills?

A Some aquatic animals will die due to the lack of oxygen.

B The people in the town will experience breathing difficulties.

C Birds will have difficulties flying if they are caught on the layer of oil spills.

D Some sea mammals can no longer swim or float as their fur clump together.

(1) A and B only

(2) B and C only

(3) B and D only

(4) A, C and D only

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PRIMARY FOUR
SCIENCE

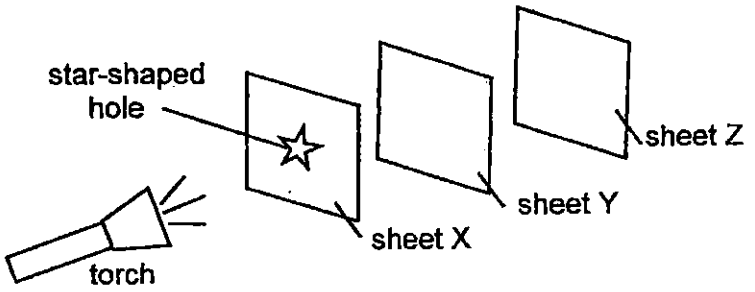
MARKS
/40

Name : _____ ( )

Class : Primary 4 / _____

Section B: (40 marks)
Write your answers to questions 21 to 34.
The number of marks available is shown in brackets [ ] at the end of each question or part-question.

21. Sally conducted an experiment in a dark room with the set-up shown below.



She arranged three sheets made of different materials, X, Y and Z, in a straight line. When the torch was switched on, Sally observed that a bright patch of light in the shape of a star was seen on Sheet Z only.

(a) From Sally's observation, describe the properties of Sheet X and Sheet Y. [1]

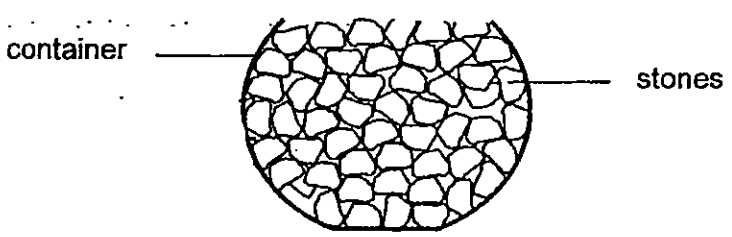
Materials	Degree of transparency
Sheet X	
Sheet Y	

(b) State one property of light as shown above. [1]

_____

Score	/2

22. Kelly filled the container to its brim with 250cm^3 of stones as shown below



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

_____

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

Volume of Container	Tick (✓) the correct volume
Less than 250cm^3	
Equals to 250cm^3	
More than 250cm^3	

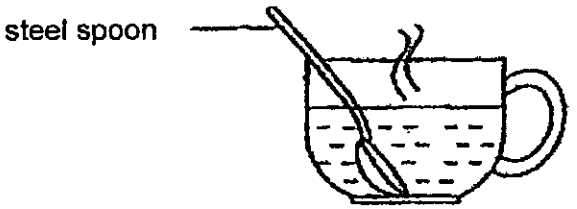
(c) Kelly wanted to fill the container with some water without removing the stones. Will she be able to do it? Give a reason for your answer. [1]

_____

_____

Score	/ 3

23. Faith used a steel spoon to prepare a cup of Milo with boiling water.



cup of hot Milo

(a) How does the handle of the spoon feel when she touches it? [1]

_____

_____

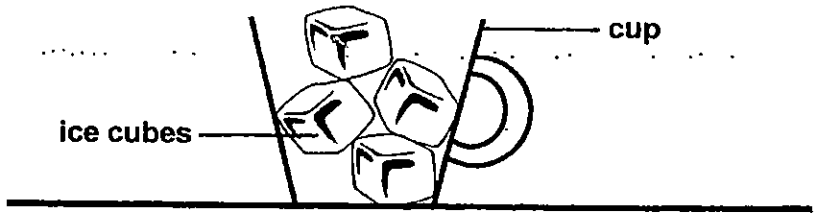
(b) Give a reason for your answer in (a). [1]

_____

_____

Score	2

24. Arjun conducted an experiment in the school science room. He placed some ice cubes in a cup and left it on a table in the science room, as shown below.



Arjun used a thermometer to measure the temperature of the ice cubes every minute, for ten minutes. He recorded the temperature in the table shown below.

Time (minutes)	Temperature (°C)
1	0
2	0
3	0
4	0
5	0
6	8
7	19
8	26
9	26
10	26

(a) What is the process that is taking place between the first minute and the fifth minute? Give a reason for your answer. [2]

_____

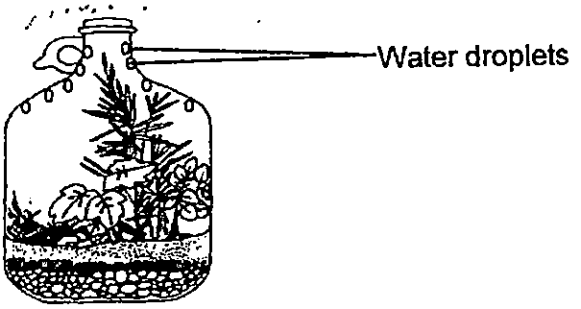
_____

(b) Based on the table above, what is the room temperature of the school science room? [1]

_____

Score	
	3

25. Caleb set up a terrarium which is a collection of small plants growing inside a transparent sealed container. He does not have to water the plants as the water in the terrarium goes through a similar process in the water cycle. He noticed some water droplets forming on the inner surface of the container as shown below.



(a) What do the water droplets represent in the water cycle? [1]

_____

_____

(b) Why is the water cycle important for the survival of living things? [1]

_____

_____

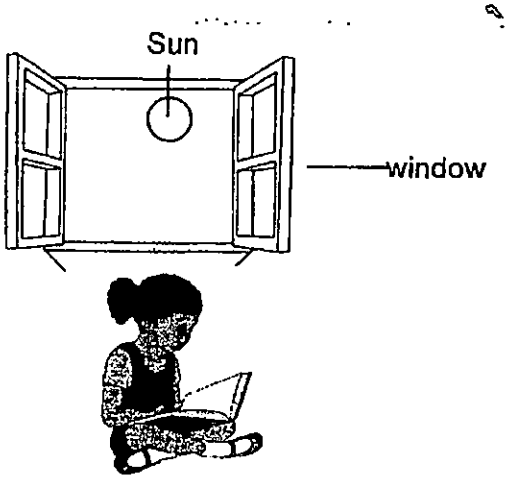
(c) Water conservation refers to saving and using water wisely as it is one of the Earth's natural resources.

Put a tick (√) in the respective boxes that show activities which help to conserve water. You may tick more than 1 box. [2]

Activity	Tick (√)
Take shorter showers.	
Repair any leakages in pipes immediately.	
Use the water from washing rice to water the plants.	
Use running water to thaw meat or other frozen food.	

Score	/ 4

26. Jasmine was reading a storybook in her room with the window opened as shown in diagram below.



Jasmine looked out of the window and she was able to see the Sun.

(a) Describe how Jasmine was able to see the Sun. [1]

_____

_____

Jasmine sat near the window to read a storybook.

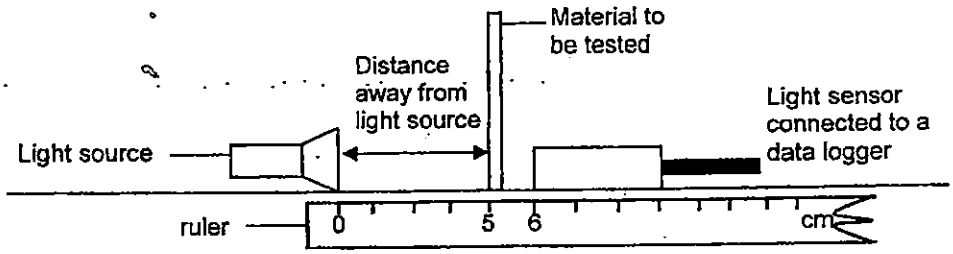
(b) Describe how she was able to read the storybook in the room. [1]

_____

_____

Score	
	2

27. Andy set up an experiment as shown below.



He wanted to investigate the amount of light passing through three different materials, A, B and C, of similar size and thickness with a light sensor connected to a data logger.

Object placed between torch and data logger	Amount of light measured (units)
No material (Light from the torch)	250
Material A	250
Material B	0
Material C	80

The table above shows the amount of light passing through the three materials.

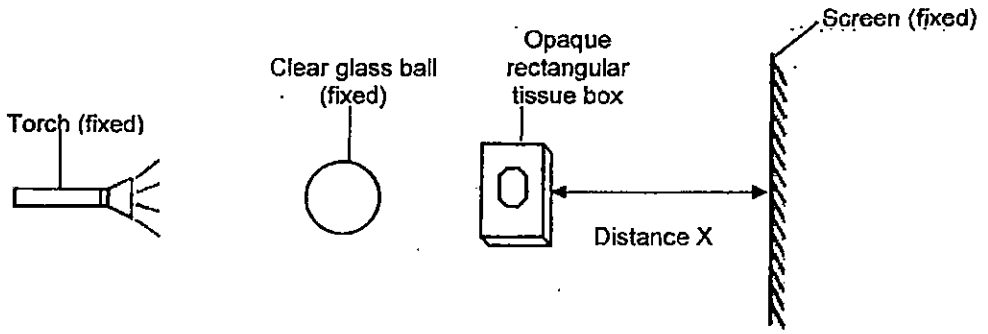
(a) What is the independent variable (variable changed) in this experiment? [1]

Andy wanted to choose a material to make a display cabinet for his trophies.

(b) Which material should he choose to make the display cabinet? Give a reason for your answer. [2]

Score	
	3

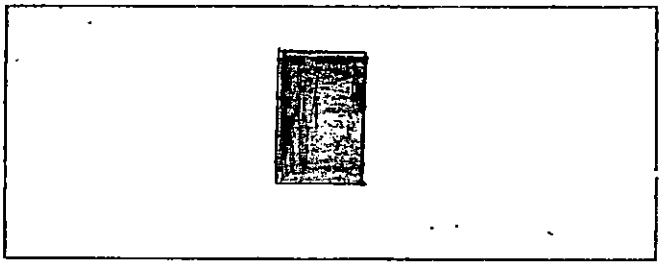
28. Max arranged a torch, a clear glass ball and an opaque rectangular tissue box in a straight line in front of a screen as shown below.



The positions of the torch, clear glass ball and the screen are fixed.

When the torch was turned on, a shadow was formed on the screen.

(a) In the box below, draw the shadow that he will observe on the screen. [1]



Max repeated the above experiment using different distances between the opaque rectangular tissue box and the screen. He recorded the height of the shadow formed on the screen in the table below.

Distance X (cm)	Height of shadow formed on the screen (cm)
4	9
6	11
8	13

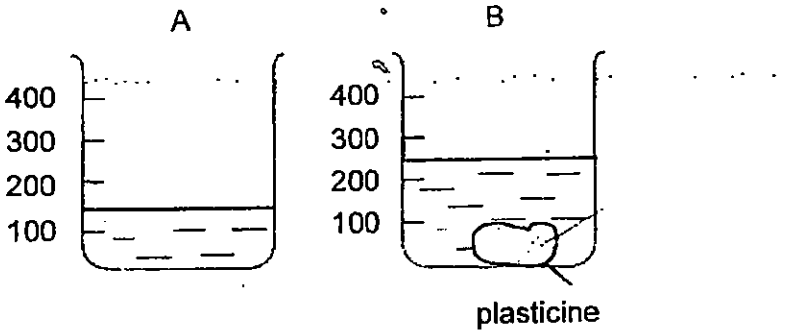
(b) Based on the information given in the table, what is the relationship between distance X and the height of shadow formed? [1]

_____

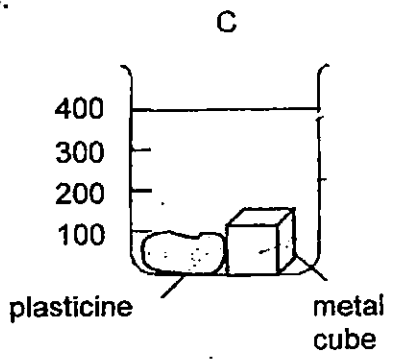
_____

Score	/ 2

29. Jordan poured 150ml of water into a beaker as shown in diagram A. He then placed some plasticine in the beaker. The water level rose as shown in diagram B.



He then carefully placed a metal cube of volume 150cm^3 into the same beaker as shown in diagram C.



(a) In diagram C above, **draw the new water level** to show the volume of the water with the plasticine and the metal cube. [1]

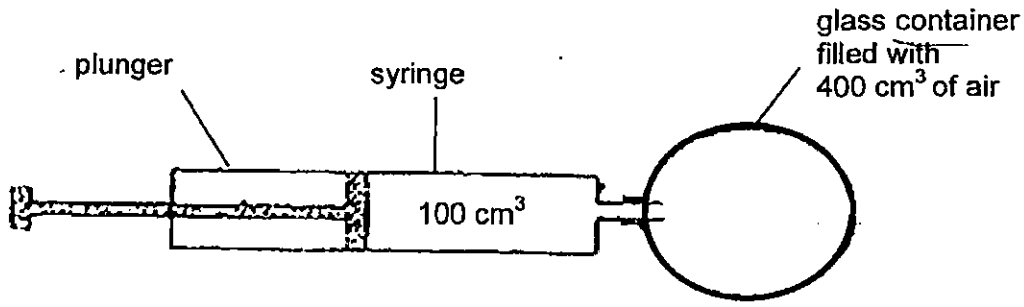
(b) Jordan then removed the plasticine and reshaped it into a ball. He then placed the plasticine ball back into the beaker together with the metal cube. Will the water level be higher, lower or the same as the water level you have drawn in (a)? Give a reason for your answer. [2]

_____

_____

Score	3

30. Melissa conducted an experiment as shown below. She connected a syringe containing 100 cm^3 of air to a glass container filled with 400 cm^3 of air. She then pushed the plunger all the way in.



Based on the diagram above, answer the following questions.

(a) What is the volume of air in the glass container **after** Melissa has pushed the plunger in? [1]

_____

(b) Explain your answer in (a). [1]

_____

_____

(c) Melissa did another experiment and filled the plunger with 50 cm^3 of Liquid X. She pushed the plunger all the way in and measured the volume of Liquid X and the volume of air in the container. Write the volume of Liquid X and volume of air in the table below. [2]

Volume of Liquid X (cm^3)	Volume of air (cm^3)

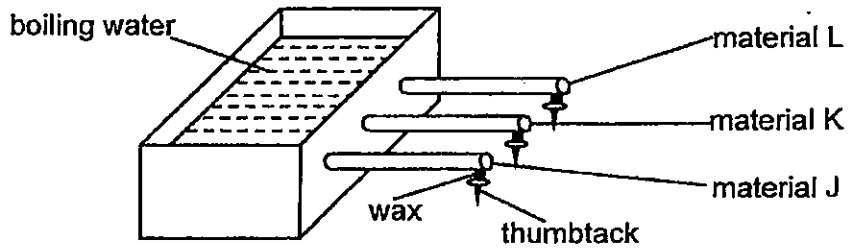
Score	/ 4

31. Jerry went to the coffee shop to buy hot tea for his mother. Upon reaching the coffee shop, he saw Mr Samy pouring hot tea from one container into another, as shown in the diagram below. After a while, the hot tea became cool.

Explain how Mr Samy's action reduces the temperature of the hot tea more quickly than leaving the cup of hot tea on the table to cool. [2]

Score	/2

32. Wei Kang had three rods made of different materials, J, K and L. He wanted to find out which material of the rod is the best conductor of heat. He inserted one end of each rod into a container of boiling water and attached a thumbtack at the other end of each rod with an equal amount of wax as shown below.



He recorded the time taken for the thumbtacks to drop off in the table below.

	Material J	**Material K**	**Material L**
Time (min)	9	15	4

(a) Besides the amount of wax used, state another variable that he needs to keep the same to ensure a fair test. [1]

_____

(b) Arrange the materials, J, K and L, in order beginning with the best conductor of heat to the poorest conductor of heat. [1]

Best conductor of heat		Poorest conductor of heat

(c) Based on the table above, which material is suitable to make the handle of a kettle? Give a reason for your answer. [2]

_____

_____

Score ___/4

33. As Julian got off an air-conditioned bus, his glasses immediately 'fogged up' and he was not able to see clearly for a short period of time.

Glasses 'fogging' up (water droplets forming) when Julian stepped out of the air-conditioned bus

(a) Explain in detail what caused the "fogging" on Julian's glasses. [2]

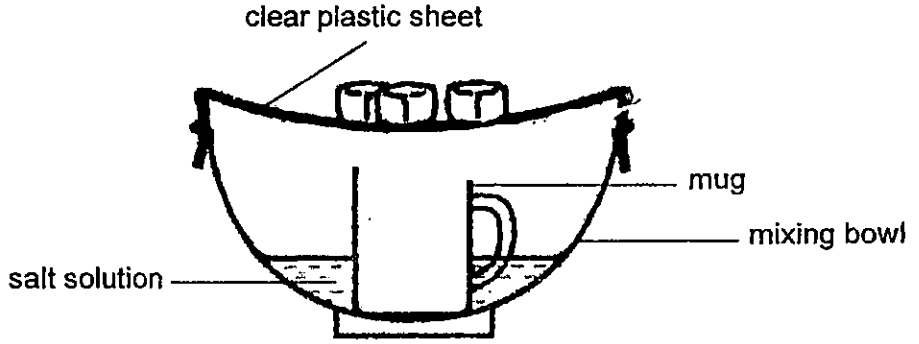
Julian decided to record the observations of his glasses 'fogging' up over a period of five days. He stepped out of the bus at 8 am every morning on his way to school. The amount of water vapour in the surrounding air was similar for the five days. He recorded the amount of fogging as "low", "medium" and "high".

Day	Temperature in the bus	Surrounding temperature	Fogging of glasses
Monday	18°C	30 °C	High
Tuesday	18°C	25 °C	Medium
Wednesday	18°C	21°C	Low
Thursday	18°C	20 °C	Low
Friday	18°C	28 °C	High

(b) Based on the results shown in the table above, explain why Julian experienced "low" fogging on his glasses on Wednesday and Thursday. [1]

Score	
	3

34. Cindy used the set-up below to illustrate a model of the water cycle. She left the set-up under the sun.



(a) What is the purpose of putting ice on the clear plastic sheet? [1]

_____

_____

_____

(b) Cindy observed some water droplets in the setup. **Draw** a few of the water droplets found in the set-up. [1]

(c) After that, the water droplets dripped down and were collected inside the mug. Cindy tasted the water and realized that it was not salty. Explain why the water was not salty.

[1]

_____

_____

_____

Score	
	3

END OF PAPER

EXAM PAPER 2015
LEVEL : PRIMARY 4
SCHOOL : NAN HUA PRIMARY
SUBJECT : SCIENCE
TERM : CA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
3	**2**	**3**	**3**	**3**	**2**	**3**	**1**	**4**	**4**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
4	**3**	**3**	**4**	**3**	**3**	**4**	**4**	**2**	**4**

Q21a. Sheet X : Opaque Sheet Y: Transparent

Q21b. Light travels in a straight line.

Q22a. Solid and gas. Q22b. More than 250cm^3

Q22c. Yes, there are air spaces (gaps) in between the stones for water to occupy.

Q23a. The handle of the spoon feels hot.

Q23b. Steel is a good conductor of heat as it gained heat from the Milo quickly, hence Faith's hands gains heat from the steel spoon.

Q24a. Melting . Melting takes place at 0°C. Q24b. 26°C

Q25a. It represent the rain in the water cycle.

Q25b. The water cycle provides a continuous supply of fresh water for living things to survive.

Q25c. (i) Take shorter showers (ii) Repair any leakages in pipes immediately
Q25c. (iii) Use the water from washing rice to water the plants.

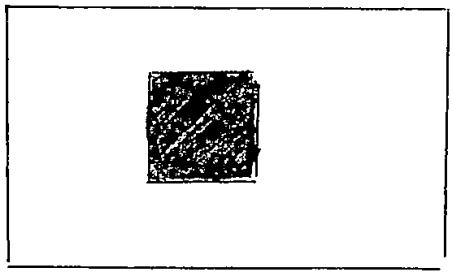
Q26a. The sun gives off light which enters Jasmine's eyes.

Q26b. When the light from the sun falls on the storybook, the storybook reflects the light falling onto it into her eyes, enabling her to see the book.

Q27a. The type of the materials.

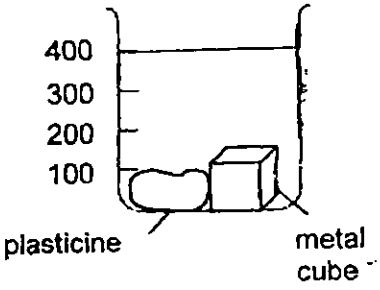
Q27b. He chose Material A. Material A allows most of the light to pass through so he would be able to see the trophies.

Q28a. **SEE PICTURE**



Q28b. As the distance X increases, the height of the shadow formed on the screen increases.

Q29. **SEE PICTURE** Q29b. Same. Plasticine has definite volume.



Q30a. $400cm^3$
Q30b. Air can be compressed and the volume of the glass container is only $400cm^3$.
Q30c. Volume of Liquid X – 50 Q30c. Volume of air – 350

Q31. The exposed surface area increases when he pours the tea from one container into another. The amount of heat lost to the surrounding air increases.

Q32a. The length of the rods. Q32b. **L J K**

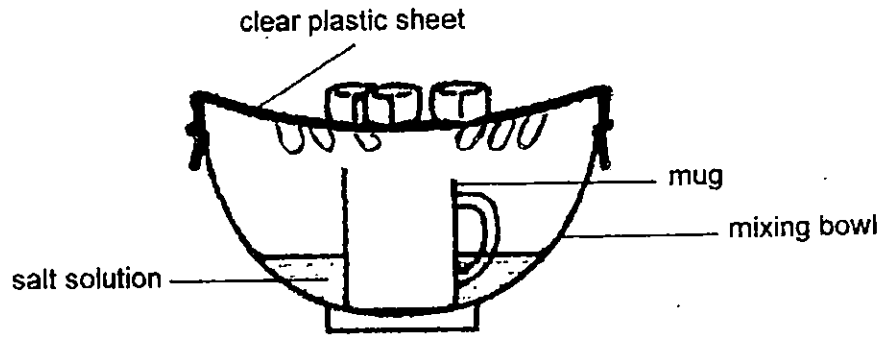
Q32c. Material K. It conducts heat the slowest (poorest conductor of heat) so the handle of the kettle can he held without scalding the hand.

Q33a. Water vapour in the surrounding air that evaporated from the ground comes in contact with the cooler surface of the glasses, lose heat and condenses to form water droplets.

Q33b. The surrounding temperature is nearer to the temperature of the bus, so there was low fogging.

Q34a. To cool down the plastic sheet so that condensation of water vapour can take place.

Q34b. **SEE PICTURE**



Q34c. Only the water in the salt solution evaporates to water vapour, leaving the salt behind . Salt doe not evaporate.

THE END

Anglo-Chinese School (Primary)

END-OF-YEAR EXAMINATION 2015
SCIENCE
PRIMARY FOUR
BOOKLET A

Name: _____ **Class: Primary 4** _____

Date: 29 October 2015 **Duration of paper: 1 h 45 min**

_____
Parent's/Guardian's signature

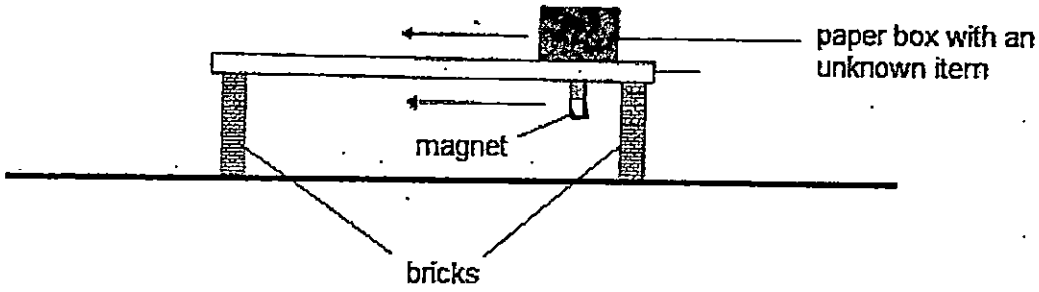
INSTRUCTION TO CANDIDATES

1. This question paper consists of 18 printed pages including this cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answer on the Optical Answer Sheet (OAS) provided.

For each of the following questions 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. [60 marks]

---

1 An item was placed in a paper box. The paper box was placed on top of a piece of wood. Darren then held a magnet at the bottom of the wood, as shown in the diagram below. When he moved the magnet, the paper box moved along with the magnet. He repeated the experiment three more times, each time replacing the item with a new one.



Which of the following objects were most likely to be the items placed in the paper box?

A Iron ball

B Nickel coin

C Copper coin

D Steel paperclip

(1) A, B and C only

(2) A, B and D only

(3) A, C and D only

(4) B, C and D only

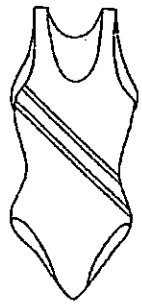
(Go on to the next page)

2 In which part of the digestive system is water absorbed from the undigested food?

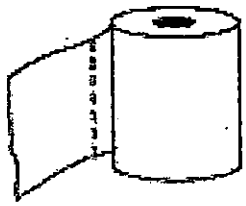
(1) Gullet
(2) Stomach
(3) Small intestine
(4) Large intestine

3 Which one of the following objects is most likely **not** made of a waterproof material?

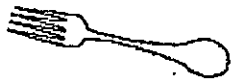
(1) swimsuit



(2) toilet paper



(3) metal fork



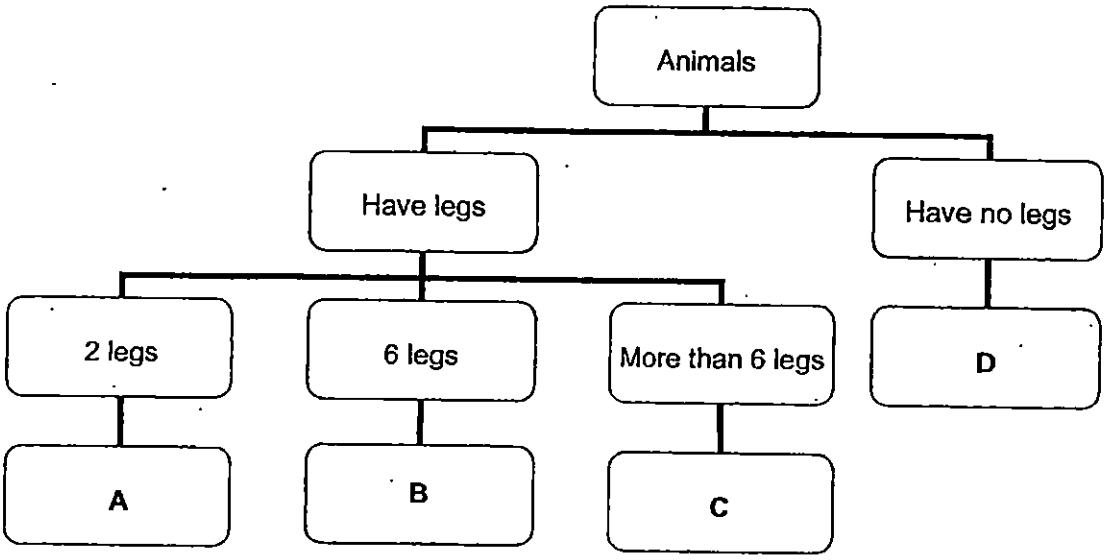
(4) rubber gloves

4 Which one of the following is the function of a stem of a plant?

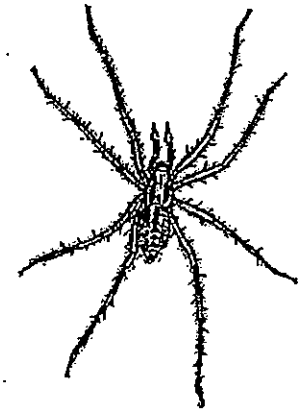
(1) Makes food for the plant
(2) Takes in water
(3) Holds the plant upright
(4) Takes in mineral salts

(Go on to the next page)

5 Study the classification chart below.



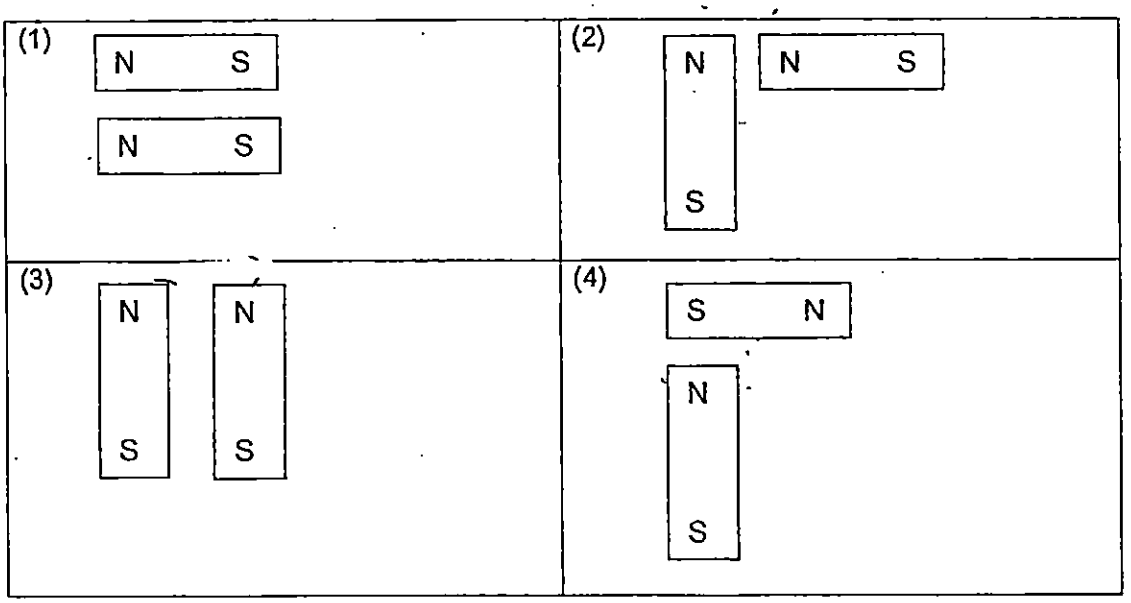
Where would you put this animal in the picture below in the classification chart above?



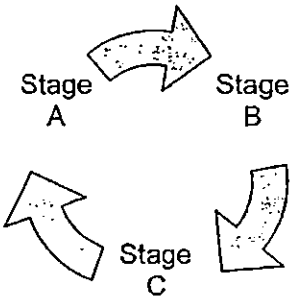
(1) A
(2) B
(3) C
(4) D

(Go on to the next page)

6 In which one of the following arrangements will the two magnets attract each other?



7 Study the life cycle of an animal shown below.



Each letter in the cycle represents a particular stage in the life cycle of a grasshopper. If Stage C represents the egg stage, what does Stage A represent?

(1) Pupa
(2) Adult
(3) Larva
(4) Nymph

(Go on to the next page)

8 What are the similarities between an adult cockroach and its nymph?

A They have six legs.

B They have a pair of wings.

C They have a pair of feelers.

(1) A and B only

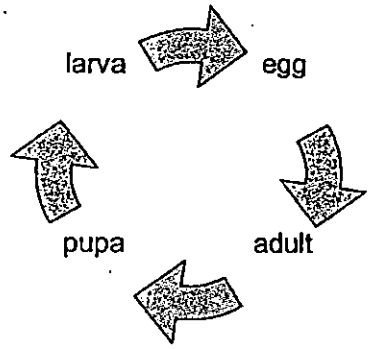
(2) B and C only

(3) A and C only

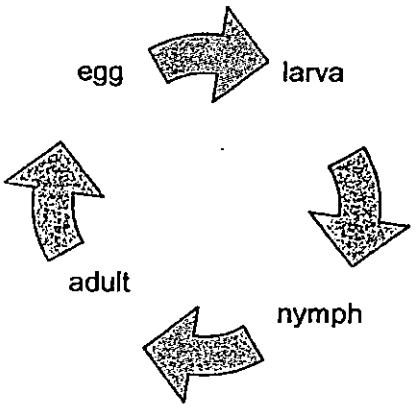
(4) A, B and C

9 Which one of the following diagrams correctly represents a four-stage life cycle of an insect?

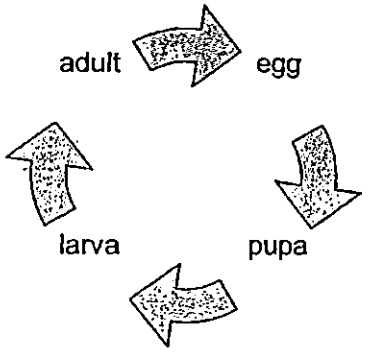
(1)



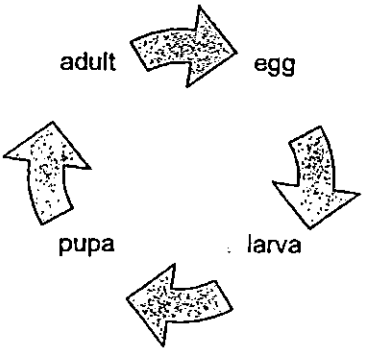
(2)



(3)



(4)



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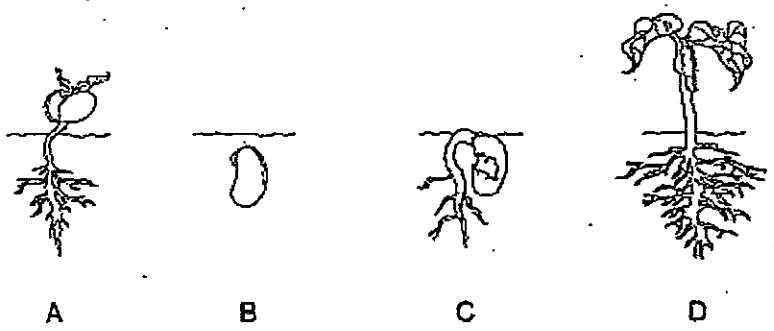
10 The diagram below shows the stages of growth in the life cycle of a plant.



Which one of the following shows the correct order of the stages of growth in the life cycle of the plant?

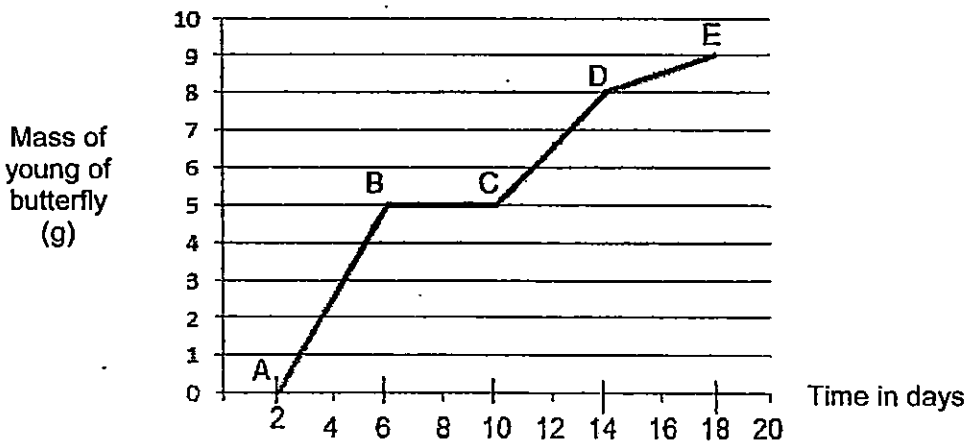
(1) A → C → D → B

(2) B → C → D → A

(3) B → C → A → D

(4) D → A → C → B

11 A butterfly's young is kept in a room. The graph below shows the mass of the young of the butterfly over a period of time.



Which line in the graph above represents the young of the butterfly at the pupa stage?

(1) AB

(2) BC

(3) CD

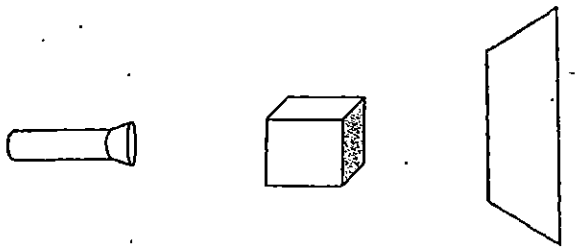
(4) DE

(Go on to the next page)

12 Which one of the following is the best conductor of heat?

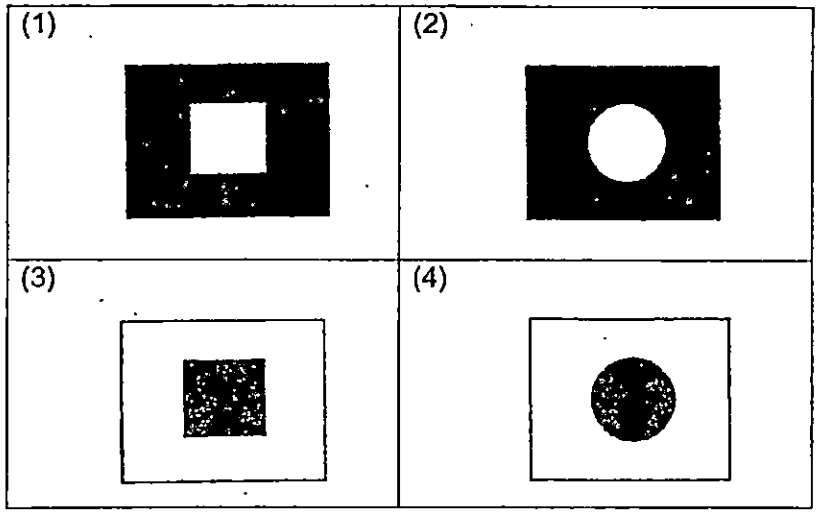
(1) A wooden cup
(2) A plastic cup
(3) A paper cup
(4) A metal cup

13 The set-up below shows light shining on a wooden cube.



torch wooden cube screen

Which one of the following would likely be seen on the screen? The dark patch represents the shadow of the wooden cube.



(Go on to the next page)

14 Which one of the following is **not** a source of heat?

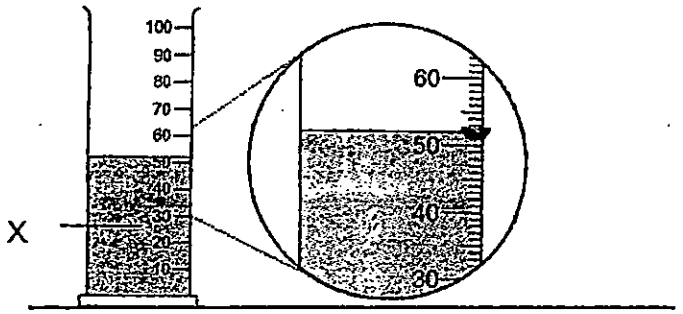
(1) The Sun

(2) A lighted bulb

(3) A candle flame

(4) A woollen blanket

15 In the diagram below, what is the volume of liquid X?



(1) 68 ml

(2) 62 ml

(3) 52 ml

(4) 50 ml

16 Which one of the following properties is true of both air and a ruler?

(1) They can be seen.

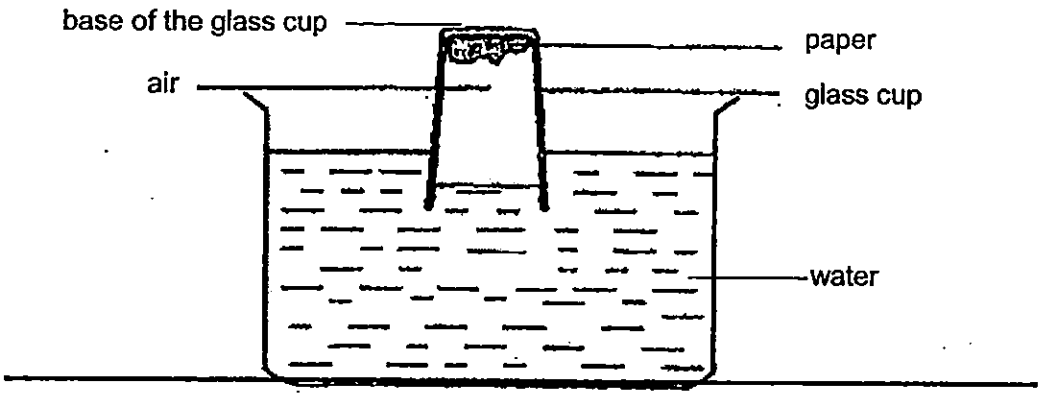
(2) They take up space.

(3) They have fixed shapes.

(4) They have fixed volumes.

(Go on to the next page)

17 Calvin pasted a piece of paper onto the base of a glass cup as shown in the diagram below. He turned the glass cup upside down and pushed it into a basin of water. He noticed that the paper remained dry.



Which property of air does this experiment show?

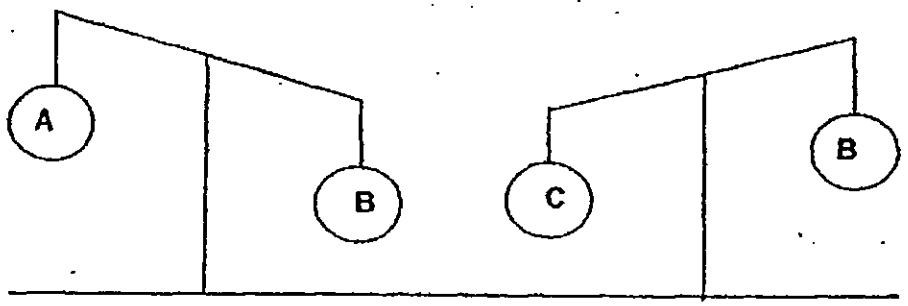
(1) Air has mass.

(2) Air occupies space.

(3) Air cannot dissolve in water.

(4) Air takes the shape of the glass.

18 Annie compared the masses of three different plastic balls, A, B and C, using a lever balance as shown in the diagram below.



Based on the diagram, which one of the following statements is correct?

(1) A is heavier than B.

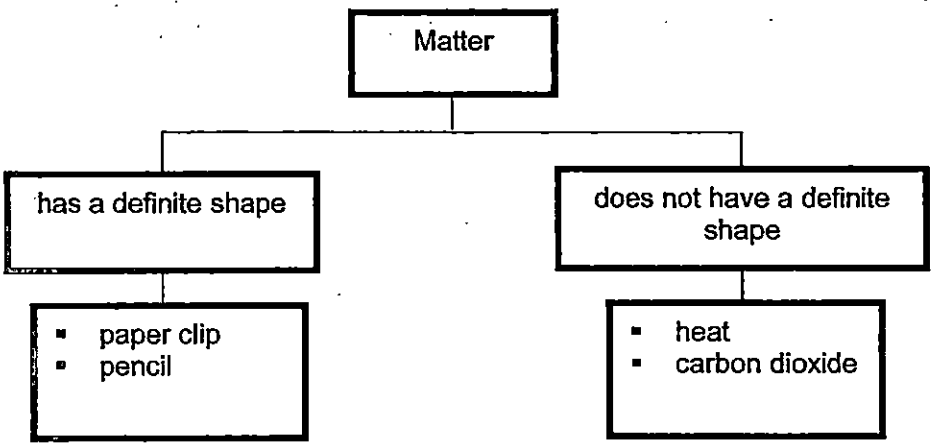
(2) B is heavier than C.

(3) C is heavier than A.

(4) A and C have the same mass.

(Go on to the next page)

19 Study the classification chart below.



Based on the chart above, which one of the following is not classified correctly?

(1) carbon dioxide
(2) paper clip
(3) pencil
(4) heat

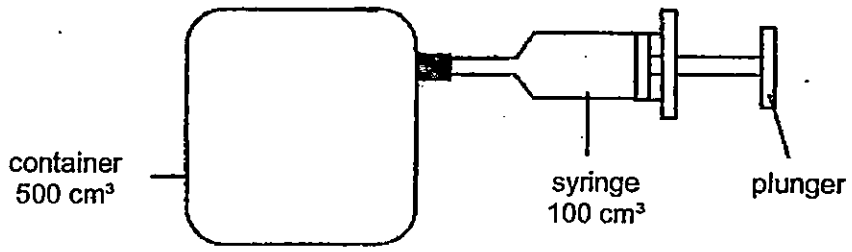
20 Which of the following statements are true?

A All matter has mass.
B All matter occupies space.
C All matter can be compressed.

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

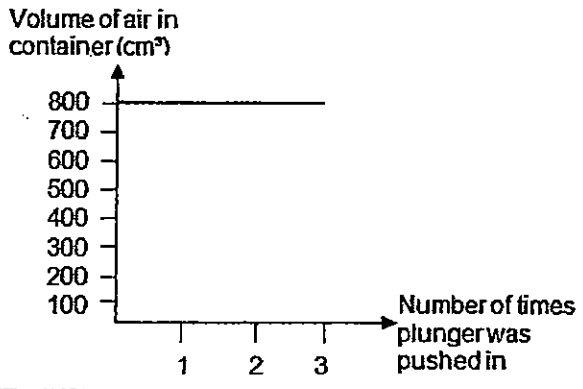
(Go on to the next page)

21 Elsa had a container with a capacity of 500 cm^3. She fitted a syringe to the container. Each time she pushed in the plunger of the syringe, 100 cm^3 of air would enter the container. Elsa pushed in the plunger three times.

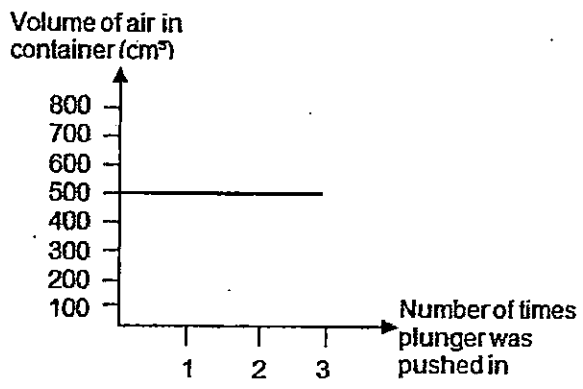


Based on the information given above, which one of the following graphs shows the changes in volume of air in the container?

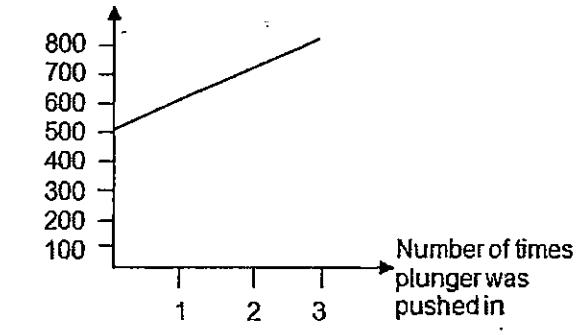
(1)



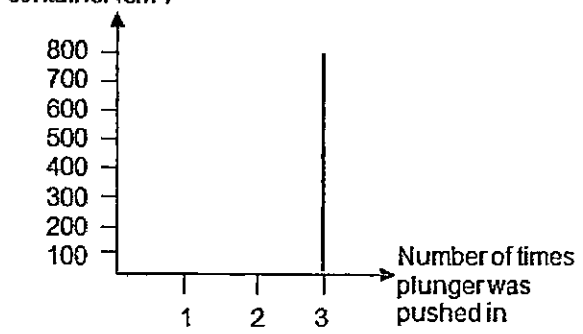
(2)



(3)



(4)



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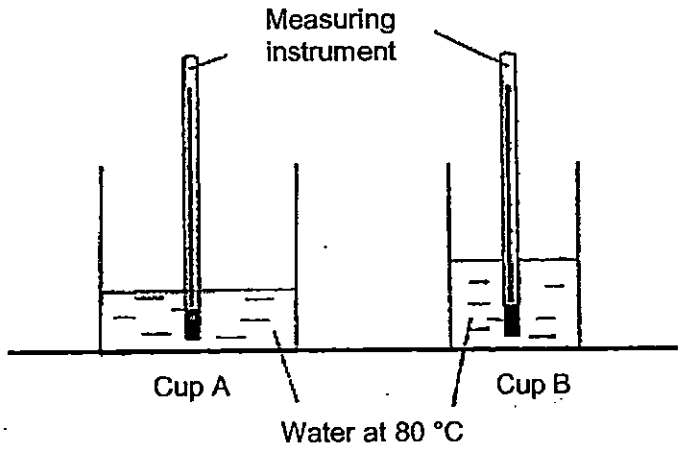
22 David wanted to find out whether Cup A or Cup B was a better conductor of heat. He poured the same amount of water at 80°C into each cup. Then, he measured the temperature of the water in the cups every minute.



Which of the following statements best explained why the experiment conducted was not a fair test?

(1) Cup A was bigger than Cup B.

(2) The amount of water was the same in both cups.

(3) Cup A was a better conductor of heat than Cup B.

(4) The original temperature of water in both cups was the same.

23 Which of the following are natural sources of light?

A Sun

B Stars

C Moon

D Firefly

(1) A and B only

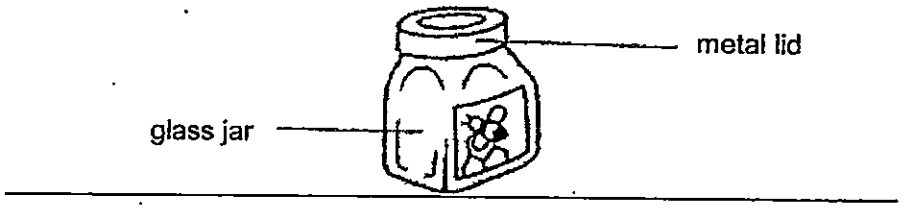
(2) C and D only

(3) A, B and D only

(4) A, B, C and D

(Go on to the next page)

24 Zuby removed a jar of honey as shown below from the refrigerator. She could not open the metal lid of the jar because it was too tight.



She poured some hot water over the metal lid of the jar. This helped her to open the jar as the heat caused the _____ to expand.

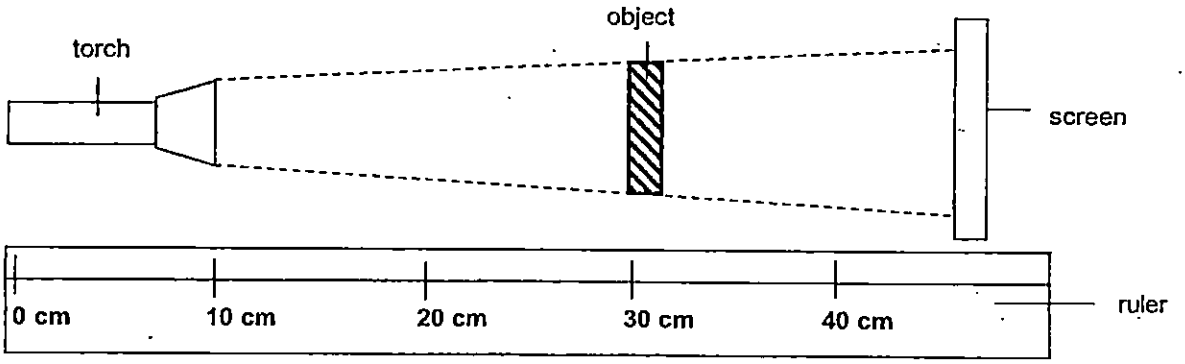
(1) jar

(2) metal lid

(3) air in the jar

(4) air in the jar and the jar

25 Ray placed a torch at the 10 cm mark of a ruler as shown in the diagram below. The torch shone at an object that was placed at the 30 cm mark. A shadow was cast on the screen.

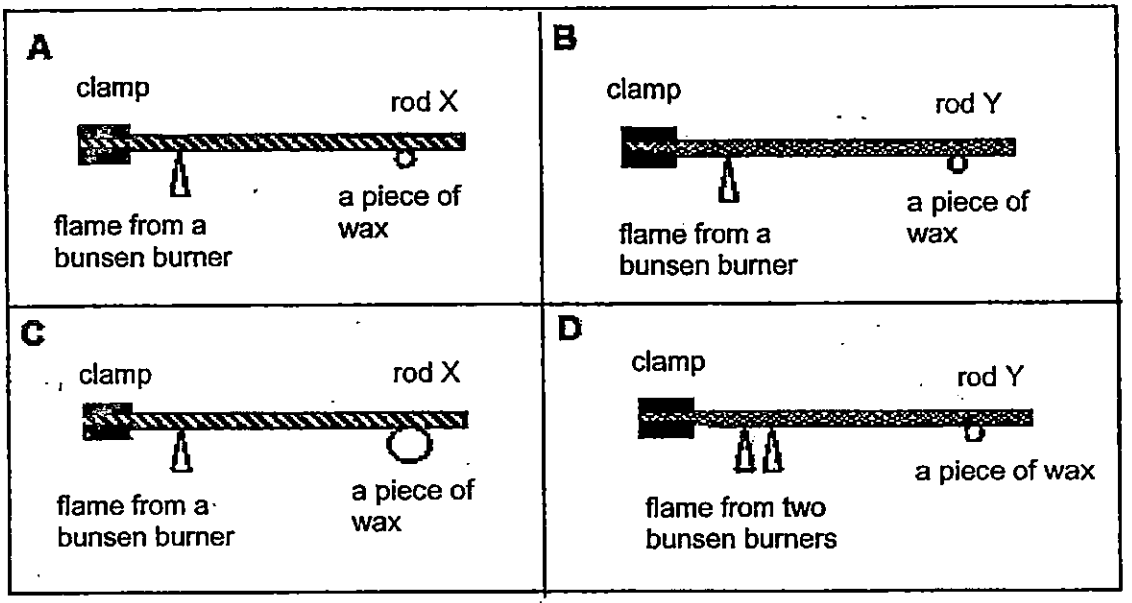


At which position of the ruler should the torch be placed so as to obtain a smaller shadow on the screen than before?

	Position of torch on the ruler
(1)	0 cm mark
(2)	20 cm mark
(3)	30 cm mark
(4)	40 cm mark

(Go on to the next page)

26 James wanted to find out how the material of a rod affected the time taken to melt a piece of wax.



Which two set-ups should James use to conduct his experiment in order to ensure a fair test?

(1) A and B

(2) A and C

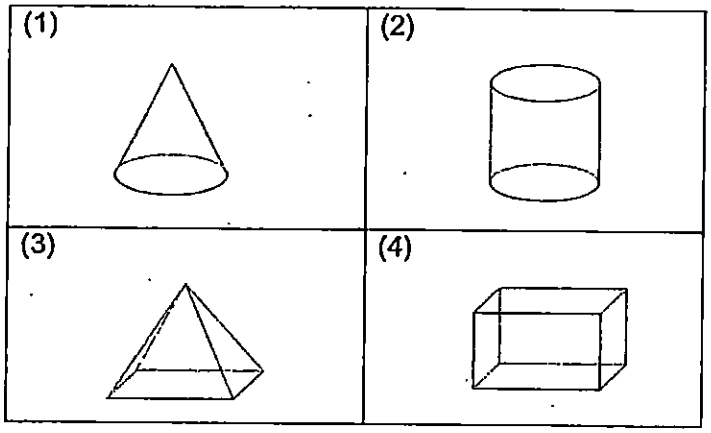
(3) B and C

(4) C and D

(Go on to the next page)

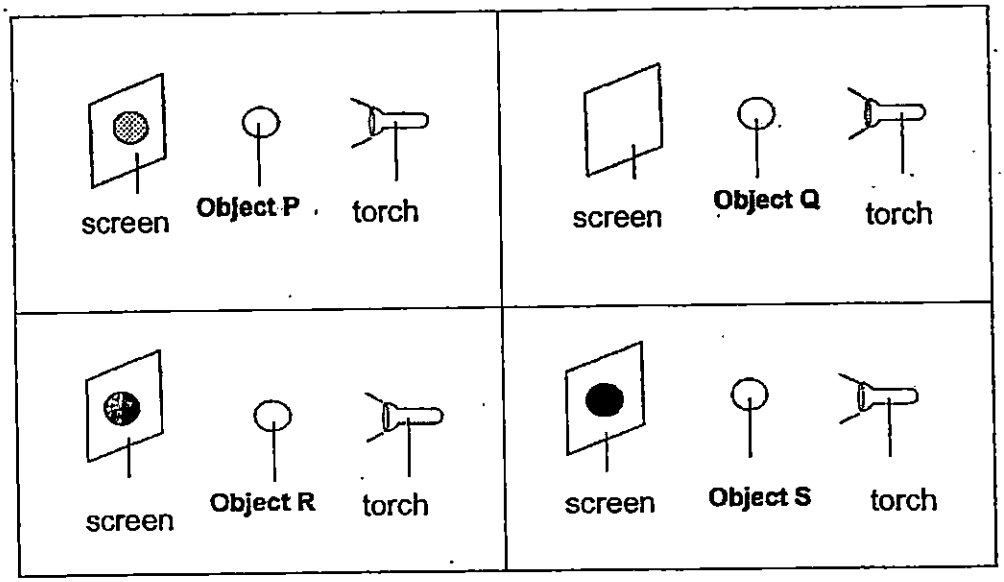
27. Sameel placed an object in front of a light source in a dark room. He observed the following shadow formed on the screen.

Which one of the following objects could not have cast the shadow above?



Study the diagrams below and use them to answer questions **28** and **29**.

Four identical torches were shone at four different objects, **P**, **Q**, **R** and **S**, as shown in the diagrams below. The objects were made of different materials and their shadows were cast on similar screens.



28 Which one of the following could objects **P**, **Q**, **R** and **S** be?

	P	Q	R	S
(1)	Mirror	Wood	Clear Glass	Tracing Paper
(2)	Tracing Paper	Mirror	Wood	Clear Plastic
(3)	Clear Glass	Frosted glass	Mirror	Wood
(4)	Frosted glass	Clear Glass	Wood	Mirror

29 Which one of the following variables has been changed in this experiment?

(1) The brightness of the torch

(2) The size of the screen used

(3) The material used to make the objects

(4) The distance between the object and the torch

(Go on to the next page)

30 A datalogger connected to a light sensor was placed on a table facing the window. The table below shows how the intensity of light changed with time.

Time (minutes)	Intensity of light (units)
0	250
1	252
2	255
3	258
4	689

Which of the following statements is/are possible explanation(s) for the sudden change in light intensity after three minutes?

A Sunlight entered the room.

B A light source was turned on.

C A light source was turned off.

D The curtains were fully closed.

(1) A and B only

(2) A and C only

(3) B and C only

(4) B and D only

END OF BOOKLET A

Please go on to Booklet B.

Anglo-Chinese School (Primary)

END-OF-YEAR EXAMINATION 2015
SCIENCE
PRIMARY FOUR
BOOKLET B

Name: _____ **Class: Primary 4**_____

Date: 29 October 2015 **Duration of paper: 1 h 45 min**

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 12 printed pages including this cover page.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all the questions in this booklet.

Booklet	Maximum marks	Marks obtained
A	60	
B	40	
Total	100	

For questions 31 to 44, write your answers in the spaces provided in this booklet.
The number of marks available is shown in the brackets [ ] at the end of each question or part question.
(40 marks)

31(a) Adam conducted an experiment to find out which material, P, Q, R or S, was the poorest conductor of heat. He poured boiling water into four cups of the same size but made from material P, Q, R or S. He then recorded the time taken for the boiling water to reach 40^0C. The results were shown below.

Material	Time taken for boiling water to reach 40^0C
P	22 min
Q	47 min
R	25 min
S	38 min

(i) Based on the results in the table above, which material should Adam use to make a container to keep his water warm for the longest time? [1]

_____

(ii) Using the information from the table above, explain your answer to (i) [1]

_____

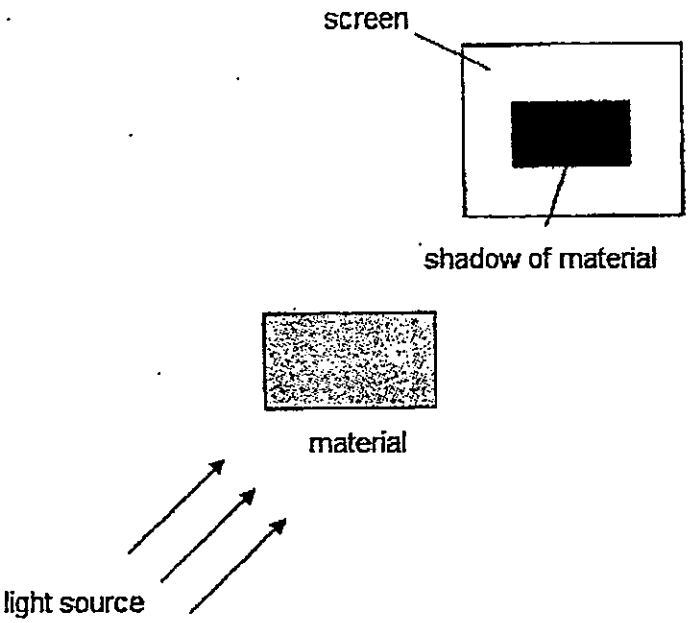
(iii) Based on the table above, state the **two** measuring instruments used in the experiment. [1]

_____ and _____

(Go on to the next page)

Score	
	3

(b) Mary wanted to make a new set of curtains for her living room to reduce the amount of sunlight entering the room. Materials W, X, and Y, were chosen and tested to determine the type of shadow that each material created. She conducted the experiment and the results are shown in the table below.



Material	Shadow of material observed on screen
W	A very dark shadow was formed
X	No shadow was formed
Y	A light shadow was formed

(i) Which material, W, X or Y, should Mary use to make her curtains? [1]

_____

(ii) Based on the information given in the table above, explain your answer to **(i)**. [1]

_____

(Go on to the next page)

Score	
	2

32 Jasmine grouped some things as shown in the table below.

Group F	Group G
Lion	Stone
Ant	Tissue
Mushroom	Pen

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

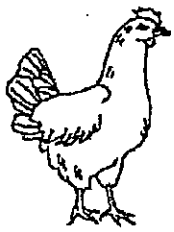
Group F: _____

Group G: _____

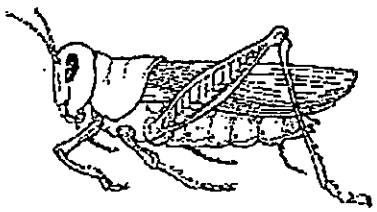
33 Fill in the blanks in the table below with names of broad groups of living things. [2]

Group of living things	Characteristics
	Body covered with feathers
	Body divided into three body parts

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

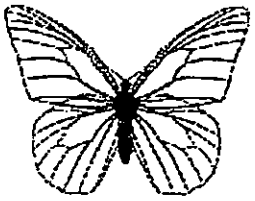


chicken



grasshopper

mosquito



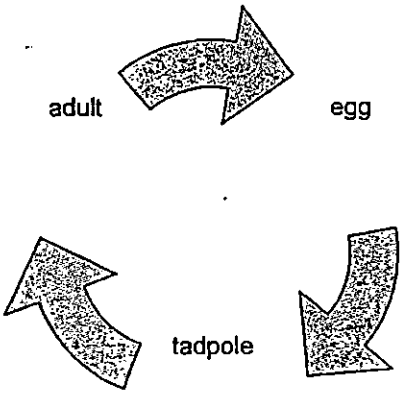
butterfly

Has three stages in its life cycle	Has four stages in its life cycle

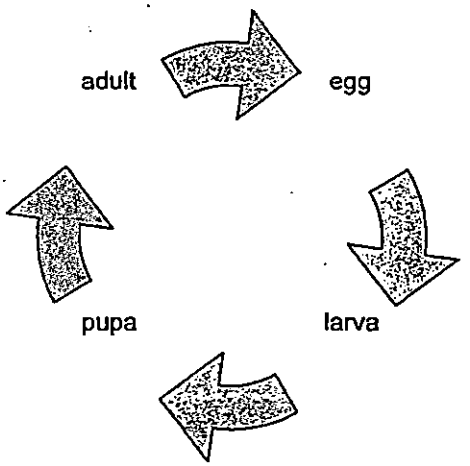
(Go on to the next page)

Score	/6

35 The diagram below shows the life cycles of a frog and a housefly.



Life Cycle of a Frog



Life Cycle of a Housefly

(a) Based on the diagrams above, state one similarity and one difference between the **life cycle** of a frog and a housefly. [2]

(i) Similarity: _____

_____

(ii) Difference: _____

_____

(b) In what way is the tadpole of a frog different from the adult frog? [1]

_____

_____

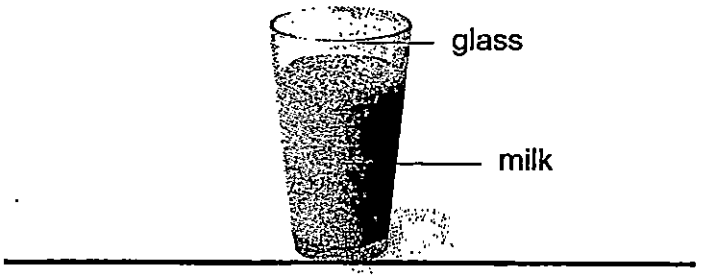
(c) At which stage of the life cycle of a housefly does its young stop feeding? [1]

_____

(Go on to the next page)

Score	/4

36 The diagram below shows a glass of milk.

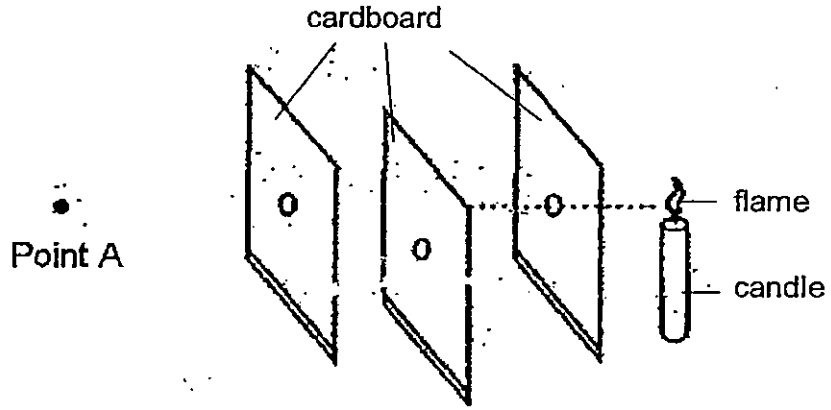


Complete the sentences below to state if the parts labelled are solid, liquid or gas.

(a) The glass is a _____ [1]

(b) Milk is _____ [1]

37 Wilfred arranged three cardboards as shown in the diagram below.



(a) Will Wilfred be able to see the candle flame from Point A? [1]

_____

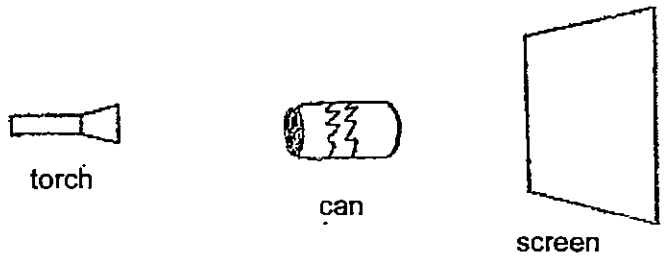
(b) Explain your answer in (a). [1]

_____

(Go on to the next page)

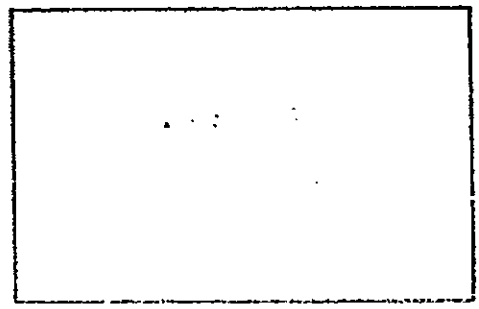
Score	/4

38 Penny shone a torch on a can and a shadow was formed on a screen.



(a) A shadow is formed when light is _____ by an object. [1]

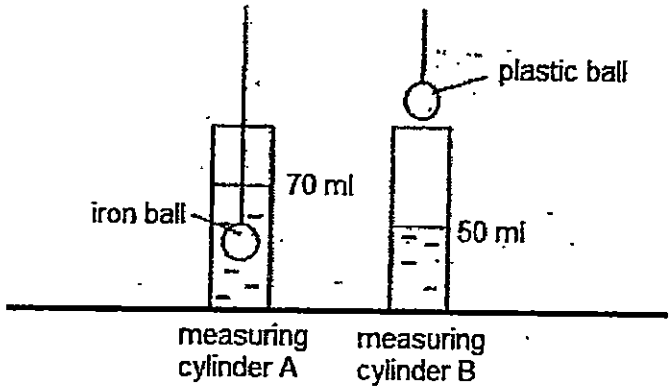
(b) Using a pencil, draw the shadow of the can that is formed on the screen. [1]



(Go on to the next page)

Score	/2

39 Ali poured 50 ml of water each into measuring cylinders A and B. He lowered an iron ball into measuring cylinder A until it is fully submerged as shown in the diagram below. He repeated the same steps to lower a plastic ball into measuring cylinder B. Both the iron and plastic balls have the same shape and size.



He recorded the water levels in the table below.

Measuring cylinder	Water level (ml) before the ball was lowered into the measuring cylinder	Water level (ml) after the ball was lowered into the measuring cylinder
A	50	70
B	50	?

(a) What was the volume of the iron ball? [1]

_____

(b) What would the total volume in measuring cylinder B be after the plastic ball was put inside? [1]

_____

(c) What does the above experiment show about the property of the metal and plastic balls? [1]

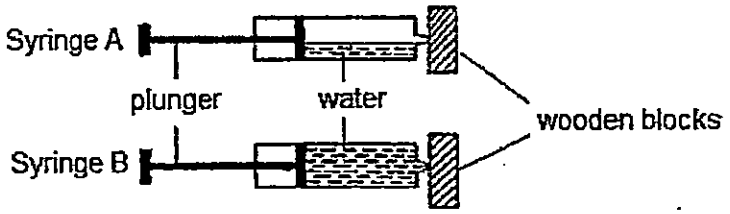
_____

_____

(Go on to the next page)

Score	
	3

40 Study the two syringes, A and B, as shown below.



(a) In which one of the above syringes can the plunger be pushed in further? [1]

_____

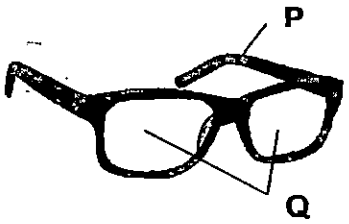
(b) Explain why the plunger of each syringe can or cannot be pushed in further. [2]

_____

_____

_____

41 The diagram below shows a pair of spectacles.



(a) State two materials that are suitable in making parts P and Q. [2]

(i) Part P: _____

(ii) Part Q: _____

(b) Explain your answers in (a)(i) and (a)(ii). [2]

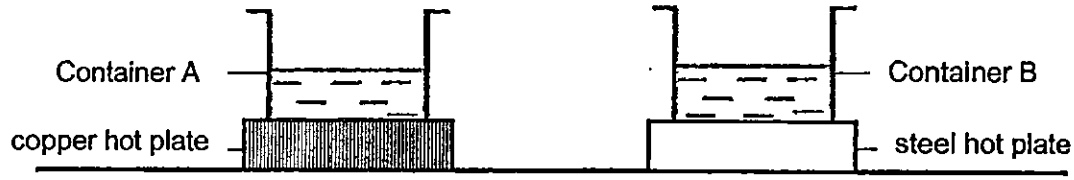
(a)(i): _____

(a)(ii): _____

(Go on to the next page)

Score	/7

42 In an experiment, Jamie poured the same amount of water into two similar containers, A and B. The two containers were placed on two similar-sized hot plates made of different metals respectively as shown below.



With the same amount of heat applied to both hot plates, Jamie measured the temperature of water in both containers at two-minute intervals. She recorded her results as shown in the table below.

Duration (min)	Temperature of water in Container A (°C)	Temperature of water in Container B (°C)
0	26	26
2	28	30
4	40	?
6	56	70
8	76	88

(a) Predict the possible temperature of water observed in Container B at the 4th minute. [1]

_____

(b) Which metal hot plate, copper or steel, is a better conductor of heat? [1]

_____

(c) Based on the results in the table above, explain your answer in **(b)**. [1]

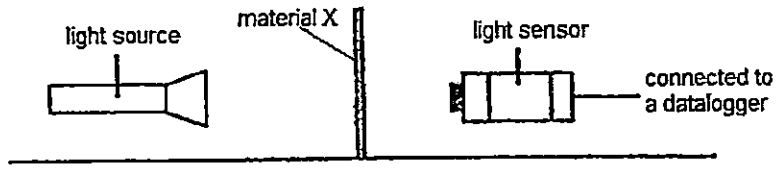
_____

_____

(Go on to the next page)

Score	
	3

43 Ganesh carried out an investigation as shown in the diagram below. He placed a sheet of material X between a light source and a light sensor. The amount of light that passed through material X was detected and recorded by the datalogger.



Ganesh repeated his experiment with different number of sheets of material X and recorded the amount of light detected in the table below.

Number of sheets	Amount of light detected by the light sensor (units)
1	2050
5	1420
7	780
9	0

(a) What was the aim of Ganesh's experiment? [1]

_____

(b) Put a tick (✔) in the appropriate boxes to indicate which variable(s) to change or keep the same to ensure a fair test in the experiment above. [1]

Variable	Change	Keep the same
Position of the torch		
Position of the light sensor		
Number of sheets of material X		

(c) Based on the results shown in the table above, what is the relationship between the number of sheets of material X and the amount of light detected by the light sensor? [1]

_____

_____

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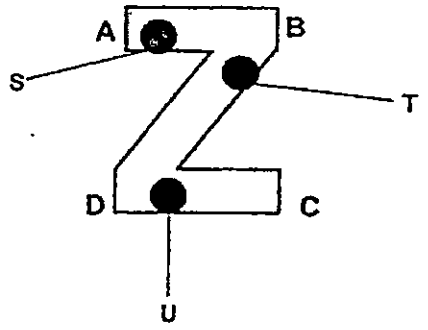
Score	/3

44 S, T, and U are pieces of wax of similar size. They were stuck on a piece of wire shaped like the letter "Z".



When the wire was heated at a certain point, the pieces of wax melted in the order of T, S and U.

(a) At which point, A, B or C, was the wire heated? [1]

_____

(b) Explain your answer in (a). [1]

_____

_____

(c) If the wire was heated at point D instead, predict the order in which the pieces of wax would fall [1]

_____

END OF BOOKLET B/ PAPER

Please check all your answers carefully.

Score	/ 3

EXAM PAPER 2015
LEVEL : PRIMARY 4
SCHOOL : ANGLO-CHINESE SCHOOL (PRIMARY)
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	4	2	3	3	4	4	3	4	3
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
2	4	3	4	3	2	2	3	4	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	1	3	2	1	1	1	4	3	1

Q31a (i) Material Q
Q31a (ii) It took the longest time to reach 40°C, so it is the best material.
Q31a (iii) Stopwatch and thermometer

Q31b. (i) Material Y.
Q31b. (ii) The material was translucent allowing some light to pass through.

Q32. Group F: Living things Group G: Non -- living things

Q33. Birds / Insects

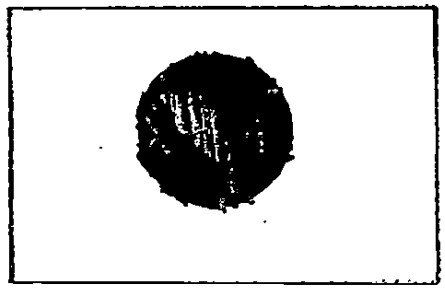
Q34. Has three stages in its life cycle - Chicken / Grasshopper
Q34. Has four stages in its life cycle – Mosquito / Butterfly

Q35a (i) Both life cycles start with the egg stage.
Q35a (ii) The life cycle of a housefly has 4 stages whereas the life cycle of a frog has 3 cycles.
Q35b. The tadpole breathes through its gills while the adult frog breathes through its skin.
Q35c. The pupa stage.

Q36a. solid Q36b. liquid Q37a. NO

Q37b. Light travels in a straight line, and the light was blocked by the middle piece of opaque cardboard.

Q38a. blocked Q38b. **SEE PICTURE**



screen

Q39a. $20cm^3$
Q39b. 70ml
Q39c. They are solids, and they have definite volume.

Q40a. Syringe A.
Q40b. Air can be compressed, and there was air in syringe A, allowing it to be pushed in.

Q41a. Part P: Plastic Q41a Part Q: Glass
Q41b (i) It is light, so it is not heavy.
Q41b (ii) Glass is transparent, allowing all the light to pass through, allowing the user to see things clearly.

Q42a. 50°C
Q42b. The steel hot plate
Q42c. The temperature of water in container A is lower than the temperature of water in Container B in 8 minutes.

Q43a. The aim was to find out if the number of sheets affect the amount of light detected by the light sensor.

Q43b. Position of the torch – keep the same
Q43b. Position of the light sensor – keep the same
Q43b. Number of sheets of material X – change

Q43c. The higher the number of sheets of material X, the les light will be detected by the light sensor.

Q44a. Point B.
Q44b. Wax T melted first, followed by S and finally U. Point B was where the wire was heated.
Q44c. U,T,S

THE END

Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 2 (2015)

PRIMARY 4

SCIENCE

BOOKLET A

dnesday **4 November 2015** **1 hr 30 min**

me: _____ ( ) Class: 4.( )

iTRUCTIONS TO PUPILS

Do not turn over the pages until you are told to do so.

Follow all instructions carefully.

There are 25 questions in this booklet.

Answer ALL questions.

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

---

is question paper consists of 16 printed pages (inclusive of cover page).

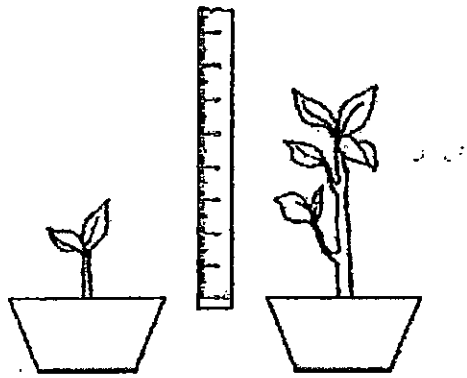
Booklet A (50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (25 x 2 marks)

1. Which one of the following statements is true for all insects?

   (1) They have tails.
   (2) They have wings.
   (3) They have six legs.
   (4) They have two body parts.

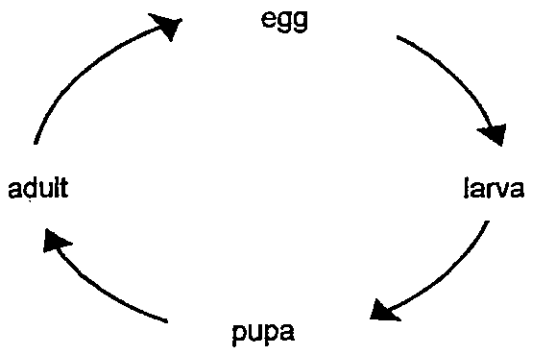
2. Sarah found a plant in the garden and measured its height. After two weeks, she measured its height again. From her observation, Sarah concluded that the plant is a living thing because it can _____.



At the start After two weeks

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

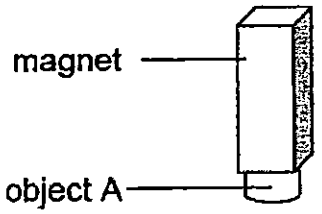
3. The diagram below shows the life cycle of an animal.



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

(1) Frog
(2) Chicken
(3) Mosquito
(4) Grasshopper

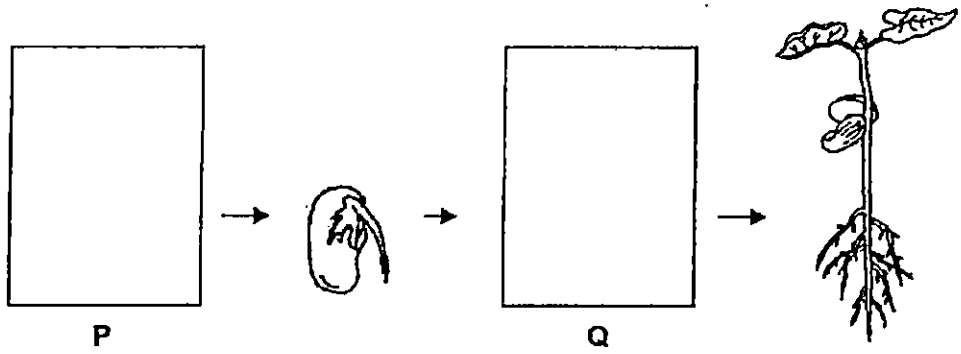
4. Object A was attracted to a magnet, as shown in the figure below.



Object A is made of _____.

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

5. The diagram below shows the growth of a young plant.



Which one of the following shows P and Q?

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

6. Which one of the following actions does **not** show the characteristic of a living thing?

(1) A pole blown by the wind

(2) Mosquito sucking blood from a man

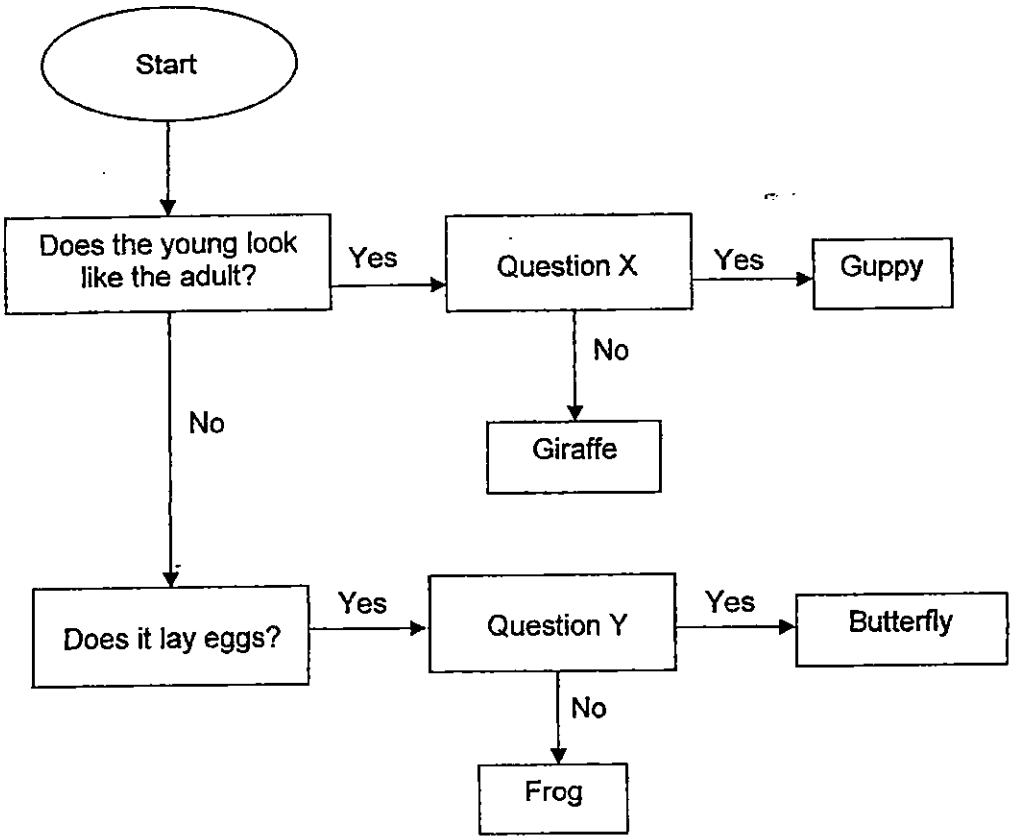
(3) Woman standing under a tree for shade

(4) Creeper plant growing around a wooden stick

7. Which of the following is correct?

	Animals that can crawl	Animals that can fly
(1)	beetle, lizard, turtle	mosquito, eagle, bat
(2)	mosquito, eagle, bat	beetle, lizard, turtle
(3)	ant, caterpillar, crocodile	pigeon, parrot, penguin
(4)	pigeon, parrot, penguin	ant, caterpillar, crocodile

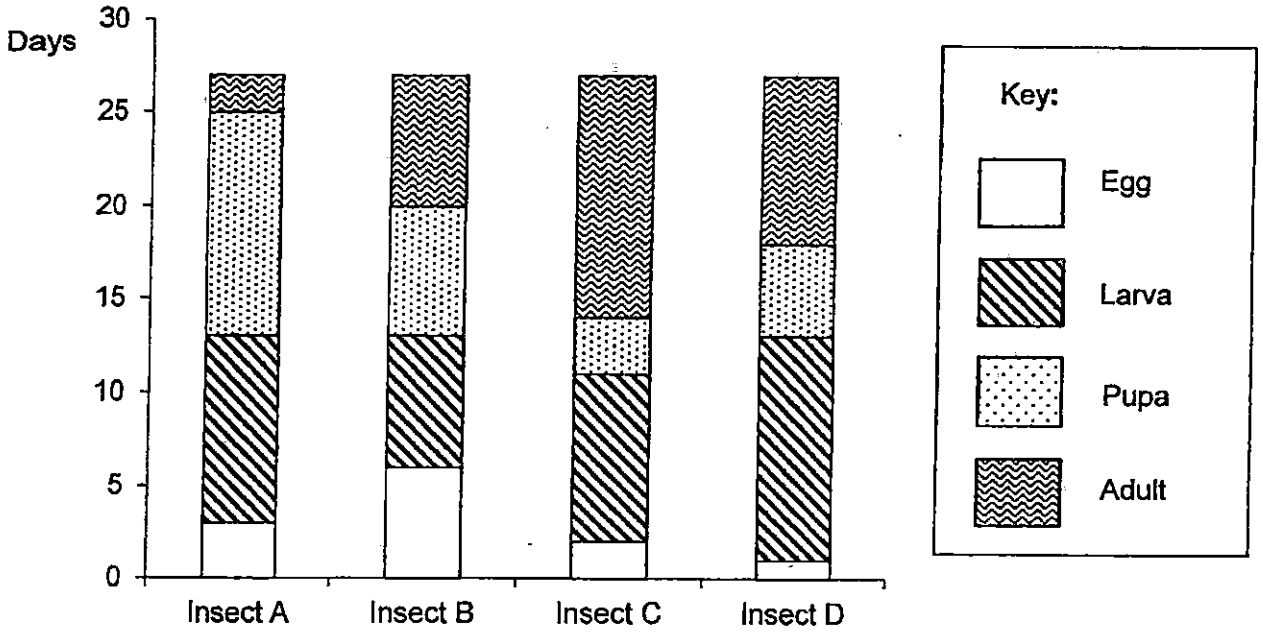
8. Four animals are grouped using the flow chart below.



Based on the information above, which one of the following best represent Questions X and Y?

	Question X	Question Y
(1)	Does it live in water?	Does it have 3-stage life cycle?
(2)	Does it live on land?	Does it have 3-stage life cycle?
(3)	Does it live in water?	Does it have 4-stage life cycle?
(4)	Does it live on land?	Does it have 4-stage life cycle?

9. The graph below shows the number of days four insects, A, B, C and D were in the different stages of their life cycles. The eggs of the four insects were laid on the same day and they each have a 4-stage life cycle.



On which day are all four insects at the same stage in their life cycle?

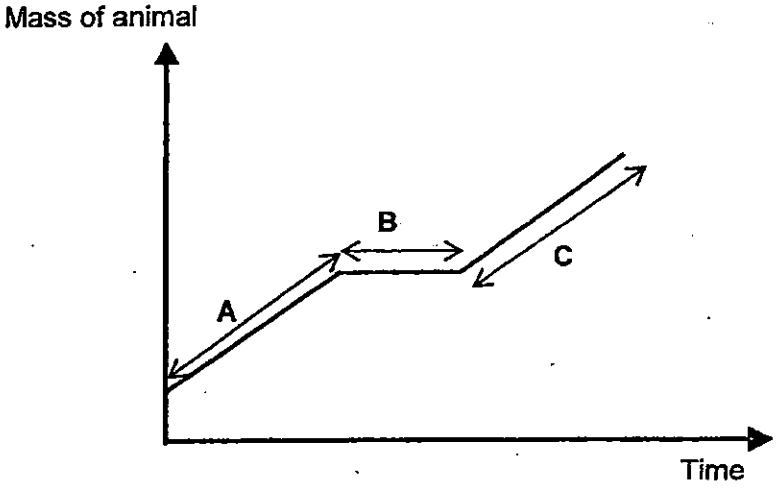
(1) Day 5

(2) Day 10

(3) Day 15

(4) Day 20

10. The graph below shows the changes in the mass of an animal during some of the different stages in its life cycle.



Which of the following stages could parts A, B and C represent?

	A	B	C
(1)	egg	nymph	adult
(2)	larva	pupa	adult
(3)	egg	larva	pupa
(4)	pupa	adult	larva

11. John listed the following statements about a germinating seed and an adult plant.

A Make their own food

B Get food from the seed leaves

C Take in water through the roots

Which of the following is true for both the germinating seed and the adult plant?

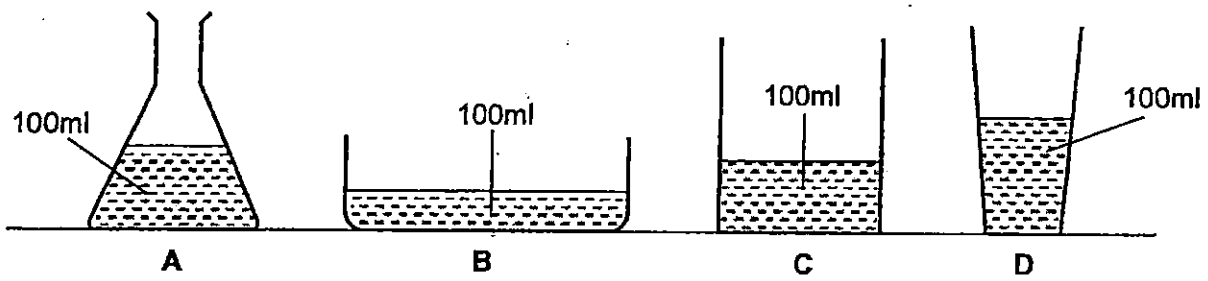
(1) C only

(2) A and B only

(3) A and C only

(4) B and C only

12. Susan poured 100ml of liquid into 4 different containers, A, B, C and D, of different shapes and sizes as shown below.



Based on the diagrams above, which of the following are properties of the liquid?

A Takes up space

B Can be compressed

C Has a definite shape

D Has a definite volume

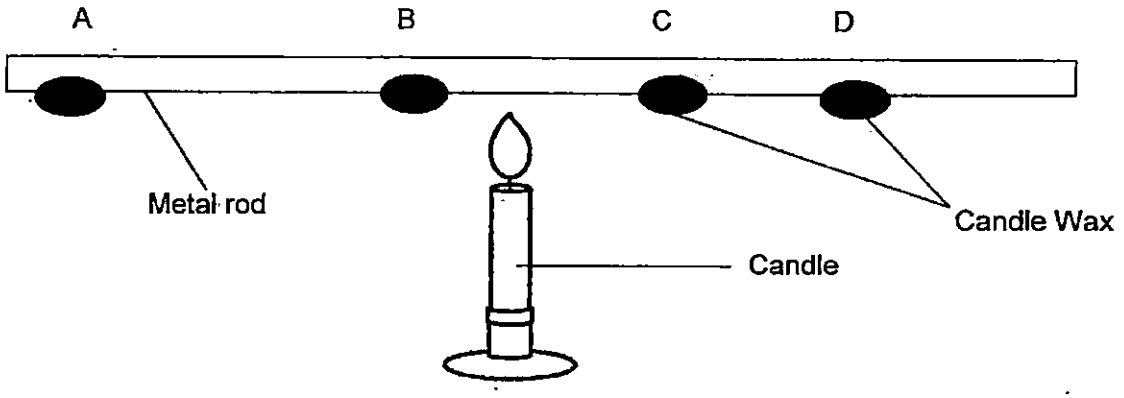
(1) A and B only

(2) A and D only

(3) B and D only

(4) C and D only

13. Jocelyn carried out the following experiment. She placed some candle wax at four positions, A, B, C and D, on a metal rod as shown below. She lighted a candle and observed the set-up for 20 minutes.



After 20 minutes, Jocelyn observed that the candle wax at all four positions had completely melted. In which order would she observe the candle wax melting?

(1) B → C → A → D

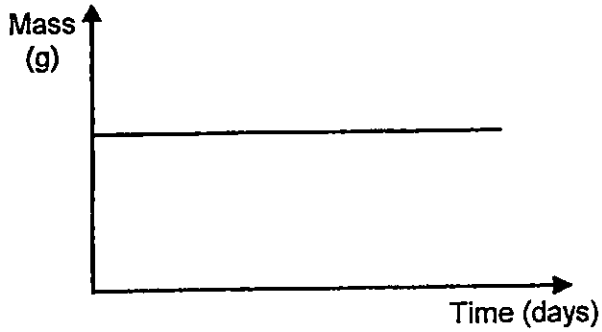
(2) B → C → D → A

(3) C → D → B → A

(4) C → D → A → B

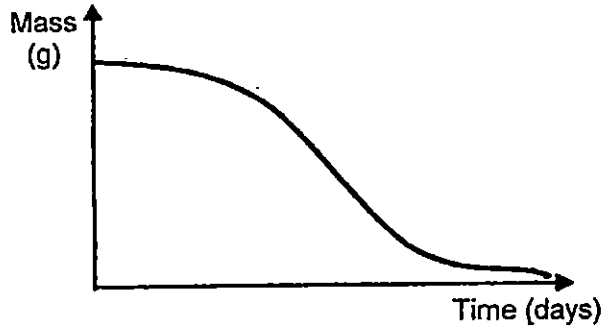
14. Which one of the following graphs correctly shows the change in the mass of the seed leaf as a seed germinates?

(1)

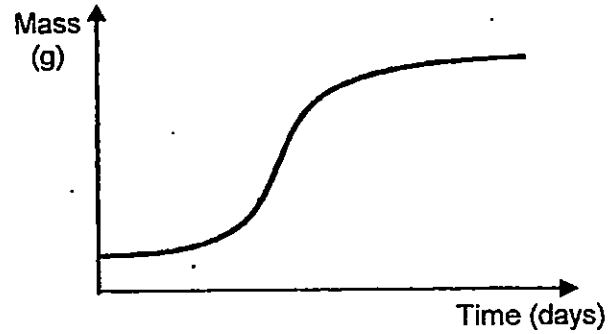


(2)

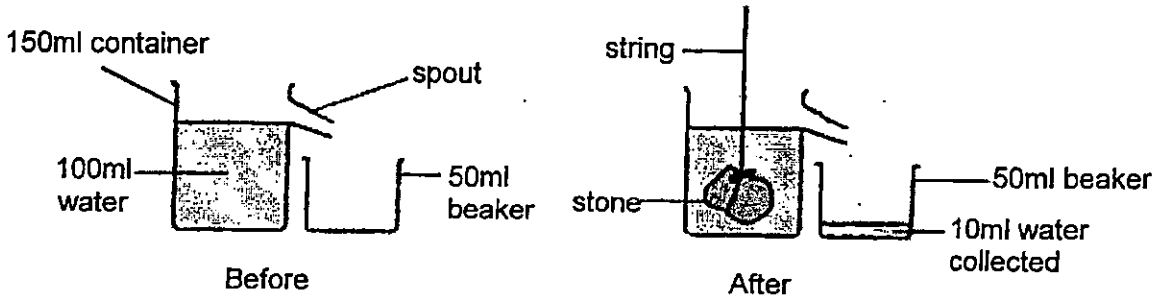
(3)



(4)



15. Joe carried out an experiment as shown in the diagram below. He filled a 150ml container with 100ml of water till the brim of the spout. He then lowered a stone into the container and some water flowed out of the spout and was collected in the 50ml beaker.



What is the volume of the stone from the experiment above?

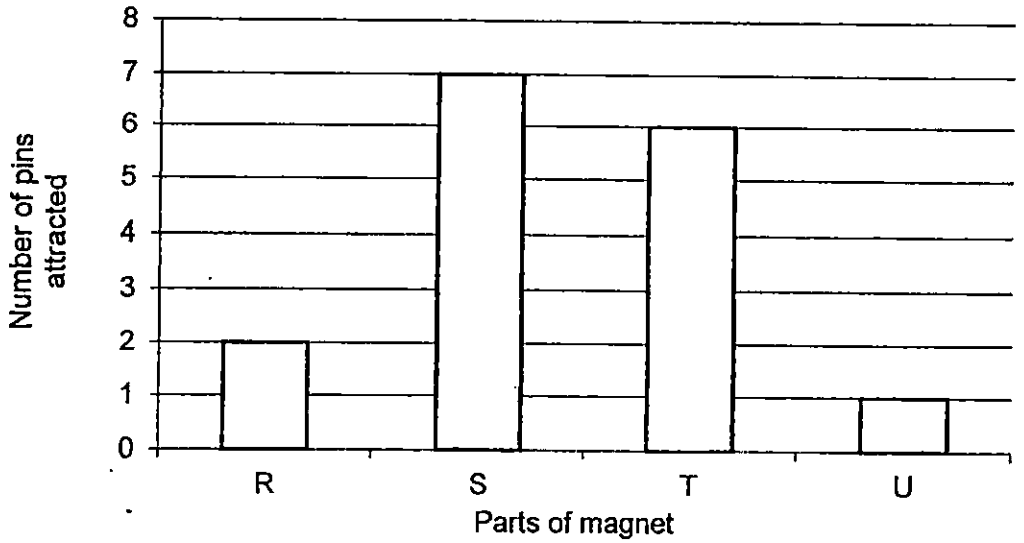
(1) 10ml

(2) 50ml

(3) 100ml

(4) 150ml

16. Steward lowered a magnet into a tray of pins and then counted the number of pins attracted to the magnet. He repeated the experiment with the same magnet but each time he used a different part of the magnet to face the tray of pins.
He then plotted his results in a bar graph below.



Based on his experiment, which of the parts, R, S, T and U, are most likely the poles of the magnet?

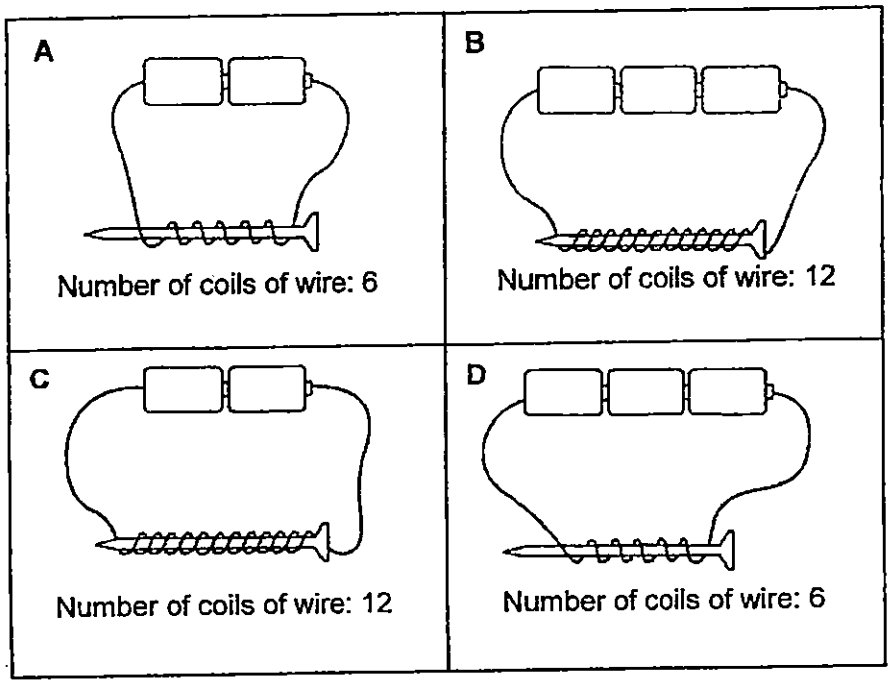
(1) R and S

(2) T and U

(3) R and U

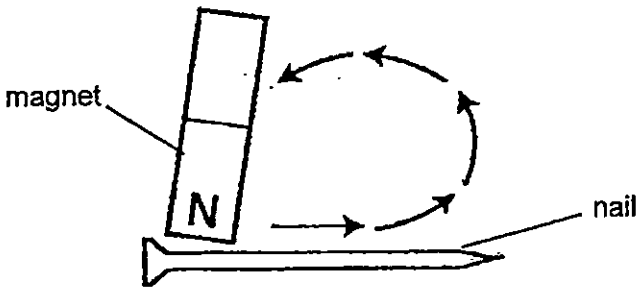
(4) S and T

17. Sarah wants to find out if the number of coils of wire affects the strength of an electromagnet. Which two set-ups shown below should she prepare to conduct a fair test?



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

18. Angel strokes a nail 20 times with a magnet as shown in the diagram below.



She then brought it near a pile of iron pins and observed that the nail did not attract any of the iron pins. Which one of the following could explain her observation?

(1) The nail had become a temporary magnet.
(2) The nail was stroked in the wrong direction.
(3) The nail is made of a non-magnetic material.
(4) The magnet used to stroke the nail is too strong.

19. Diagram 1 shows a torch shining light on 3 objects M, N, and O which are made of different materials. The objects come in different shapes and are placed at different distances from the torch. They are being arranged in a straight line one after another. Diagram 1 shows the side view of the set-up.

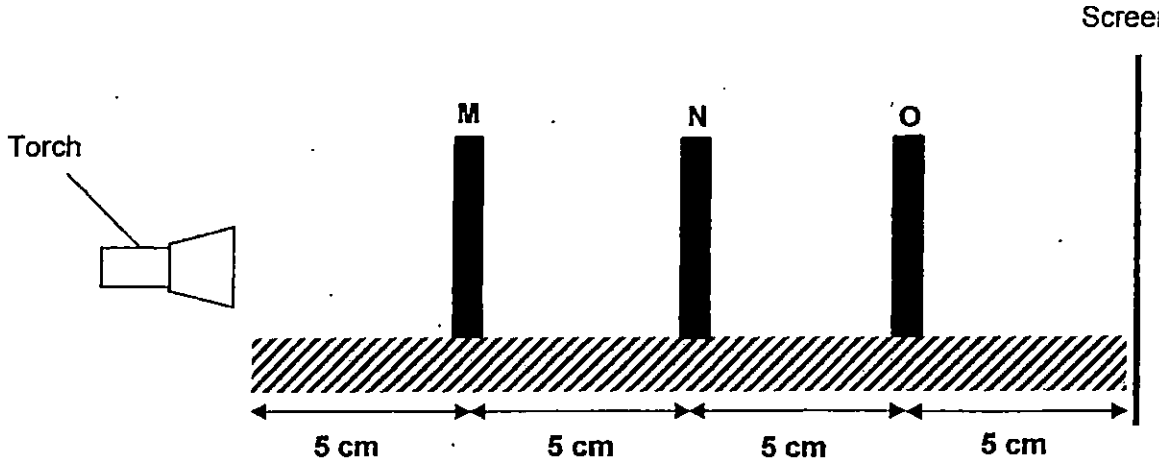


Diagram 1

Diagram 2 shows the front view of the 3 objects.

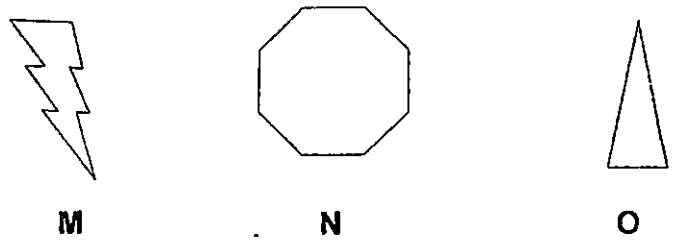
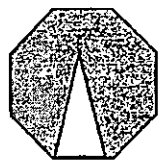


Diagram 2

The table below shows the material that each shape is made of.

Shape	Material
M	Transparent
N	Translucent
O	Opaque

Which of the following correctly represents the shadow that was seen on the screen?

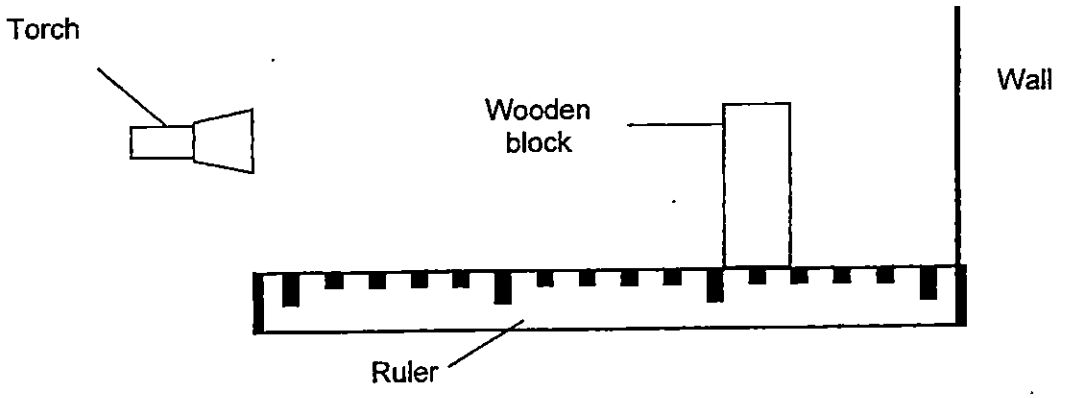
(1) 

(2) 

(3) 

(4) 

20. Hairi carried out an experiment to find out how the distance between the wall and the torch affects the height of the shadow formed on the wall.

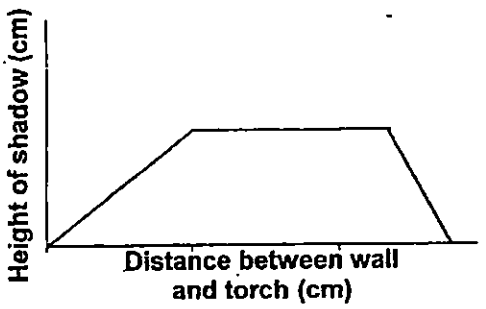


The table below contains the information he collected. Then, he used this information to draw a line graph.

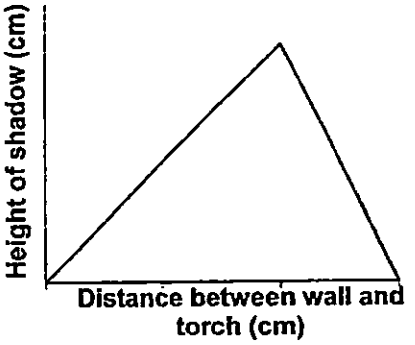
Distance between wall and torch (cm)	Distance between wall and wooden block (cm)	Height of shadow on the wall (cm)
10	5	18
15	5	16
20	5	12

Which one of the following line graphs best represents his results?

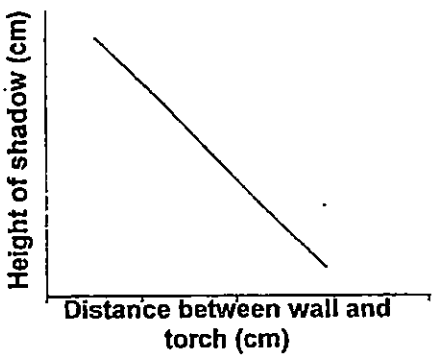
(1)



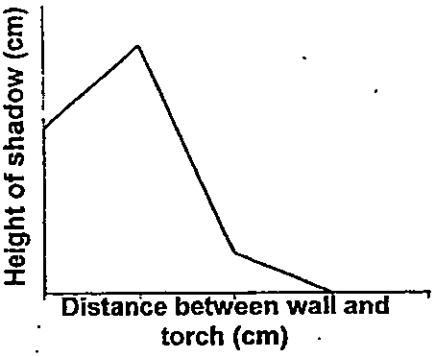
(2)



(3)

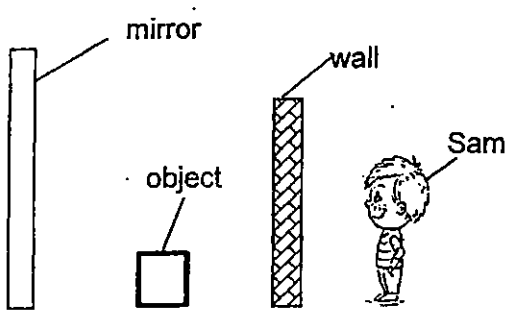


(4)

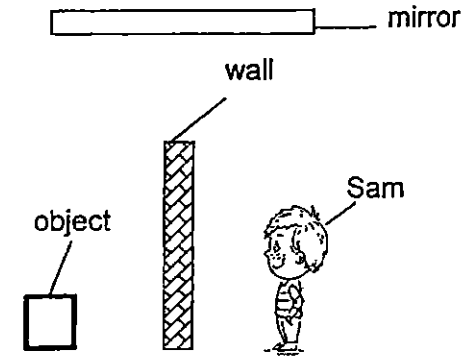


21. Sam wants to see the object that his sister had hidden behind a wall. Which of the following mirror arrangement would enable Sam to see the object?

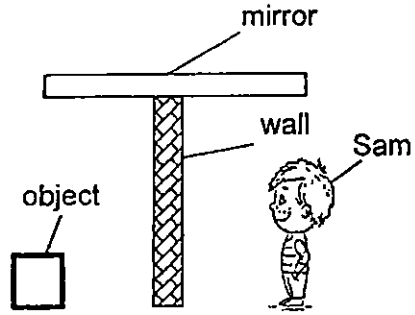
(1)



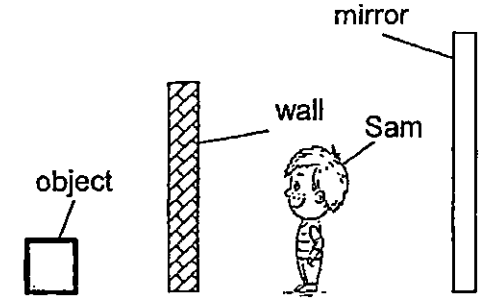
(2)



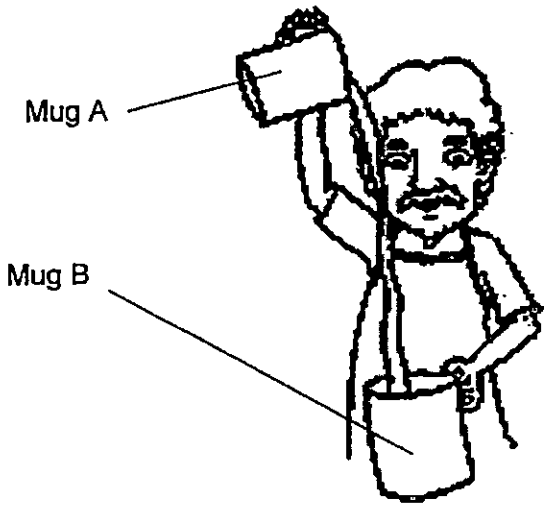
(3)



(4)



22. Raju saw a stall holder pour hot tea from Mug A to Mug B. Then he poured the hot tea from Mug B to Mug A. He repeated his actions a few times.



The purpose of transferring the hot tea from Mug A to Mug B is to _____.

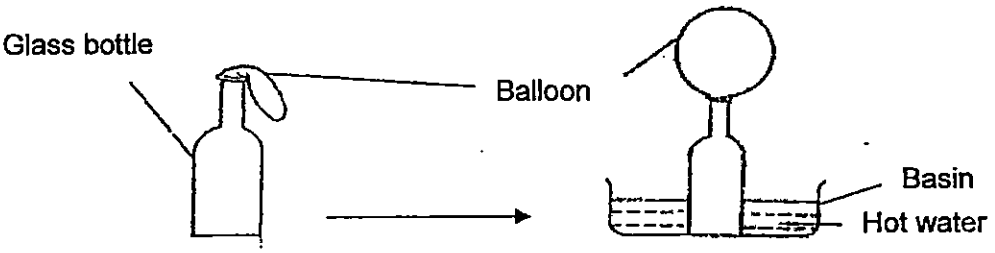
(1) transfer heat from the hot tea to his hand

(2) increase the amount of hot tea in the mug

(3) decrease the amount of hot tea in the mug

(4) transfer heat from the hot tea to the surrounding air

23. A balloon is placed over the mouth of a glass bottle. When the glass bottle is placed in a basin of hot water, it becomes inflated as shown in the diagram below.



Which one of the following statements explains why the balloon is inflated?

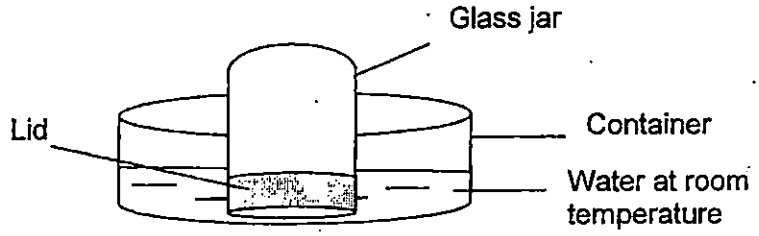
(1) The balloon loses heat to the hot water.

(2) The hot water conducts heat away from the balloon.

(3) Hot air in the glass bottle expands and inflates the balloon.

(4) Hot air in the glass bottle contracts and inflates the balloon.

24. Cindy tried opening the tight lid of a glass jar by putting it into a container filled with water. After a while, she still wasn't able to open the lid. What should she do to open the lid of the glass jar?



A She should use a bigger container.

B She should remove some water from the container.

C She should replace the water at room temperature with hot water.

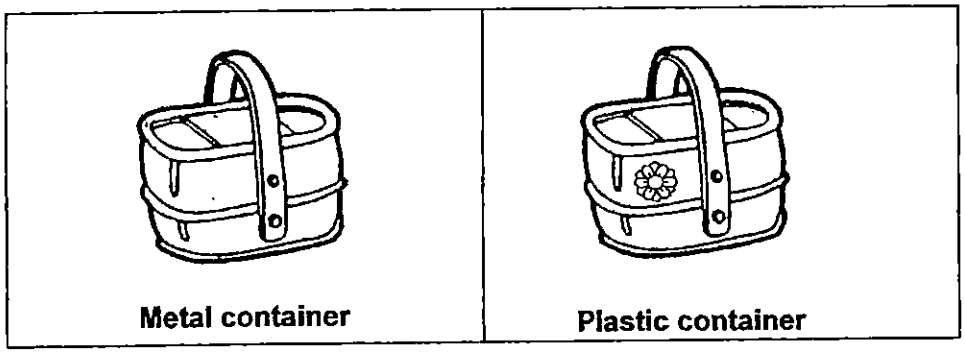
(1) A only

(2) C only

(3) B and C only

(4) A and B only

25. Mrs Lim wanted to pack some hot soup for her husband to bring to work. However, she is confused which material is more suitable to keep the soup warm for a longer period of time.



Which explanation below would help her to decide which container to pack the hot soup in?

(1) Metal is lighter than plastic.

(2) Heat can easily pass through metal but not plastic.

(3) The plastic container would float on water but the metal container would sink.

(4) The design of the plastic container is more attractive than the metal container.

End of Booklet A

Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 2 (2015)

PRIMARY 4

SCIENCE

BOOKLET B

Wednesday **4 November 2015** **1 hr 30 min**

Name: _____ ( ) Class: 4.( ) Parent's Signature: _____

INSTRUCTIONS TO PUPILS

Do not turn over the pages until you are told to do so.

Follow all instructions carefully.

There are 14 questions in this booklet.

Answer ALL questions.

The marks are given in the brackets [ ] at the end of each question or part question.

Booklet	Possible Marks	Marks Obtained
A	50	
B	40	
PBA	10	
Total	100	

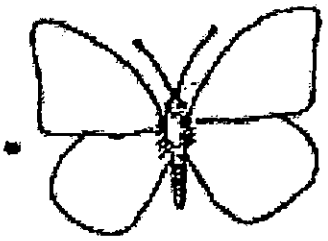
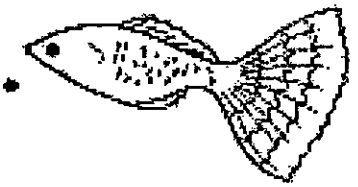
This question paper consists of 15 printed pages (inclusive of cover page).

Booklet B (40 marks)

For questions 26 to 39, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

---

26. The diagram below shows the young and adult of some organisms.
Draw lines to match the young with the correct adult. [3]

Young	Adult
	
	
	
	

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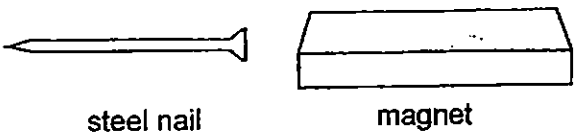
SCORE	/ 3

27. Paul placed a magnet near a steel nail as shown below. The steel nail moved towards the magnet.



(a) Fill in the blank with a suitable word.

[1]

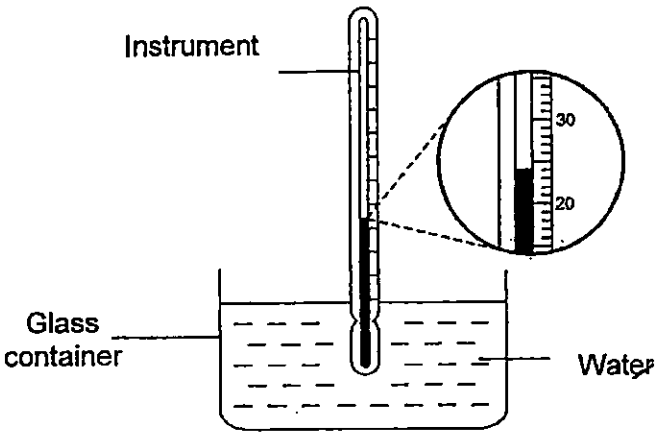
The magnet exerted a _____ on the steel nail.

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

hard	magnetic	strong

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

28. Jane used an instrument to measure the temperature of water in a glass container.



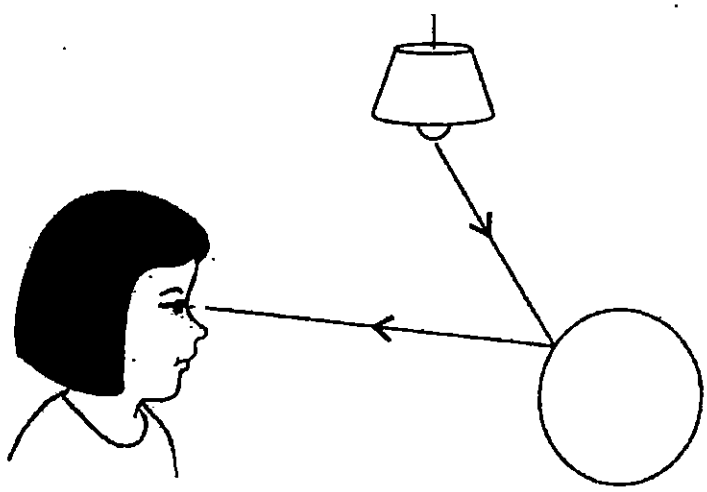
(a) What is the instrument called? _____ [1]

(b) What is the temperature of the water in the glass? _____ [1]

(Go on to the next page)

SCORE ___/4

(c)



The diagram below shows how Mary sees the ball. The light from the lamp is _____ by the ball and enters Mary's eye. [1]

(Go on to the next page)

SCORE	1

29. Fill in the boxes with the correct plant parts. [2]

(a)

Functions of plant parts	Plant parts
It holds the plant upright.	
It obtains water for the plant.	

(b) Zack recorded the characteristics of three different types of plants M, N and O in the table below. A tick (✓) indicates that the plant has the characteristic.

	Characteristics				
Types of Plants	Reproduces from seeds	Reproduces from spores	Bears fruit	Flowers grow singly	Flowers grow in clusters
Plant M	✓		✓	✓	
Plant N		✓			
Plant O	✓		✓		✓

Unknown plant

Which plant M, N or O best describes the above unknown plant? [1]

_____

(Go on to the next page)

SCORE	/ 3

30. Roy wanted to find out which type of soil is more suitable for Plant X to grow well. He prepared the set-ups shown below in his garden and watered the plants daily.

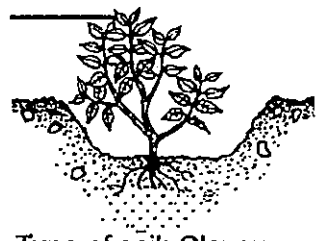
Set-up 1

Plant X

Type of soil: Clayey

Set-up 2

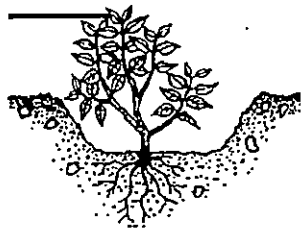
Plant X



Type of soil: Clayey

Set-up 3

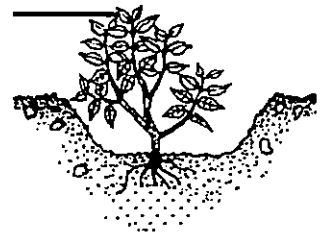
Plant X



Type of soil: Sandy

Set-up 4

Plant X



Type of soil: Sandy

(a) Which pair of set-ups should he use to conduct the experiment? [1]

_____

(b) Explain your choice in (a). [1]

_____

_____

(c) If Roy conducted a second experiment with set-up 3 and 4, what is the aim of Roy's experiment? [1]

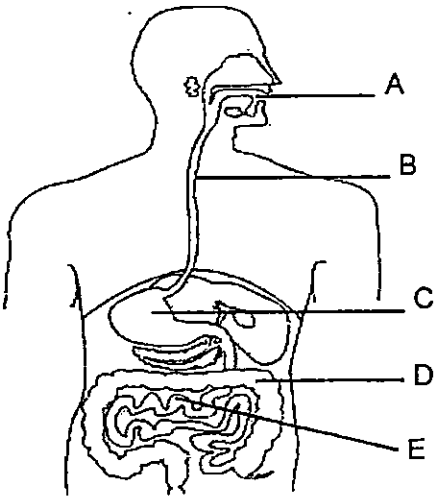
_____

_____

(Go on to the next page)

SCORE	/ 3

31. The diagram below shows the human digestive system.



(a) Which parts in the above diagram contain digestive juices? [1]

_____

(b) Explain how digestive juices help in digestion. [1]

_____

_____

(c) What happens to the digested food in Part E? [1]

_____

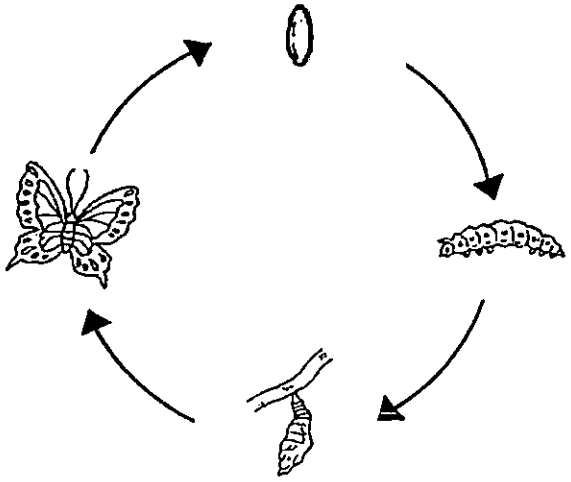
_____

(Go on to the next page)

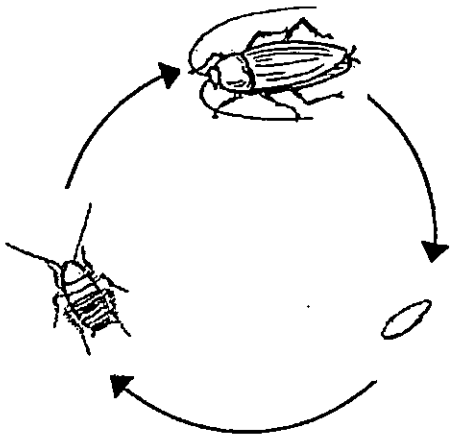
SCORE	/ 3

32. The following diagrams show the life cycle of a butterfly and a cockroach.

Life cycle of Butterfly



Life cycle of Cockroach



(a) State a difference between the life cycles of the butterfly and the cockroach. [1]

_____

_____

(b) State a similarity in the way the adult of the butterfly and the adult of the cockroach move. [1]

_____

_____

(c) Why is the young of the butterfly harmful to plants? [1]

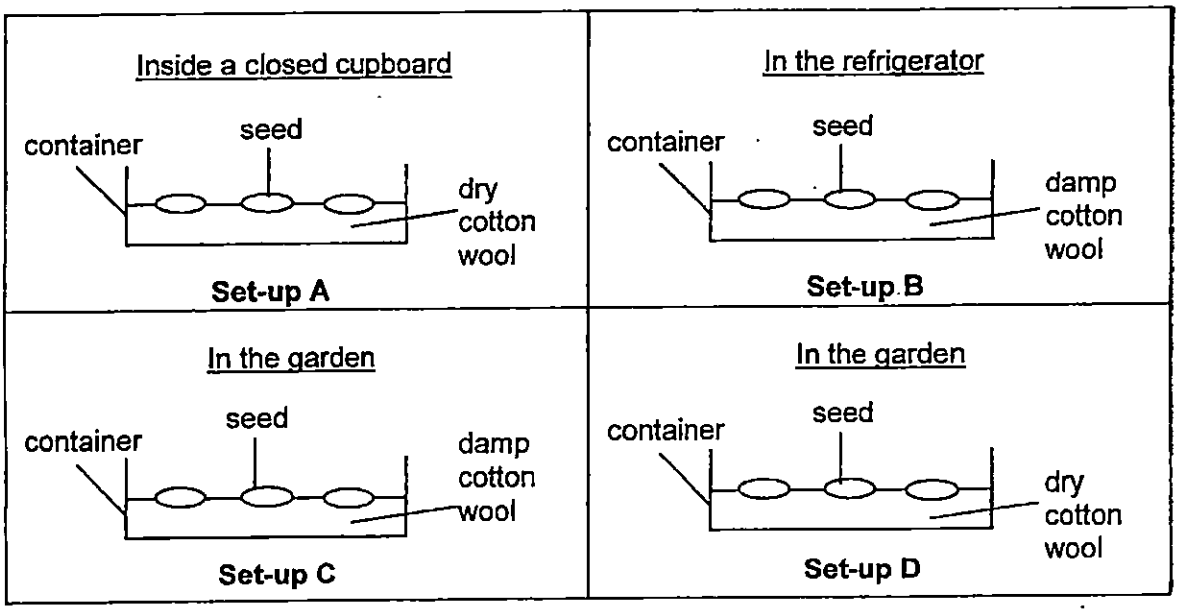
_____

_____

(Go on to the next page)

SCORE	/ 3

33. Albert prepared four identical containers with three seeds of the same type and size in each container. He then placed them at different locations as shown in the diagram below.



(a) Albert wanted to conduct two experiments to test if seeds need water and warmth to germinate. Which two set-ups should he use for comparison for each experiment? [1]

	Changed Variable	Set-ups
(i)	Water	_____ and _____
(ii)	Warmth	_____ and _____

(b) What other condition(s) must the seeds have to germinate? [1]

_____

(c) A few days after the seeds germinated, Albert saw that the seed leaf had dropped. Explain why. [1]

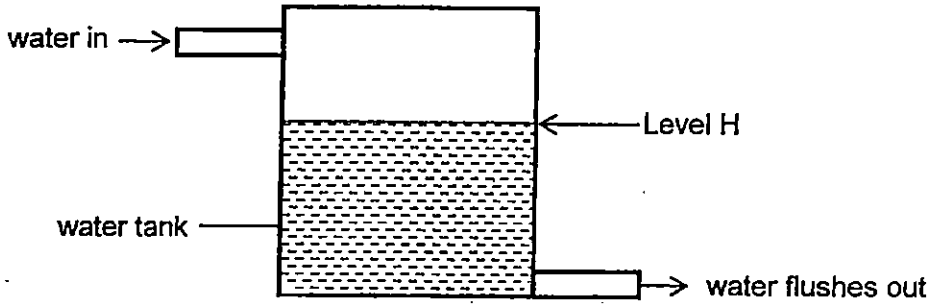
_____

_____

(Go on to the next page)

SCORE	/ 3

34. A water tank is shown below. After all the water is flushed out, water enters and re-fills the tank. The tank will stop filling once the water reaches level H.



John wants to use less water every time the water is flushed out of the tank. Nathan suggests placing a plastic bottle filled with stones into the water tank.

(a) Explain how Nathan's suggestion will help to reduce the amount of water used each time the water is flushed out of the tank. [1]

_____

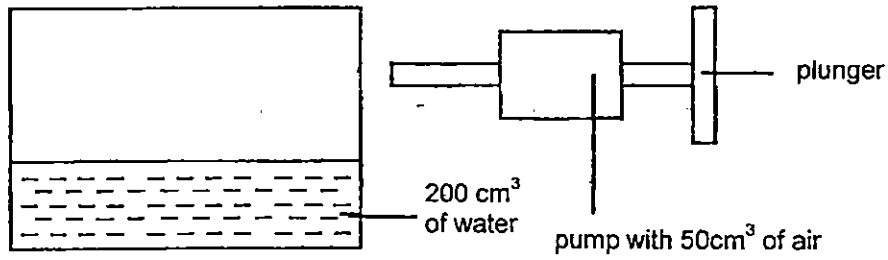
_____

(b) Nathan's method is based on a property of matter. State this property. [1]

_____

_____

(c) John uses another water tank with a volume of 500cm^3. It contained 200cm^3 of water. He connected a pump containing 50cm^3 of air to the water tank as shown in the diagram below.



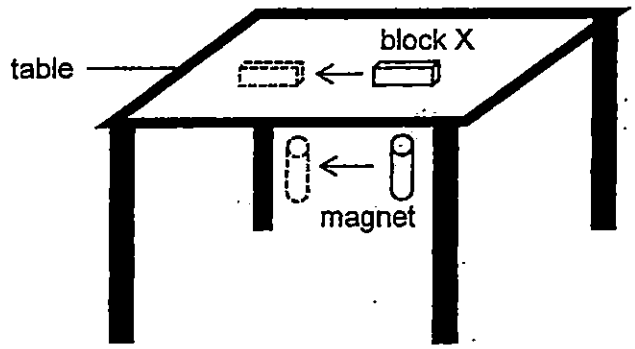
What is the volume of the air in the water tank after the plunger of the pump is pushed in completely? [1]

_____

(Go on to the next page)

SCORE	
	3

35. Robert conducted an experiment as shown in the diagram below.
Robert placed block X on a table and held a magnet under it as shown in the diagram below.



He noticed that block X moved in the same direction as the magnet when he moved the magnet as shown in the diagram.

(a) Give an example of a material that the table and block X could be made of in order to obtain the results above. [1]

Table: _____

Block X: _____

(b) If Robert replaced the table with a steel table, will block X move when he moves the magnet as shown in the diagram? Explain your answer. [1]

_____

_____

(c) If Robert replaced block X with a glass block, will the glass block move when he moves the magnet as shown in the diagram? Explain your answer. [1]

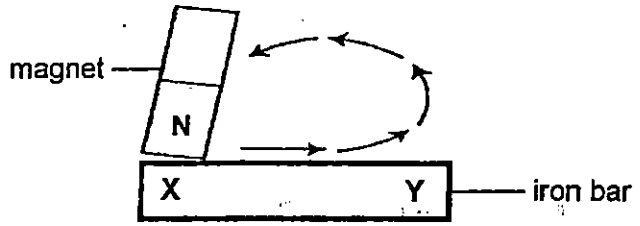
_____

_____

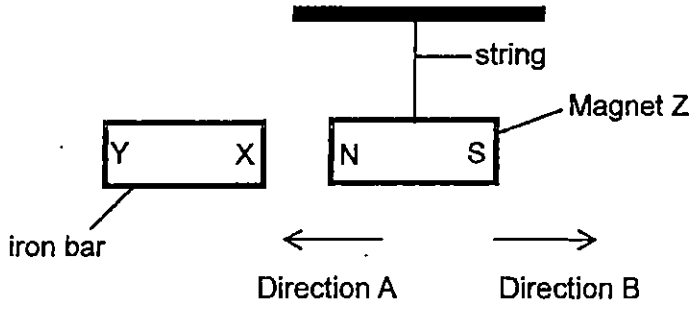
(Go on to the next page)

SCORE	/ 3

36. Alex made a temporary magnet using the stroke method as shown below.



Alex then brought the temporary magnet near Magnet Z that was freely hung from a string as shown in the diagram below.



(a) In which direction, A or B, will the freely hung magnet move? Explain your answer. [1]

_____

_____

(b) Without adding or removing anything from the set-ups above, state what Alex can do to make Magnet Z move further in the same direction as in part (a). [1]

_____

_____

(c) State a way to make Magnet Z move in the opposite direction from that in part (a). [1]

_____

_____

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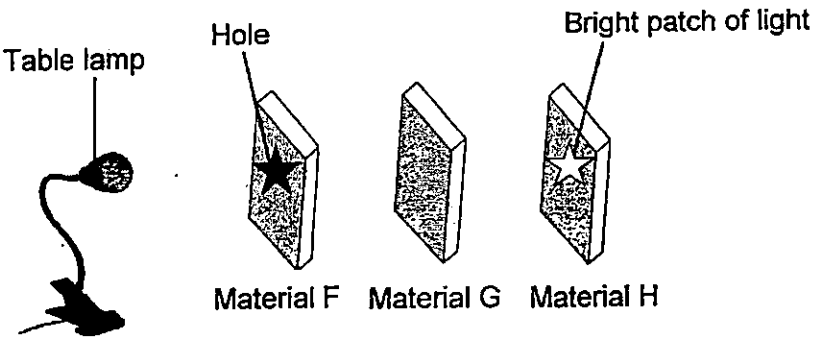
SCORE	
	3

37. Jasmine carried out the experiment below in a very dark room.

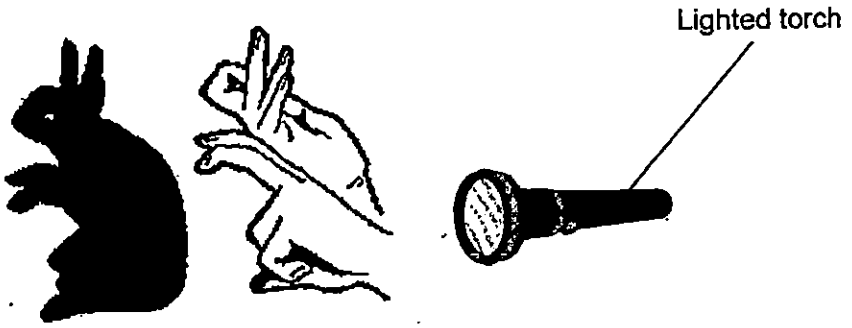


The materials F, G and H were arranged in a straight line. When the table lamp was switched on, a bright patch of light was seen on Material H only.

(a) Put a tick (✓) in the box that correctly describes the properties of the materials F, G and H. [2]

Properties of material	True	False
F is an opaque material		
G is an opaque material		
G is a transparent material		
H is an opaque material		

(b) Jasmine wanted to form a hand puppet shadow for her Show and Tell lesson. She used her fingers to create the shadow of a rabbit on the wall as shown below.



She wanted to make the shadow smaller. State one thing that she could do to make the shadow appear smaller (the position of light source remains unchanged). [1]

_____

_____

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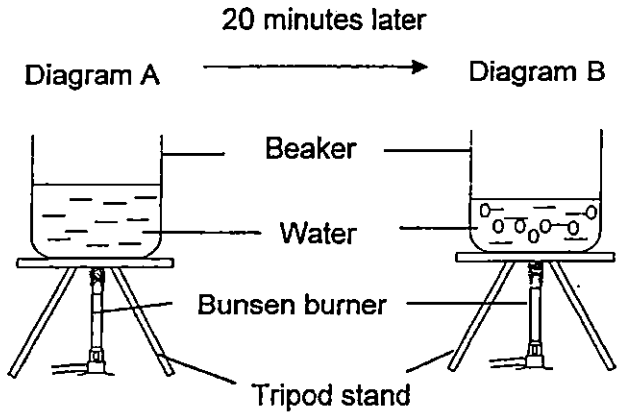
SCORE	/ 3

38. Liza wanted to observe what happens when water boils.



(a) After 20 minutes, she noticed that the water level in the beaker had decreased. Explain why. [1]

_____

_____

(b) State one thing Liza could have done to allow a smaller decrease in the water level in the beaker at the end of 20 minutes. [1]

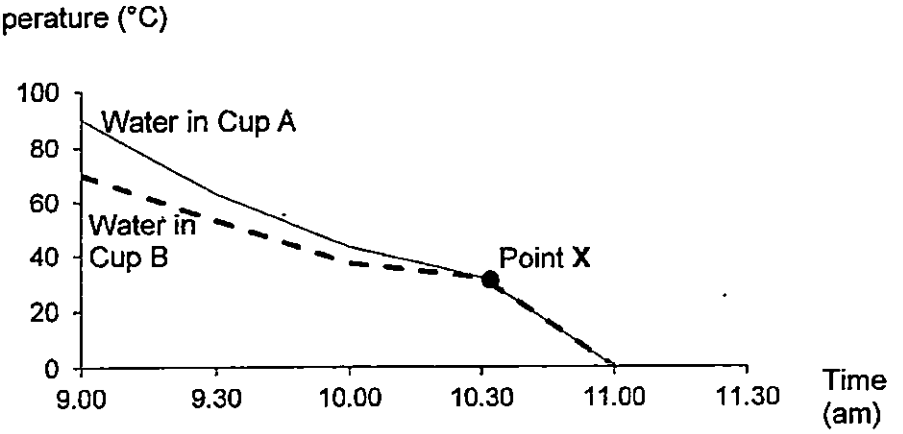
_____

_____

(Go on to the next page)

SCORE	2

39. Zack cooled two identical cups marked A and B, containing equal amounts of warm water. The temperature of water in both cups is different at the start of the experiment. He plotted the line graph below to record the changes in the temperature of water in both cups over a period of time.



(a) Based on the graph above, which cup, A or B, is a better conductor of heat? Explain why. [1]

_____

_____

(b) Explain why the water in both cups reach the same temperature after some time at around 10.30 a.m. [1]

_____

_____

(c) What did Zack do at point X that caused temperature of water in both cups to decrease to 0°C? [1]

_____

_____

End of Booklet B

SCORE	/ 3

EXAM PAPER 2015
LEVEL : PRIMARY 4
SCHOOL : ANGLO-CHINESE SCHOOL (JUNIOR)
SUBJECT : SCIENCE
TERM : SA2

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

Q26. **SEE PICTURE (NEXT PAGE)**

Q27a. pull Q27b. magnetic

Q28a. Thermometer Q28b. 24° Q28c. reflected

Q29a. stem , roots Q29b. Plant M

Q30a. Set up 2 and Set up 4

Q30b. The type of soil is clayey at set up 2, the type of soil is sandy at set up 4 and they both have the same amount of roots too.

Q30c. To find out if plants with more roots grow longer.

Q31a. A, C and E

Q31b. Digestive juices helps us to breakdown food faster.

Q31c. It gets absorbed into the bloodstream.

Q32a. The life cycle of a butterfly has a four stage life cycle but the life cycle of cockroach has three stage life cycle.

Q32b. Both can fly.

Q32c. They will eat the leaves of the plant and cause the plant to die.

Q33a. (i) C and D Q33a (ii) C and B

Q33b. Seeds also need air.

Q33c. The seed leaf supplies nutrients for the plant to germinate but once it is used up, it falls off.

Q34a. The plastic bottle will take up space / there will be less space for the water to fill up.

Q34b. All matter occupies space. Q34c. 300cm^3

Q35a. Table : Wood Q35b. Block X: Steel

Q35b. No. Steel is a magnetic material and magnetism cannot pass through magnetic materials.

Q35c. No. Glass is a non-magnetic material so it will not be attracted to the magnet.

Q36a. Direction B, X was the north pole and repelled the like pole.

Q36b. He could stroke the iron bar more times.

Q36c. Turn the iron bar around.

Q37a. **SEE PICTURE** Q37b. She can move her hands closer to the wall.

Properties of material	True	False
F is an opaque material	✓	
G is an opaque material		✓
G is a transparent material	✓	
H is an opaque material	✓	

Q38a. When water is heated, it gains heat and changes from liquid to gas.

Q38b. Cover the beaker with a lid.

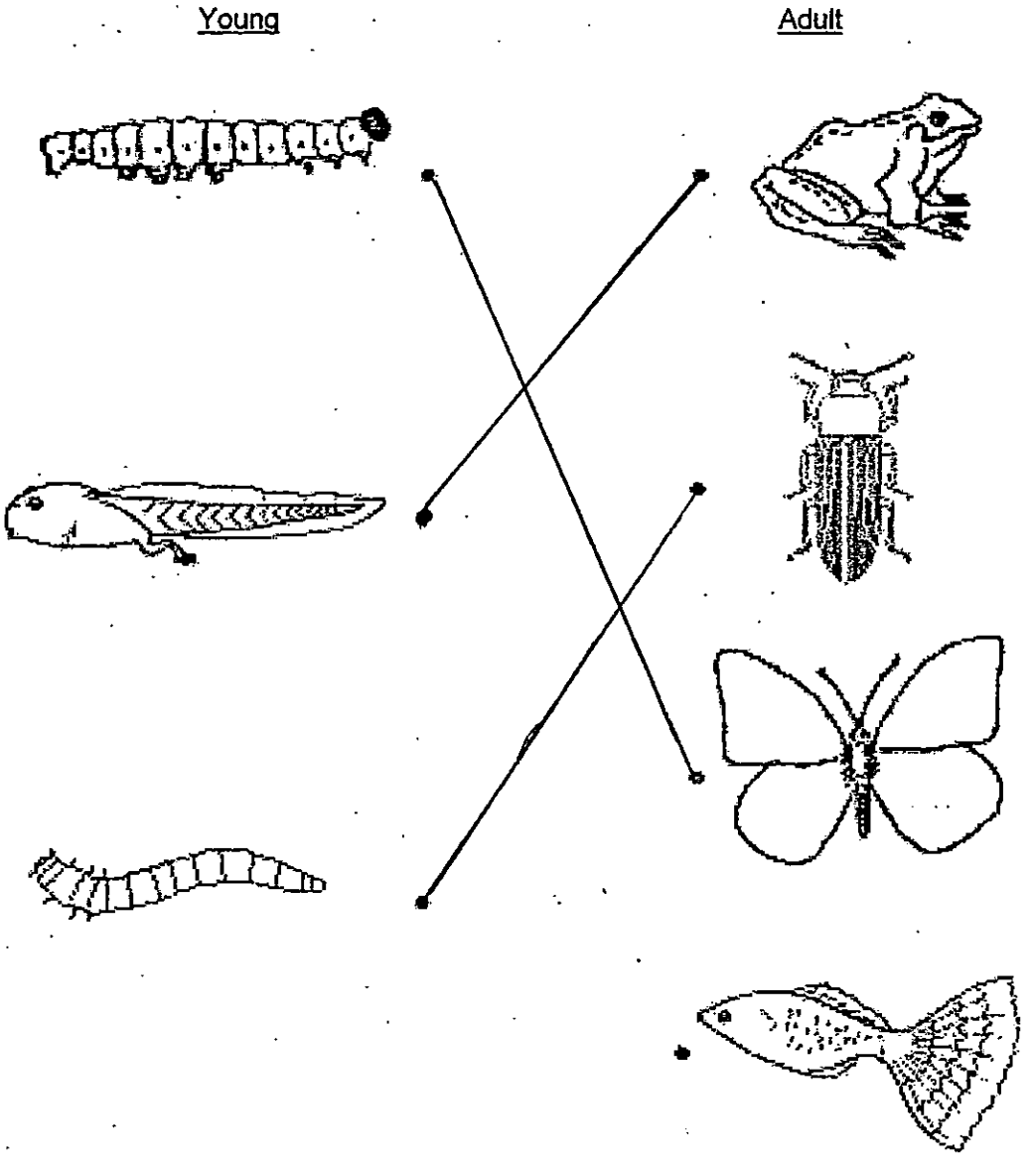
Q39a. Cup A. The decrease in temperature was greater than that of Cup B during that time.

Q39b. Both cups reached the room temperature and lose heat to the surrounding.

Q39c. He put it in the freezer.

THE END

26. The diagram below shows the young and adult of some organisms.
Draw lines to match the young with the correct adult. [3]



END