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南侨小学

NAN CHIAU PRIMARY SCHOOL

Semestral Assessment 1

2009

Science Booklet A

Primary Four

Booklet A	60
Booklet B	40
Total	100

Name: _____( )

Class: Pr 4 _____

Duration (Booklets A & B): **1 h 45 min**

Date: **14 May 2009**

Parent's Signature: _____

Instructions to Pupils:

1. Do NOT open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

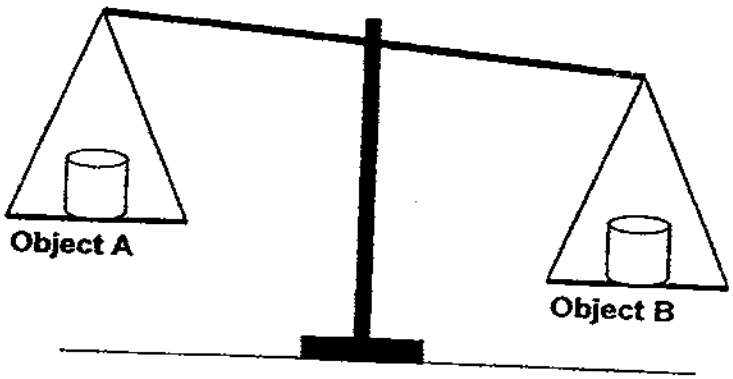
*This paper consists of **15** pages altogether.
(excluding this page)

Setter: Mrs Goh Pei Gee

Section A (30 x 2 Marks)

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

1. Ali placed two objects, A and B on a lever balance as shown in the diagram below. The two objects are of the same size and shape.

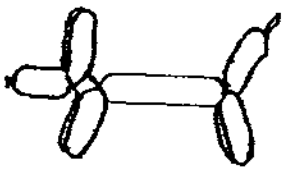


Which of the following statement(s) is/are true?

A: Object B is heavier than Object A
B: Object B occupies more space than Object A.
C: Object A and Object B have the same volume.
D: Object A and Object B are made of different materials.

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

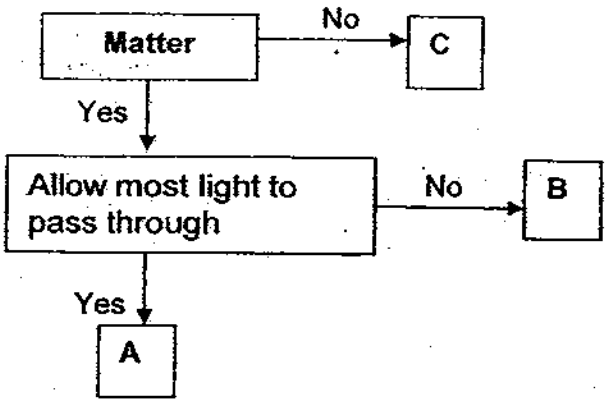
2. Mr Clown blew a balloon and twisted it into the shape of a dog.



Which of the following statement is true?

(1) Air can be bent.
(2) Air can be compressed.
(3) Air has a definite volume.
(4) The balloon can be compressed.

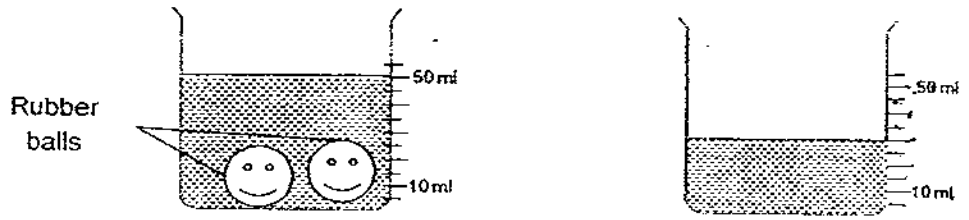
3. Study the flowchart below.



What are A, B and C?

	A	B	C
(1)	Shadow	Light	Air
(2)	Fire	Water	Shadow
(3)	Paper bag	Shadow	Light
(4)	Water	Paper bag	Fire

4. Study the diagrams below.



The volume of one rubber ball is _____ cm^3

(1) 10
(2) 20
(3) 30
(4) 40

5. Ice and water are similar in that they _____.

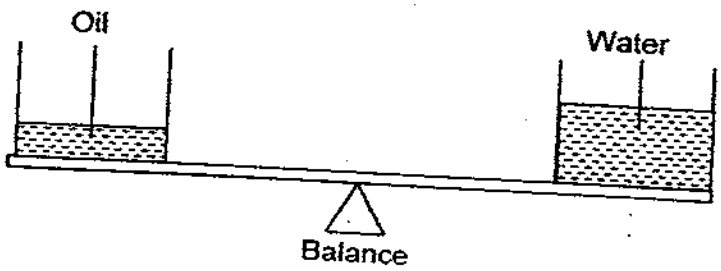
A: have mass
B: occupy space
C: have a definite shape
D: have a definite volume

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

6. Which of the following has been classified correctly?

	Solid	Liquid	Gas
(1)	Honey	Water	Alcohol
(2)	Orange juice	Ice cream	Air
(3)	Ice-cream	Petrol	Oxygen
(4)	Plasticine	Milk	Honey

7. Study the diagram below.

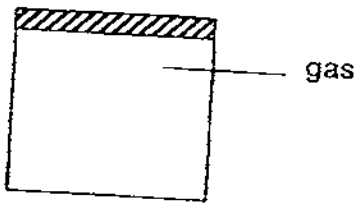


The above setup shows that both water and oil _____.

A: are matter
B: have definite shape
C: have the same mass
D: have the same volume

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

8. The diagram below shows a container with a capacity of $500cm^3$.

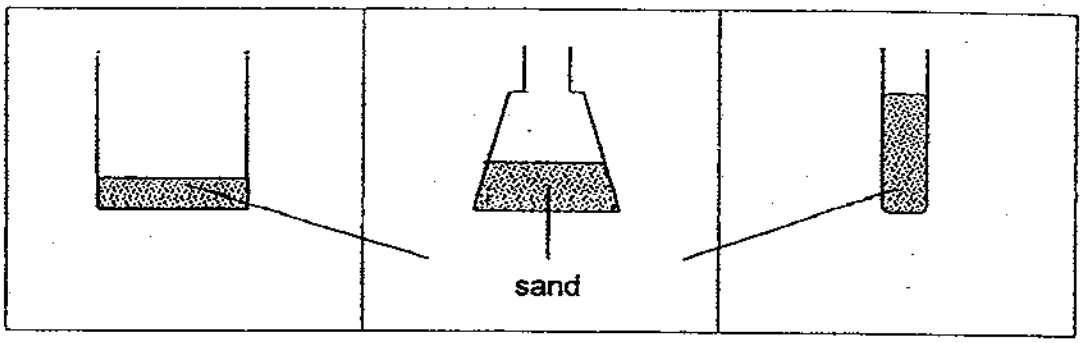


Which of the following statements are true?

A: There is $500cm^3$ of gas in the container.
B: The gas takes the shape of the container.
C: No more gas can be pumped into the container.
D: The mass of the gas is the mass of the container.

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

9. Hui Shi pours sand into three containers as shown in the diagrams below.



The above experiment shows that sand _____.

A: has mass
B: is not a solid
C: has a definite volume
D: takes the shape of the container

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

10. Which one of the following is a natural source of light?

(1) A star
(2) A torch
(3) A candle
(4) An electric bulb

11. Mary tested four materials A, B, C and D, and recorded the results in the table below.

Material	A	B	C	D
Waterproof	✔	X	✔	X
Light	✔	X	X	✔
Transparent	X	✔	✔	✔

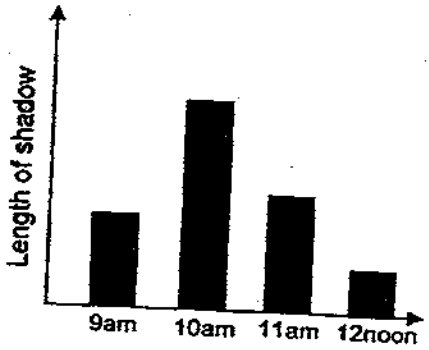
Which of the materials is most suitable for making a raincoat?

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

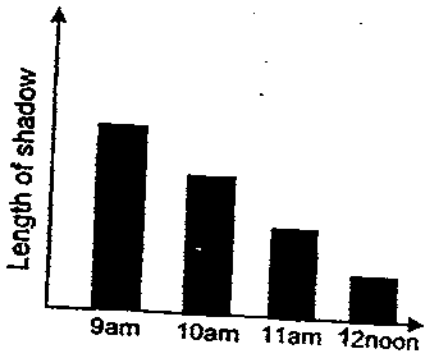
12. John placed a wooden pole under the Sun from 9a.m. to 12 noon.

Which of the following best represents the lengths of the pole's shadow?

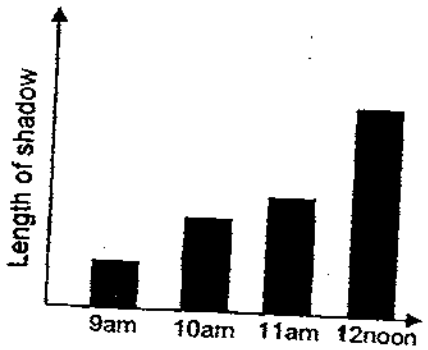
(1)



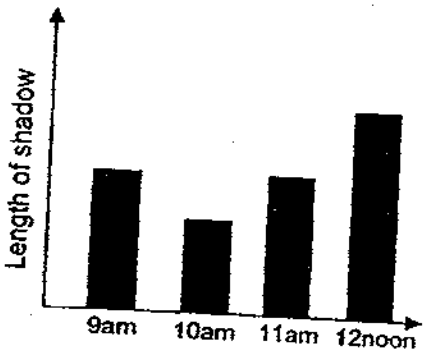
(2)



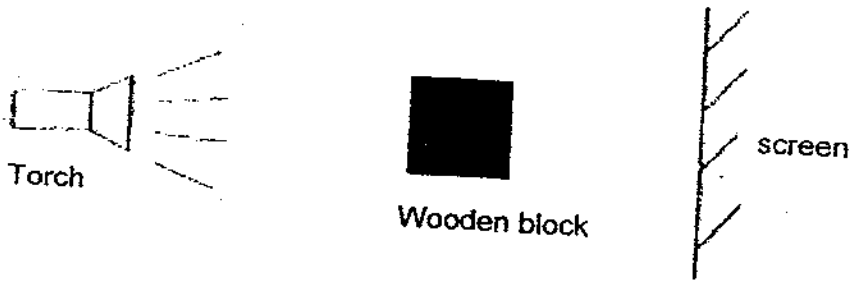
(3)



(4)



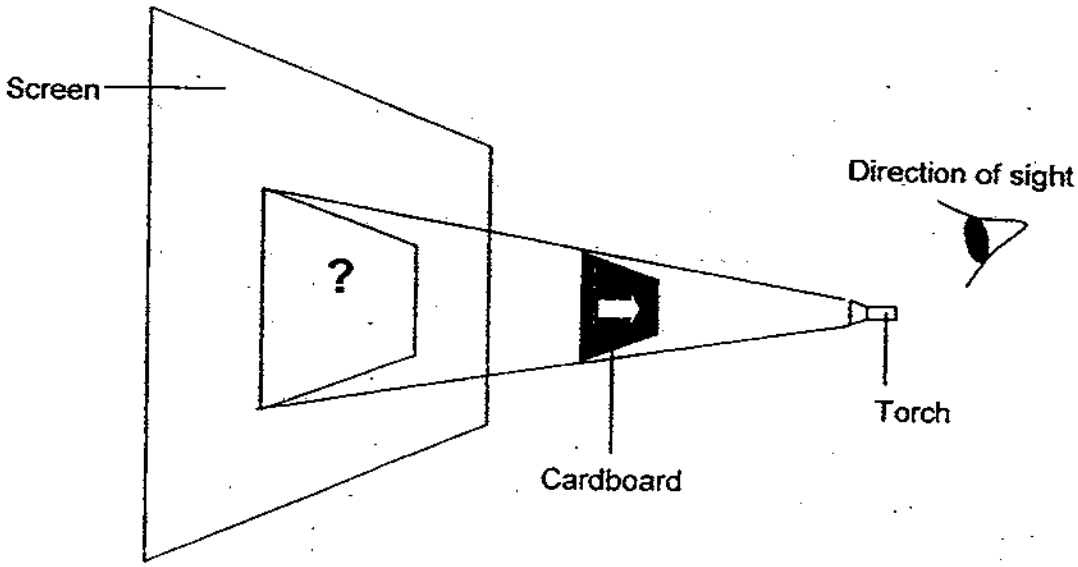
13. A shadow is cast on the screen when a wooden block is placed between a light source and a white screen as shown in the diagram below.



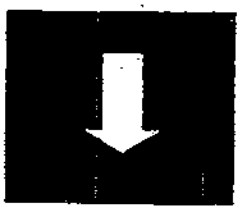
To make the shadow smaller, you should move the _____.

(1) wooden block nearer the screen
(2) torch nearer to the wooden block
(3) wooden block nearer to the torch
(4) screen further from the wooden block

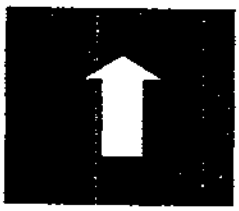
14. Farhan put a cardboard with an arrow cut out in front of the torchlight as shown below.

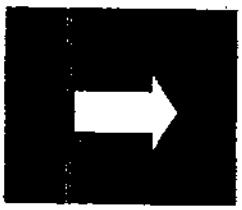


Which of the following is the correct shadow for the cardboard?

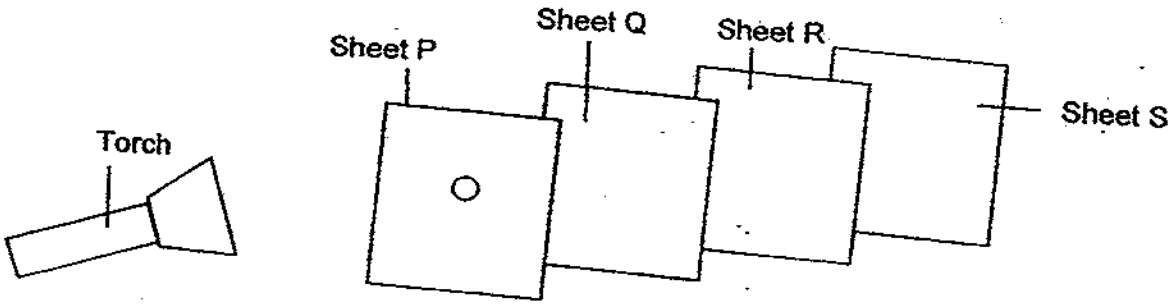
(1) 

(2) 

(3) 

(4) 

15. Study the diagram below.



Peter cut out a circle from Sheet P and arranged sheets P, Q, R and S in a straight line. When he switched on the torch, a bright patch of light was seen on Sheet R.

Which one of the following correctly describes the property of the sheets?

	Allows light to pass through	Does not allow light to pass through	Not possible to tell
(1)	P	R and S	Q
(2)	Q	P and R	S
(3)	P and Q	R	S
(4)	P and S	R	P

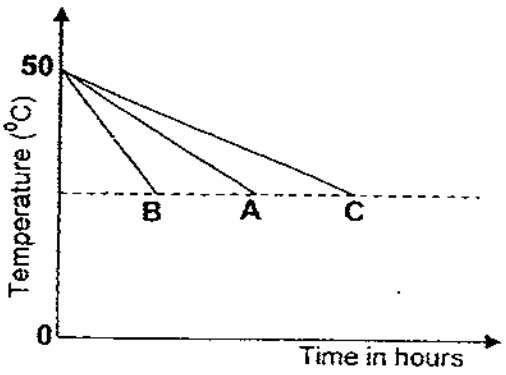
16. Three similar containers, A, B and C, were made of different materials. They were filled with the same amount of water. The water was at a temperature of 50^0C. The containers were left on the table and allowed to cool down to room temperature.

The table below shows the time taken for the temperature of the water in each container to drop to room temperature.

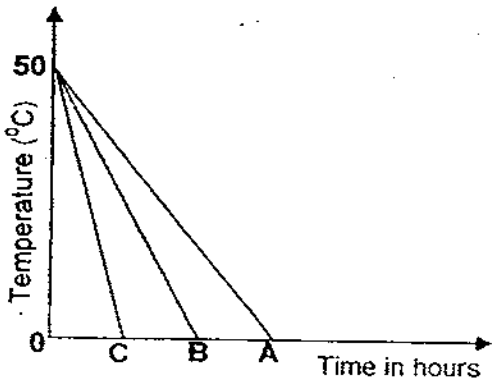
Container	A	B	C
Time taken for water to cool to room temperature (hour)	3	1	2

Which one of the following graphs represents what happened?

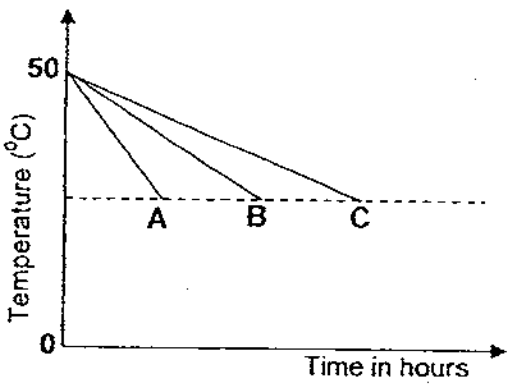
(1)



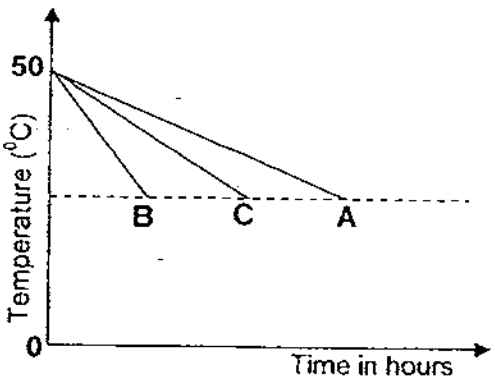
(2)



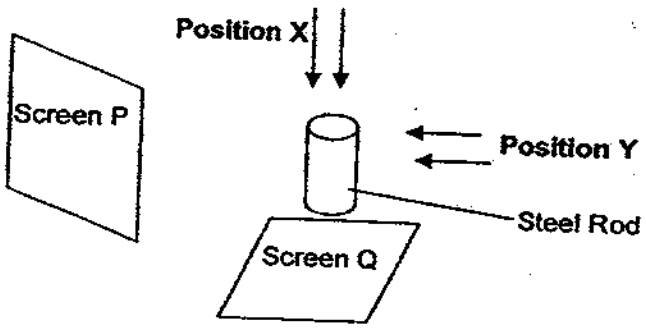
(3)



(4)

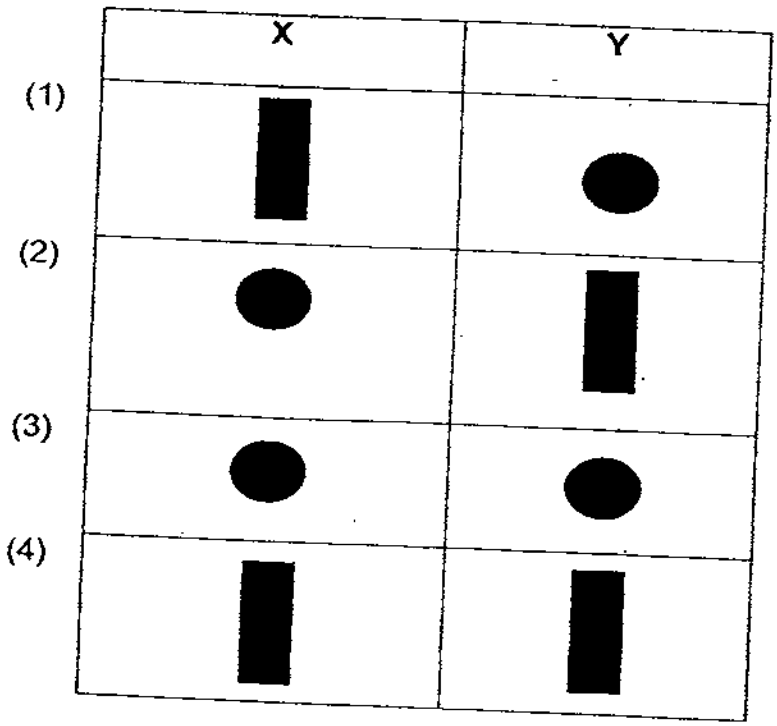


17. John wanted to find out whether an object can cast different shadows. Using a steel rod, he set up the experiment as shown below.

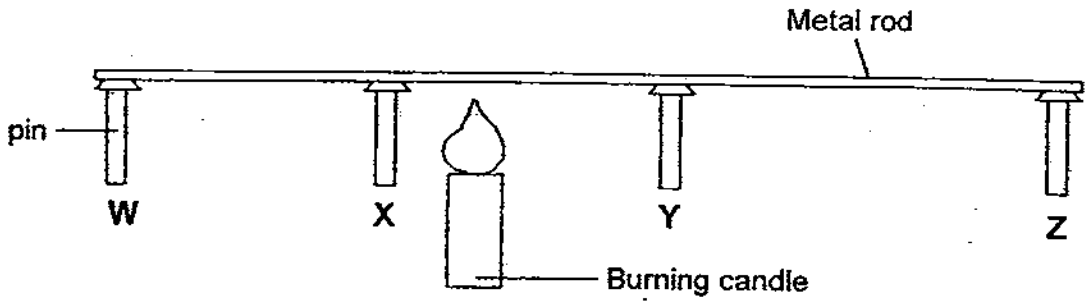


John then shone a torch from Position X and observed the shadow cast. He then repeated the experiment by shining a torch from Position Y.

Which of the following correctly identifies the shadows formed on the screens?



18. Study the setup below.



4 pins, W, X, Y and Z, were stuck on a metal rod using wax.

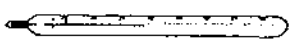
Arrange the pins in order, with the one that dropped first to the one that dropped last.

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

19. Mrs Wee went home one hot afternoon. She wanted to know the temperature in her living room.

Which of the following thermometer should she use?

(1)



Clinical thermometer

(2)

Digital clinical thermometer

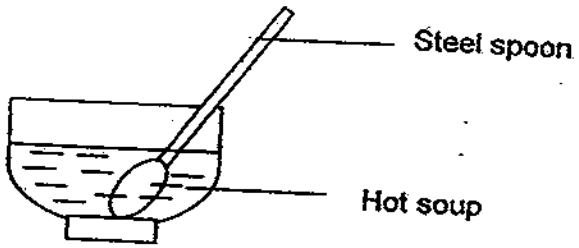
(3)

Laboratory thermometer

(4)

Wall mounted thermometer

20. Study the diagram below.



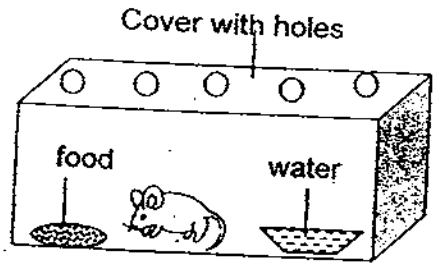
A steel spoon was left in a bowl of hot soup. After sometime, the metal spoon felt hot because _____.

(1) heat from the hot soup travelled to the spoon
(2) heat from the bowl travelled to the spoon
(3) the spoon lost coldness to the soup
(4) the spoon lost coldness to the bowl

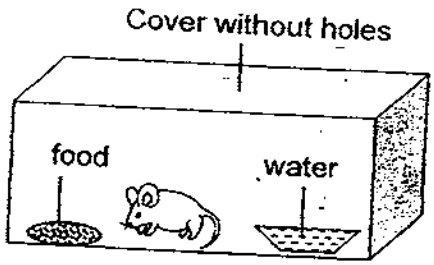
21. When a cup of ice water was left on a table in the Science Room, its temperature _____.

(1) decreased because it lost heat to the surrounding
(2) increased because it lost heat to the surrounding
(3) decreased because it gained heat from the surrounding
(4) increased because it gained heat from the surrounding

22. Study the diagram below.



Setup A



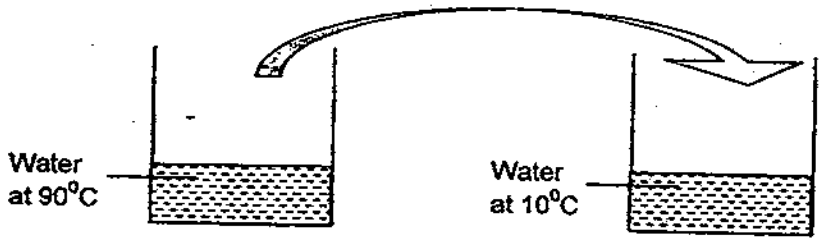
Setup B

After a week, the mouse in _____.

A: both Setups A and B would survive because they have food and water
B: Setup A would survive because it has air, food and water
C: Setup B would die because the cage is too small
D: Setup B would die because it does not have air

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

23. Study the diagrams below.



The two beakers contain the same amount of water. When water from Beaker A was poured into Beaker B, the temperature of the water in Beaker B would most likely be _____.

(1) 100°C
(2) about 10°C
(3) less than 90°C but more than 10°C
(4) more than 90°C but less than 100°C

24. Kelly prepared four similar containers, A, B, C and D. She placed the same amount of cotton wool and five bean seeds in each container. The containers were placed in different places with different conditions as shown in the table below.

Container	Air	Water	Sunlight	Where the containers were placed
A	Yes	Yes	Yes	In an open area
B	No	Yes	Yes	In a sealed container and placed next to a window
C	Yes	Yes	No	On the kitchen table
D	Yes	Yes	No	In the freezer

Based on the information, which container(s) would have seedlings after a week?

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

25. The roots help to _____.

A: take in water for the plant
B: take in sunlight for the plant
C: hold the plant upright
D: take in minerals from the soil

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

26. The diagrams below show a plant and a ~~fungi~~ fungus.

Plant

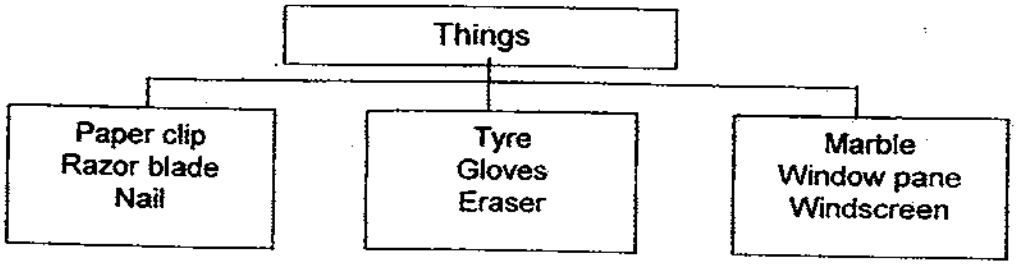
~~Fungi~~ Fungus

The plant and the ~~fungi~~ fungus are similar in that they _____.

A: can reproduce
B: do not need food
C: need air and water
D: can move on their own

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

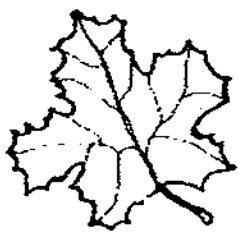
27. The table below shows how some things are grouped.



The things above are grouped according to _____.

(1) their use
(2) their mass
(3) their shape and size
(4) what they are made of

28. Study the diagrams below. The two leaves were classified in the same group below on a similar characteristic.



Which of the leaf/leaves below can be classified in the same group as the above leaves?

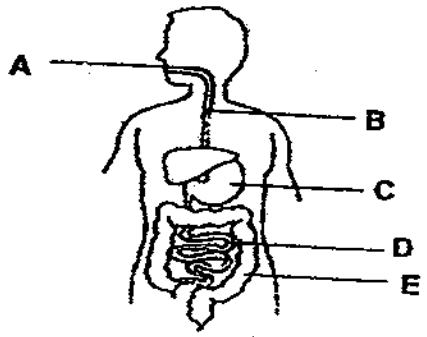
Leaf A

Leaf B

Leaf C

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

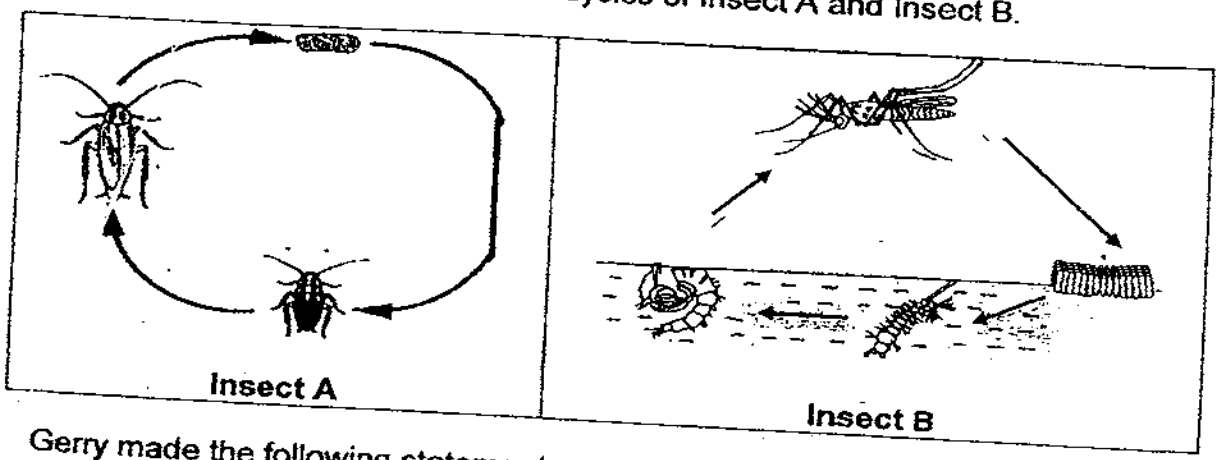
29. Study the diagram of the digestive system below.



Digestion of food takes place at _____.

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

30. The diagrams below shows the life cycles of Insect A and Insect B.



Gerry made the following statements.

A: The adults of both insects have wings.
B: Both insects have part of their life cycles in water.
C: Insect A has a 3 stage life cycle while Insect B has a 4 stage life cycle.
D: The young of Insect A resembles its adult while the young of Insect B does not resemble its adult.

Based on the diagrams above, which of the statements are true?

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

~~~End of Booklet A~~~
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Founded 1947

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NAN CHIAU PRIMARY SCHOOL

Semestral Assessment 1

2009

Science Booklet B

Primary Four

Name: _____( )

Marks: 40

Class: Pr 4 _____

Duration (Booklets A & B): 1 h 45 min

Date: 14 May 2009

Parent's Signature: _____

Instructions to Pupils:

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3. Answer all questions.

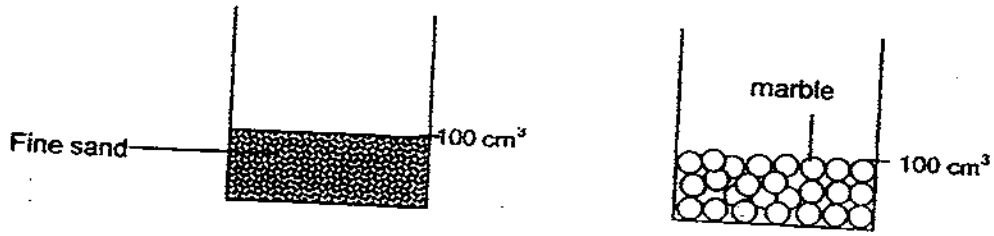
*This paper consists of 13 pages altogether.
(excluding this page)

Setter: Mrs Goh Pei Gee

Section B (40 marks)

For Questions 31 to 44, read the questions carefully and write your answer in the spaces provided.

31. The diagrams below show two containers, A and B containing 100cm^3 of fine sand and 100cm^3 of marbles respectively.



Container A **Container B**

Ahmad poured the sand from Container A into Container B.

(a) What is most likely to be the total volume of the sand and marble? Please tick (✓) the correct box below.

☐ More than 200cm^3

☐ Equal to 200cm^3

☐ Less than 200cm^3

(1m)

(b) Give the reason for your answer in (a)

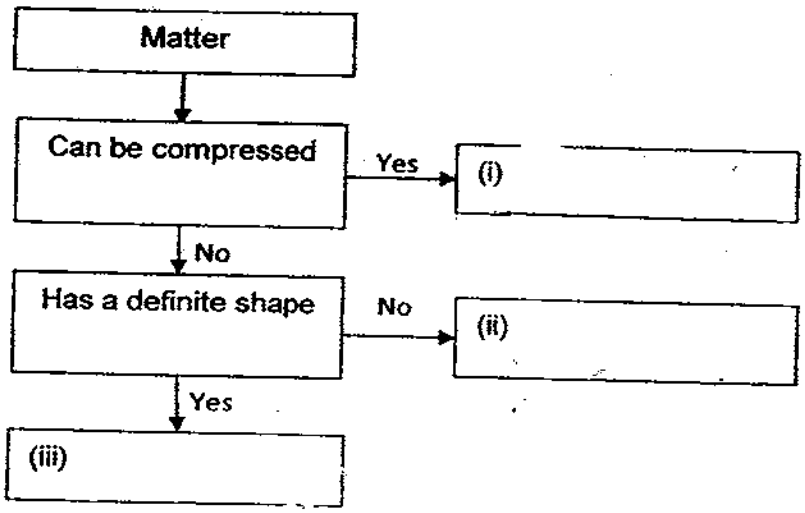
_____

_____

(1m)

32. Study the flowchart below.

(a) Complete the flowchart by idenifying the three states of matter.



(3m)

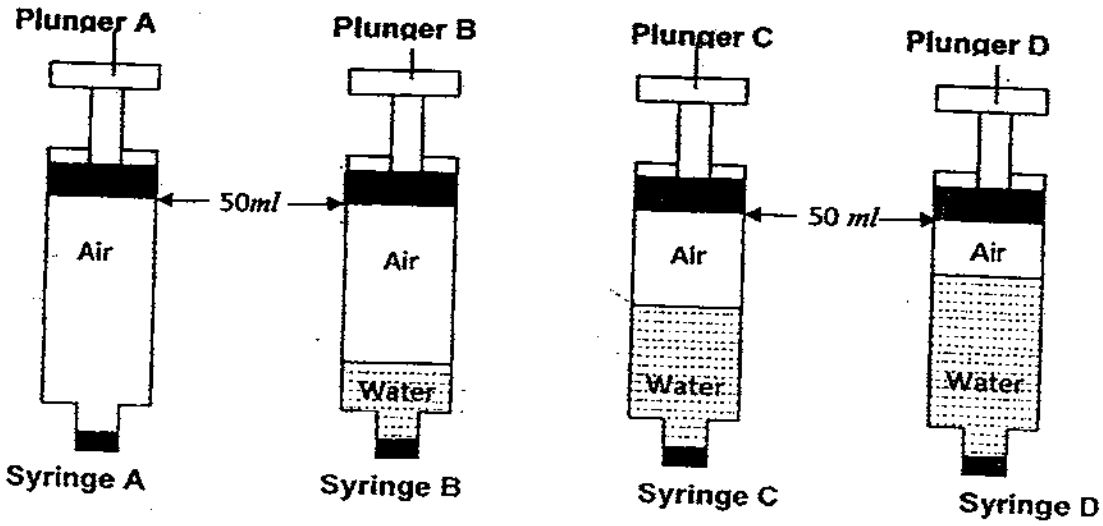
(b) Santhi says that plasticine is an example of (ii). Her teacher told her that she is wrong. Explain why plasticine not an example of (ii).

_____

_____

(1m)

33. Study the diagrams below. Four syringes, A, B, C and D were filled with 50*ml* of water and air. One end of each syringe was sealed.



(a) Which plunger could be pushed in the furthest?

_____

(1m)

(b) Explain your choice in (a).

_____

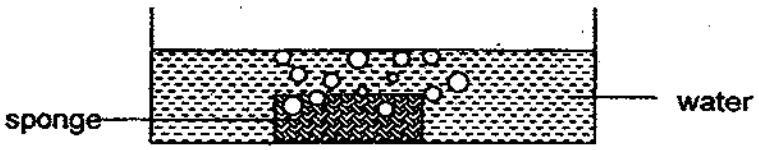
_____

_____

_____

(2m)

34. Study the diagram below.



(a) When Bofeng pushed the sponge into the basin of water, he saw bubbles coming out of the sponge. What do the bubbles contain?

_____

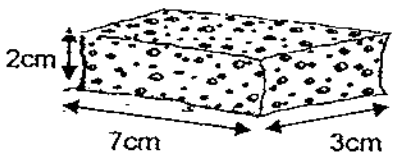
(1m)

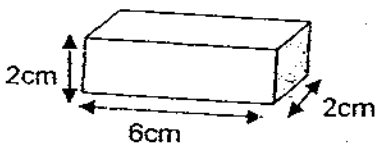
(b) Compare the mass of the sponge before and after it was pushed into the water.

_____

(1m)

(c) Bofeng then took a piece of sponge and a box as shown in the diagrams below.





Bofeng managed to squeeze the sponge into the box. Explain why he was able to do so.

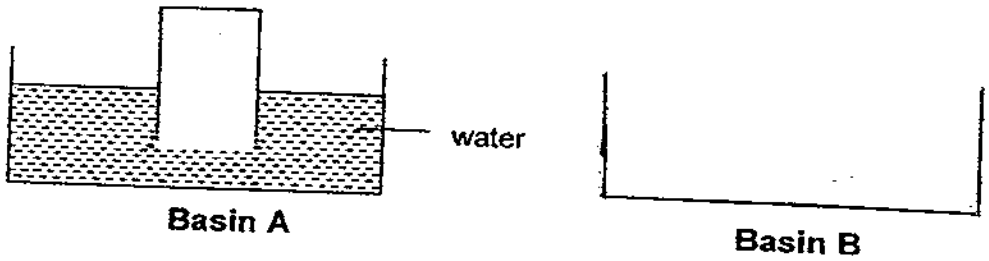
_____

_____

(1m)

35. Jun Jie carried out an experiment using two basins containing the same amount of water. He inverted a plastic cup and pushed it into the water in Basin A. He then pierced a hole at the bottom of another plastic cup and pushed it into the water in Basin B.

(a) In the diagram below draw the water level in Basin B and the water level in the cup when it is pushed into Basin B.



(1m)

(b) Explain why water was unable to fill the cup when the cup was pushed into the water in Basin A.

(1m)

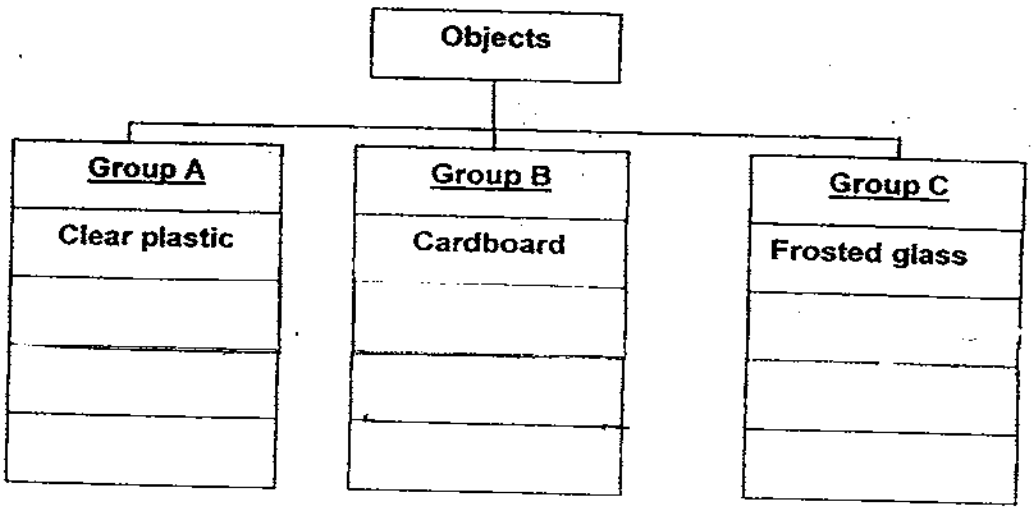
(c) Explain what happens when Jun Jie pierced a hole at the bottom of the cup and pushed it into the water in Basin B.

(1m)

36. Four objects are given in the box below.

Mirror	Wooden ruler	Spectacle lens	Tracing paper

(a) Complete the chart below by classifying the objects according to the amount of light that they allow to pass through.



(2m)

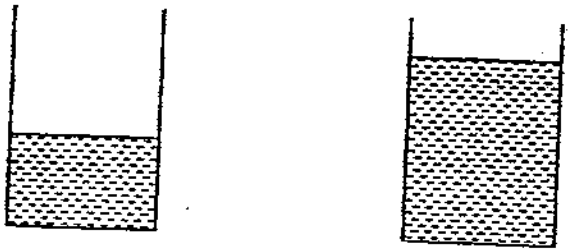
(b) Give the appropriate headings for Group A and Group C.

Group A: _____

Group C: _____

(2m)

37. Xuan Ying pours different amount of boiling water into 2 similar containers. The temperature of the water in both glasses was 100°C.



Glass A Glass B

(a) Which glass (A or B) will have more heat?

_____

(1m)

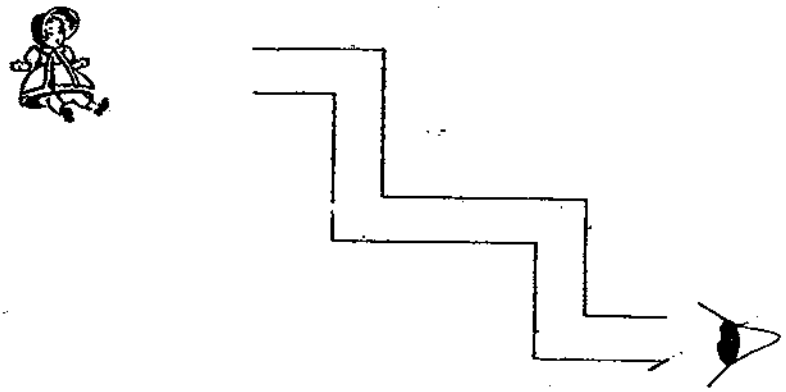
(b) Explain your answer in (a)

_____

_____

(1m)

38. Shawn looked into a pipe as shown below. He could not see anything.



(a) Explain why Shawn could not see the doll at the other end of the pipe.

_____

(1m)

(b) Draw mirrors in the pipe to help Shawn see the doll at the other end of the pipe.

(2m)

39. Jasmine measured the temperature of her Milo drink. She then poured the Milo into a second cup and measured the temperature again.

	Temperature of Milo drink (°C)
1st cup	95
2nd cup	90

(a) Why did the temperature of the Milo drink drop when it was transferred from the first cup to the second cup?

_____

_____

(1m)

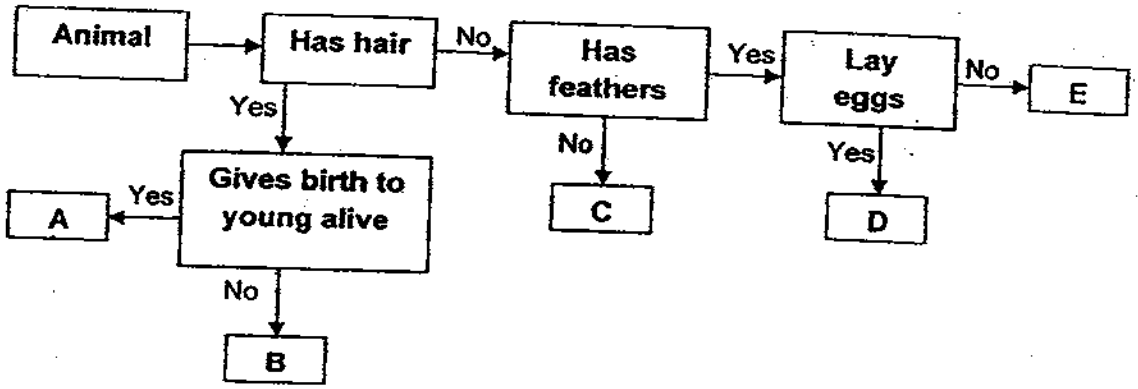
(b) Jasmine then left the cup of Milo drink on the table in the Science Room. She measured the temperature of the Milo drink after 5 hours and found that it was 28°C. The temperature in the Science Room was 28°C. Explain what happened.

_____

_____

(1m)

40. Study the flowchart below.



(a) Using the flowchart, complete the table below with the letter that best represents the given animals.

Animal	Letter
Goose	
Snake	

(1m)

(b) Based on the flowchart, give two differences between Animal A and Animal D.

(i) _____

(ii) _____

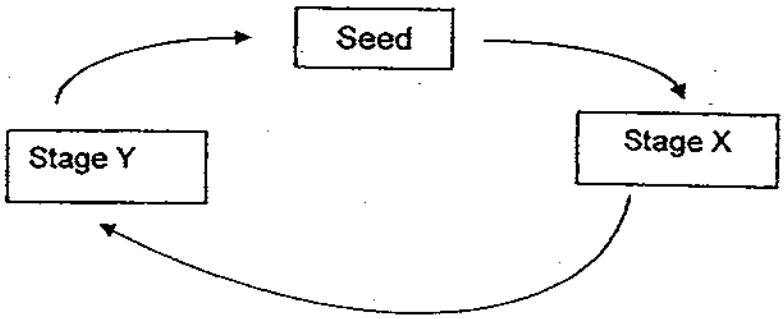
(2m)

(c) Based on the flowchart, state a characteristic that Animal B and Animal D have in common.

_____

(1m)

41. The diagram below shows the life cycle of a flowering plant.



(a) Name the stages.

Stage X: _____

Stage Y: _____

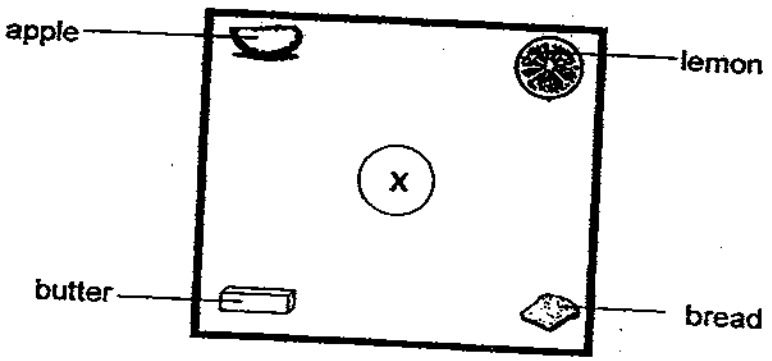
(1m)

(b) At which stage (X or Y) will the plant produce flowers?

_____

(1m)

42. Helen wanted to find out which type of food mealworms like best. She put four different types of food at the four corners of the tray as shown in the diagram below. She then placed 30 mealworms in the centre of the tray in the area marked X.



After an hour, she counted the number of mealworms found at each corner and recorded the information in the table below.

Type of food	Number of mealworms
Apple	6
Lemon	0
Bread	17
Butter	7

(a) Why did Helen place the mealworms in the centre of the tray?

_____

(1m)

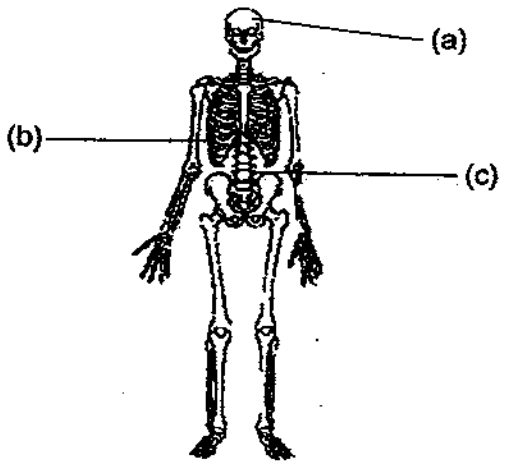
(b) What could Helen conclude from the results of the experiment?

_____

_____

(1m)

43. The diagram below shows the human skeletal system.



Name the parts of the skeletal system in the blanks below and match them to the correct functions.

(a)	•	• Protect the lungs
(b)	•	• Holds the body upright
(c)	•	• Protect the brain

(3m)

44. Eugene saw some animals in the garden and recorded his observations in the table below.

Animal	Number of legs	What they eat	Where they live
W	4	Plants	Garden
X	6	Plants	Field
Y	6	Animals	Garden
Z	6	Animals	Field

He grouped the animals as shown in the table below.

Group A	Group B
Animal W	Animal X
Animal Y	Animal Z

(a) Based on the classification, what are the suitable headings for Group A and Group B?

Group A: _____

Group B: _____

(1m)

(b) Eugene then grouped the animals using another characteristic so that there were two animals in each group. What was the characteristic that he used?

_____

(1m)

(c) Some of the animals above belonged to the same animal group. State the animals and the group that they belong to.

_____

(1m)

~~~End of Booklet B~~~

ANSWER SHEET

EXAM PAPER 2009

SCHOOL : NAN CHIAU PRIMARY
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	2	4	1	3	3	2	1	2	1	1	2	1	4	2	4	2

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	4	1	4	4	3	3	2	3	4	1	2	3

31)a)Less than 200cm3
b)There are space in container B, thus the sand can flow into the space that the marble make out of.

32)a)i)Gas ii)Liquid iii)Sold
b)Plasticine dos not take the shape of container unless it is moulded.

33)a)Plunger A.
b)Syringe A contained only air and air can be compressed. The another contained both air and water cannot be compressed.

34)a)The bubbles contains air.
b)The sponge it was pushed into the water was heavier than before it was pushed into the water.
c)The sponge has hole in it. The holes contains air and air can be compressed.

35)a)

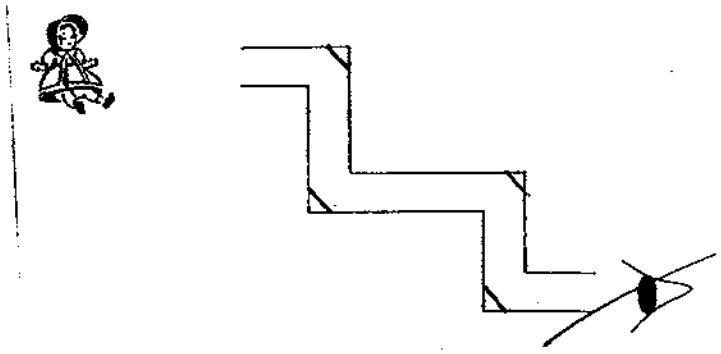
Basin B

b)Air occupies space in the cup and water was not able to enter the cup.
c)Air escaped through the hole and water was able to enter the cup.

36)a)A: Spectacle lens B: Wooden ruler, Mirror C: Tracing Paper
b)A: Transparent B: Translucent

37)a)Glass B.
b)There is more water in glass B and more heat is needed to warm up a larger amount of water.

38)a)Light travels in straight line but the pipe was bent.
b)



39)a)The Milo lost heat to the surrounding as it was being transferred to the second cup.
b)The Milo stops to lost heat until it is the same temperature as the room.

40)a)D, C
b)i)Animal A has hair while Animal D has feathers.
ii)Animal D lay eggs buy Animal A give birth to young alive.
c)They both lay eggs.

41)a)X: Seedling Y: Adult plant.
b)At stage Y.

42)a)So the test can be fair.
b)Helen could conclude that the Mealworm like the bread most.

43)a)Skall----Protect the brain
b)Rib cage ----Protect the lungs
c)Backbone---Holds the body upright

44)a)A: They live in the Garden.
B: They live in the Field.
b)What they eat.
c)Animals X, Y and Z are insects.