



**NAN HUA PRIMARY SCHOOL  
SEMESTRAL ASSESSMENT 1 – 2009  
PRIMARY 4**

**SCIENCE**

**BOOKLET A**

**30 Multiple Choice Questions (60 marks)**

**Total Time for Booklets A and B : 1 hours 45 minutes**

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

**Marks Obtained**

Booklet A		/ 60
Booklet B		/ 40
Total		/100

Name: \_\_\_\_\_ ( ) Class: P 4 \_\_\_\_\_

Date : 14 May 2009

Parent's Signature: \_\_\_\_\_

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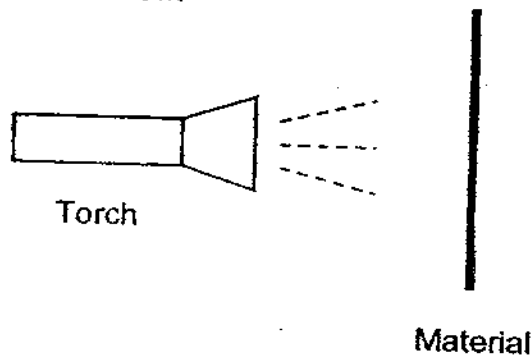
**Section A: (30 x 2marks = 60marks)**

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

1. Which of the following below is **not** a source of light?

- (1) Moon
- (2) Stars
- (3) Fire
- (4) Sun

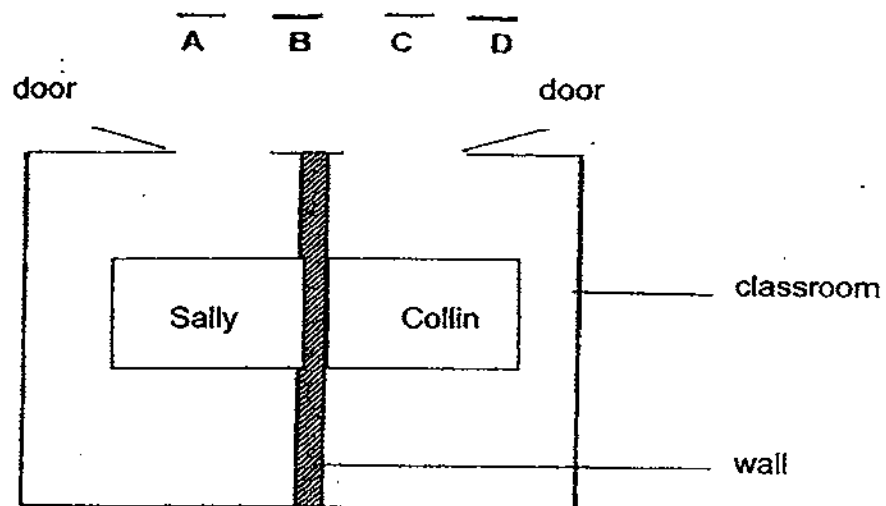
2. Sam conducted an experiment using four different materials and a torch. She placed the material in front of the torch, one at a time, and recorded her observations as shown in the table below.



Which one of her observations is recorded wrongly?

	Type of material	Does it allow light to pass through?
(1)	Ceramic	No
(2)	Frosted glass	Yes
(3)	Vanguard sheet	No
(4)	Mirror	Yes

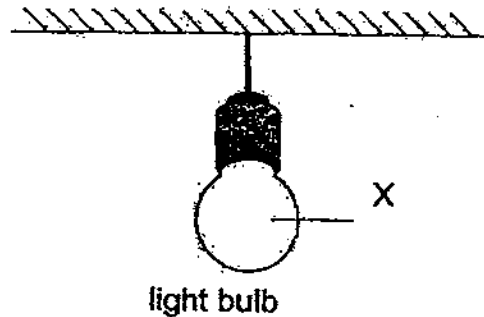
3. The diagram below show a top -view of a classroom with 2 pupils, Colin and Sally.



At which position A, B, C or D should a mirror be placed for Sally to see Colin without moving around?

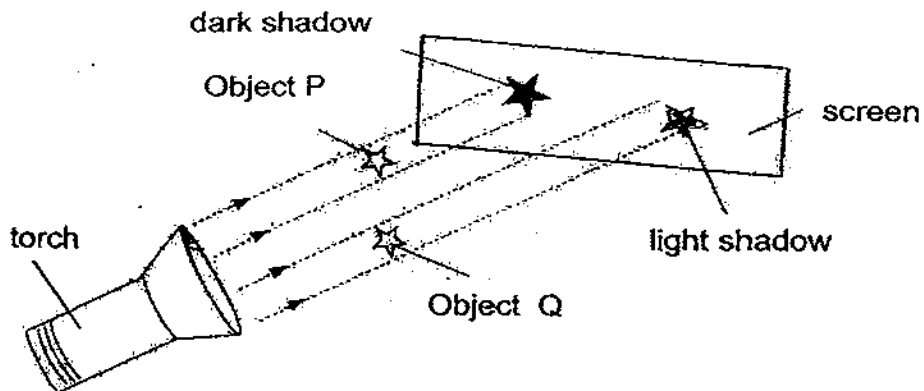
- (1) A
  - (2) B
  - (3) C
  - (4) ~~A~~ D
4. Which one of the following objects below will cast a **dark** shadow when light falls on it?
- A: cardboard box
  - B: clear glass
  - C: cling wrap film
  - D: book
- (1) A and B only
  - (2) B and C only
  - (3) C and D only
  - (4) A and D only

5. Study the diagram below. What property must part X of the light bulb have for it to give off the most light?



- (1) It is smooth and durable.
  - (2) It has a high melting point.
  - (3) It is able to reflect a lot of light.
  - (4) It allows most light to pass through.
6. Ali shone a beam of light onto a piece of plywood.  
What of the following is most like to happen to the beam of light?
- (1) The beam of light passes through the plywood.
  - (2) The beam of light is absorbed by the plywood.
  - (3) The beam of light is reflected off the plywood.
  - (4) The beam of light is split into seven colours.

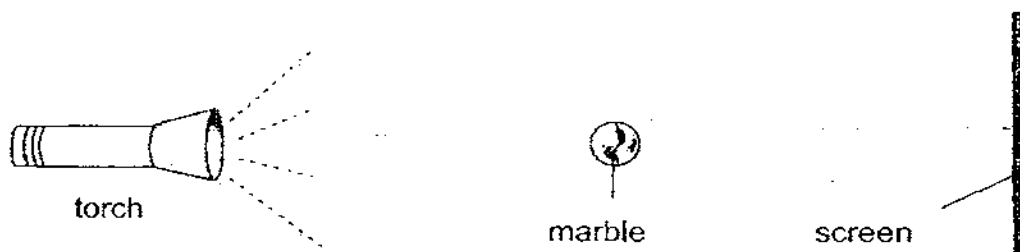
7. A torch was shone onto two objects, P and Q, as shown in the diagram below. The shadow formed by P is darker than the shadow formed by Q.



Which one of the following materials are P and Q most likely to be?

	Object P	Object Q
(1)	leather	frosted glass
(2)	steel plate	plywood
(3)	clear plastic	aluminium foil
(4)	tracing paper	frosted glass

8. Ahmad shone a torch at a marble to project a shadow on the screen as shown in the diagram below.






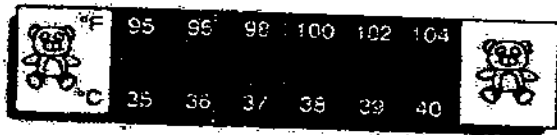
What should

^ Ahmad do to get a bigger shadow of the marble on the screen?

- A: Move the marble nearer to the screen
- B: Move the torch nearer to the marble
- C: Move the screen further from the marble

- (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 is most suitable for use to measure the temperature of beaker of water in the science room?

<p>(1)</p>  <p>Digital clinical thermometer</p>	<p>(2)</p>  <p>Laboratory thermometer</p>
<p>(3)</p>  <p>Ear thermometer</p>	<p>(4)</p>  <p>Liquid crystal thermometer</p>

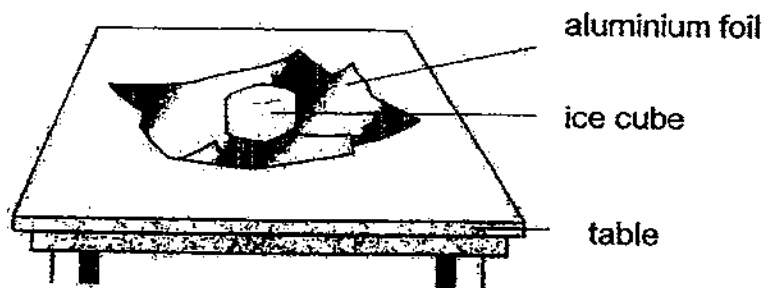
10. Mrs Tan went to a café and ordered a cup of hot tea. However, she was in a hurry to finish drinking the tea.

Which of the following way(s) will enable her to cool the tea faster?

- A: Stir the tea with a spoon
- B: Add some ice cubes to the tea
- C: Cover the cup of tea with the saucer
- D: Pour the tea from the cup into the saucer

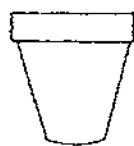
- (1) C only
- (2) A and C only
- (3) A, B, and D only
- (4) A, B, C and D

11. Thomas placed an ice cube on an aluminium foil and left it on a table.

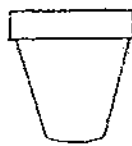


Which one of the following statements below explains correctly why the ice changes to water?

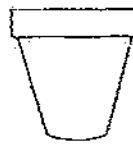
- (1) The table gained heat from the ice.
  - (2) The aluminium foil gained heat from the ice.
  - (3) The surroundings gained coldness from the ice.
  - (4) The ice cube gained heat from the surroundings.
12. Matthew poured an equal amount of boiling water into four cups A, B, C and D which are made of different materials. Then he covered them.



Cup A



Cup B



Cup C



Cup D

After five minutes, he measured the temperature of the water in each cup and recorded the results in a table as shown below.

Cup	A	B	C	D
Temperature	80°	82°	78°	85°

Based on the results shown in the table, which cup is made of a material that is the best conductor of heat?

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

13. The temperatures shown below are taken from thermometers placed in different liquids.

Which one of them is placed in the hottest liquid?

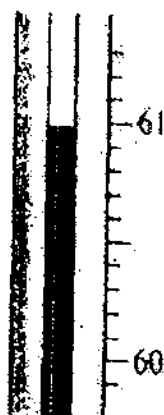
(1)



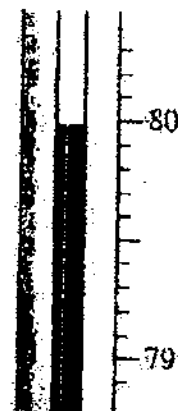
(2)



(3)



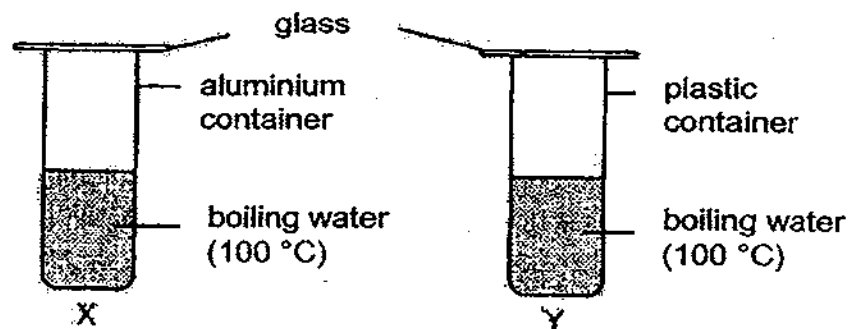
(4)





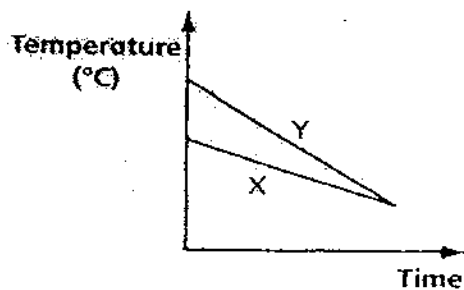
14. The diagram below shows two containers, X and Y. They are of the same size and thickness. Container X is made of aluminium and container Y is made of plastic. Each container is filled with 500ml of boiling water and then covered with a piece of glass.

The containers are left on a table in a room for 30 minutes.

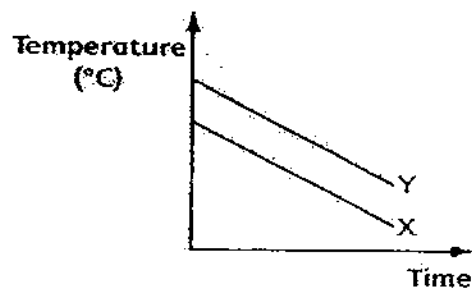


Which one of the graphs shows the most possible changes in the temperature of the water in the two containers?

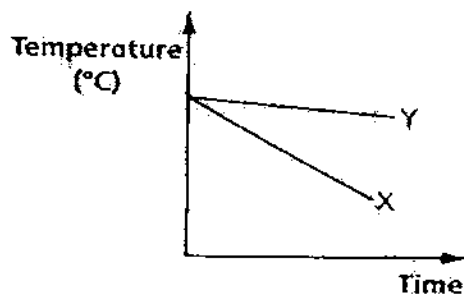
(1)



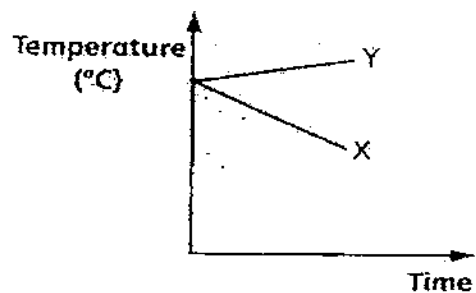
(2)



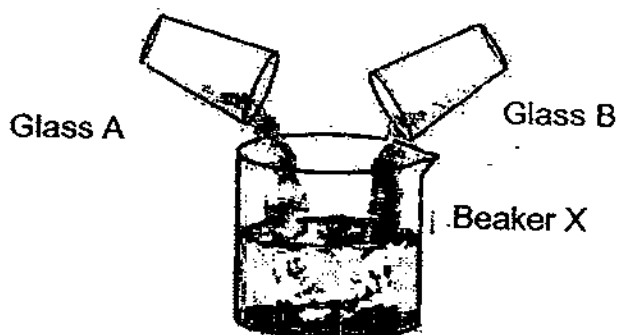
(3)



(4)



15. Glass A contained water with a temperature of  $50^{\circ}\text{C}$ . Glass B contained water with a temperature of  $90^{\circ}\text{C}$ . Joseph poured an equal amount of water from glass A and B into beaker X.

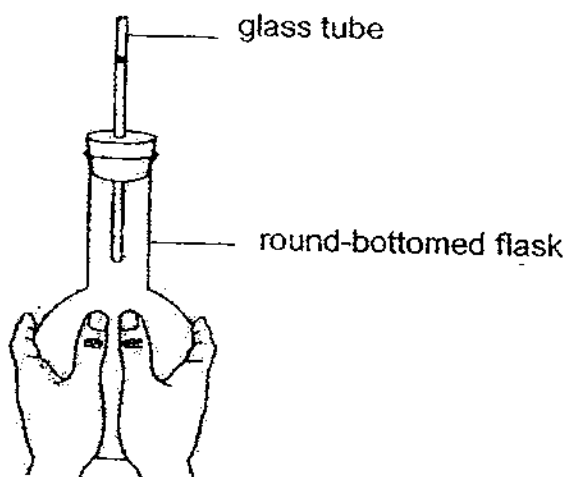


Which of the following statement(s) is/are true?

- A: The water in glass A contains more heat energy than the water in glass B.
- B: When the water from both glasses is poured into beaker X, heat is transferred from the water in glass B to the water in glass A.
- C: The water in beaker X has a temperature of  $85^{\circ}\text{C}$ .

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

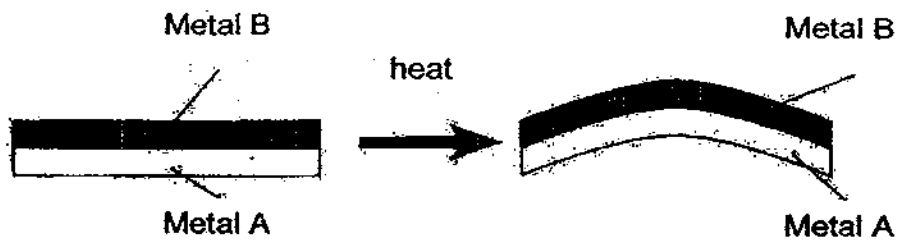
16. Richard wrapped his hands around an empty round-bottomed flask with a glass tube. The glass tube had a drop of ink in it.



What was the aim of Richard's experiment?

- (1) To find out if there is air in the bottle.
- (2) To show that air is a good conductor of heat.
- (3) To show that a gas expands when it is heated.
- (4) To show that glass is a good conductor of heat.

17. The bimetallic strip shown below is made up of two different types of metal, A and B. When it is heated it curved in the way as shown in the diagram.



Which one of the following statements best explains the outcome?

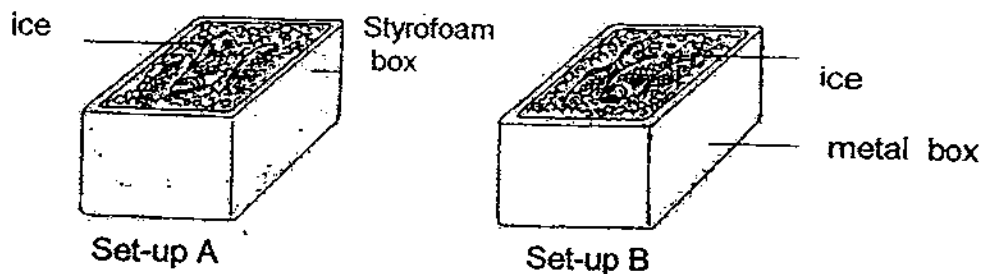
- (1) Metal A and Metal B expand at the same rate when heated.
  - (2) Metal A and Metal B contract at the same rate when heated.
  - (3) Metal A expands less than Metal B when heated.
  - (4) Metal A expands more than Metal B when heated.
18. Mr Wee made a cup of hot coffee with metal teaspoon and found that the teaspoon became very hot soon.



This is because \_\_\_\_\_

- A: heat travels from the hot coffee to the teaspoon
  - B: heat travels from the teaspoon to the coffee
  - C: the teaspoon is a good conductor of heat
  - D: the cup is a poor conductor of heat
- (1) A and C only
  - (2) A and D only
  - (3) B and C only
  - (4) B and D only

19. John put some fish into two different boxes. One of them was a styrofoam box while the other was a metal box, as shown below.

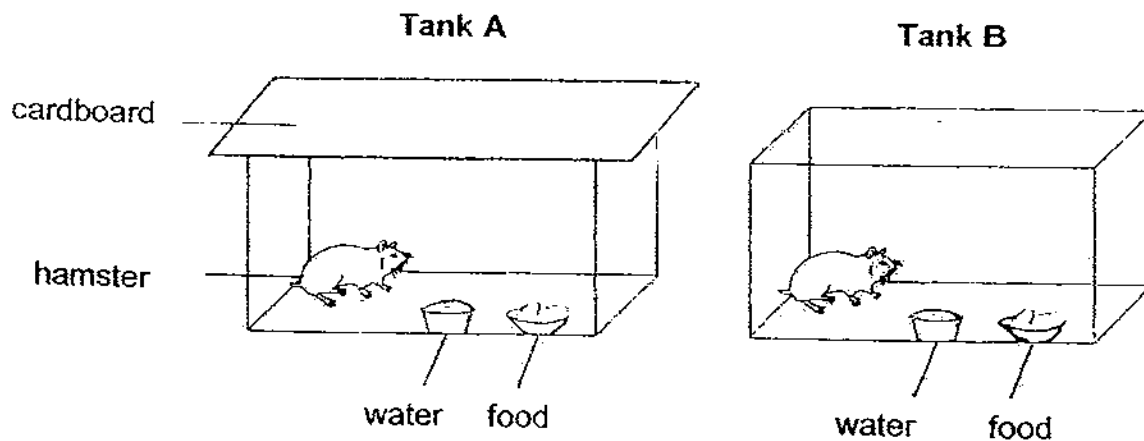


After an hour, more water was found in the metal box in Set-up B. We can conclude from the above activity that \_\_\_\_\_.

- A: ice stored in a styrofoam box would take a longer time to melt than ice stored in a metal box
- B: in Set-up A, the ice would lose heat while in Set-up B, the ice would gain heat
- C: the air above Set-up A was warmer than the air above Set-up B
- D: styrofoam is a poorer conductor of heat than metal

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

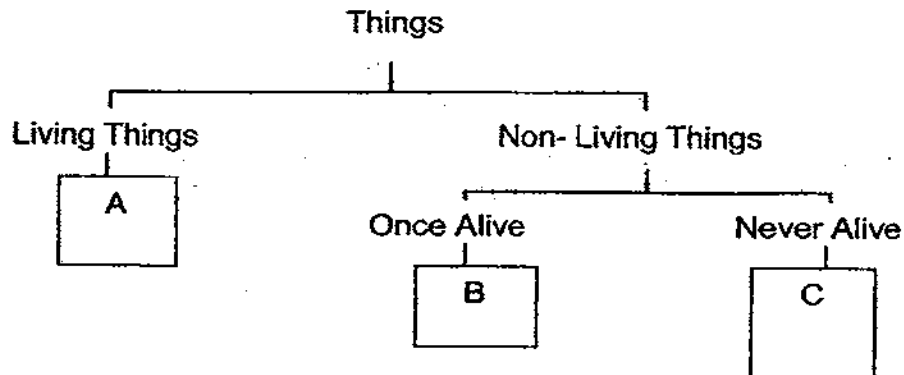
20. Peter conducted the experiment shown below.



He noticed that the hamster in tank A died after a few days. What was he trying to investigate?

- (1) Living things need air to survive.
- (2) Living things need food to survive.
- (3) Living things can die when they grow old.
- (4) Living things can move around on their own.

21. Study the classification table below.



Which one of the following best represents A, B and C?

	Group A	Group B	Group C
(1)	Rabbit	Electric fan	Water bottle
(2)	Watermelon	Plastic pencil case	Goat
(3)	Crocodile	Wooden ruler	Metal box
(4)	Orange	Mattress	Book

22. The table below shows the characteristics displayed by ~~four~~ <sup>three</sup> things, A, B and C.

Thing	Needs air	Needs sunlight	Needs water	Needs food	Can move from place to place
A	√		√	√	√
B					√
C	√	√	√	√	

Which of the following sets correctly represents A, B and C?

	A	B	C
(1)	Horse	Computer	Frog
(2)	Mouse	Tadpole	Crocodile
(3)	Seal	Rose plant	Housefly
(4)	Snake	Bicycle	Frangipani

23. When Ali saw a flash of lightning he quickly covered his ears, knowing that a clap of thunder would follow.

His action shows that living things \_\_\_\_\_.

- (1) need to see something to respond
- (2) can respond to changes
- (3) can move on their own
- (4) need a stimuli to act

24. In the table below, which animals are correctly matched to their body covering?

	<b>Feathers</b>	<b>Shell</b>	<b>Scales</b>
(1)	Tortoise	Lobster	Lizard
(2)	Parrot	Butterfly	Snake
(3)	Mynah	Snail	Crocodile
(4)	Peacock	Crab	Frog

25. Which one of the following tells us that a bat is a mammal?

- (1) It eats fruits.
- (2) It has two legs.
- (3) It has two wings and can fly.
- (4) It produces milk to feed its young.

26. Jackie bought a watermelon, a brinjal and a cucumber from the market. She found that these are similar in some ways.

In which of the following ways are they similar?

- A: They are edible.
- B: They are fruits of plants.
- C: They have a few seeds.
- D: They have a thick and rough skin.

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

27. What do all animals have in common?

- A: They depend on other living things for food.
- B: They can move from one place to another.
- C: They have similar body coverings.
- D: They can make their own food.

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

28. Which one of the following objects is made from a man-made material?

(1)



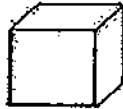
claypot

(2)



Plastic hanger

(3)



Wooden box

(4)



Cotton shirt

29. In the table below, object Y is likely to be a \_\_\_\_\_.

Property of Object Y	Yes	No
It can sink		✓
It is light	✓	
It is flexible		✓

- (1) needle
- (2) metal fork
- (3) ceramic spoon
- (4) wooden chopsticks

30. The diagram below shows a stainless steel cooking pot.



Why is steel used to make the part of the pot labelled X?

- (1) Steel is light and thin..
- (2) Steel is strong and flexible
- (3) Steel is waterproof and can float.
- (4) Steel is hard and conducts heat well.



**NAN HUA PRIMARY SCHOOL**  
**SEMESTRAL ASSESSMENT 1 - 2009**  
**PRIMARY 4**  
**Science**  
~~**MATHEMATICS**~~

**BOOKLET B**

**14 Open-ended questions (40 marks)**

**Total Time for Booklets A and B : 1 hours 45 minutes**

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

**Marks Obtained**

**Section B**

	/40
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**Name:** \_\_\_\_\_ (      ) **Class:** P 4 \_\_\_\_\_

**Date :** 14 May 2009

**Parent's Signature:** \_\_\_\_\_

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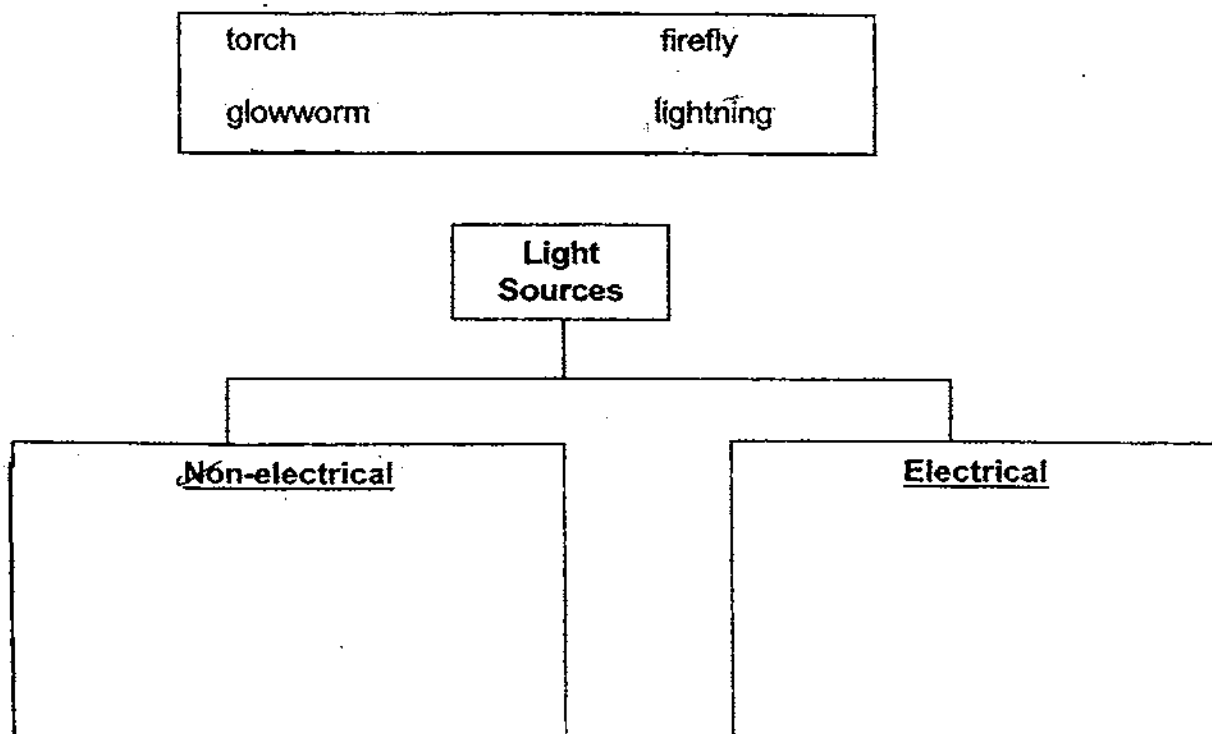
**Section B: (40marks)**

Write your answers to question 31 to 44.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

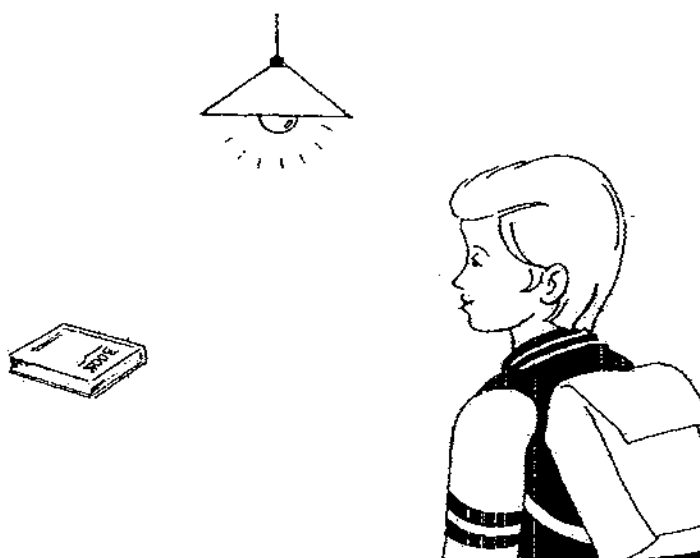
31. Classify the light sources correctly in the table provided.

[2]



32. In the diagram below,
- draw arrows**
- to show how the boy is able to see the book.

[2]



Score	4
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33. Complete the table by filling in the correct answers in the blank. [4]

Type of material	Can light pass through?	Example
Opaque	Does not allow light to pass through	
	Allows some light to pass through	
Transparent		Clear glass

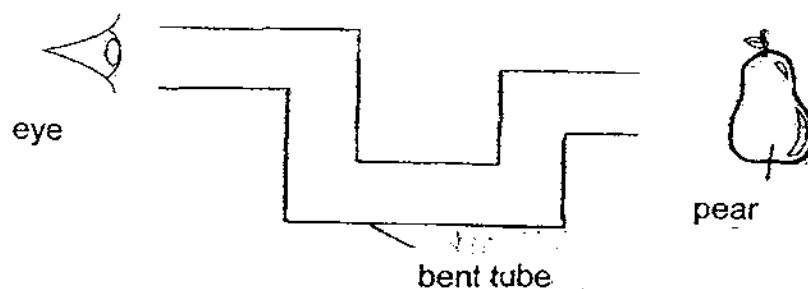
- 34 (a) Name two light sources which can be found in the park at night. [2]

- (i) \_\_\_\_\_  
 (ii) \_\_\_\_\_

- 34 (b) Why are light sources important to us? [1]

\_\_\_\_\_  
 \_\_\_\_\_

35. Look at the diagram below.



In order for us to be able to see the pear, we must place mirror(s) in the periscope.

- (a) How many mirror(s) do we need to use? [1]

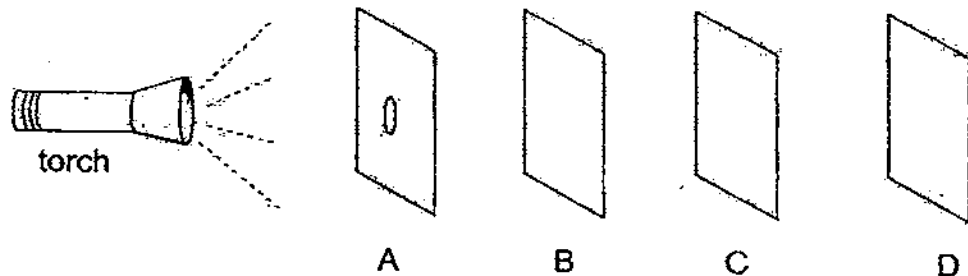
\_\_\_\_\_

- (b) Draw lines to show the position of the mirror(s) in the diagram above. [2]

Score	10
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36. Jason conducted an experiment as shown below. He placed four sheets of different materials in a straight line. Sheet A has a circle cut out in the middle.

Jason shone a torch onto sheet A and observed that a bright circular shape appeared on sheet D.



In the table below, tick the correct boxes to show the properties of sheets A, B, C and D. [2]

Sheet	Transparent	Translucent	Opaque
A			
B			
C			
D			

37. The diagram below shows a thermometer.



- (a) Name the type of thermometer shown in the diagram above. [1]

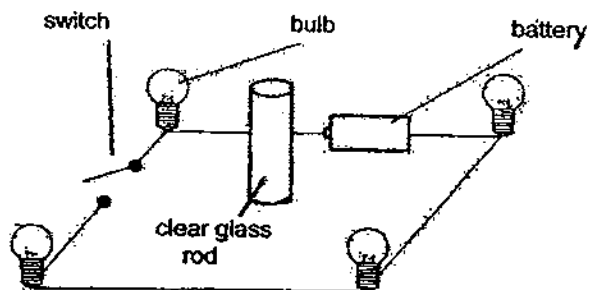
\_\_\_\_\_

- (b) What is the temperature shown on the thermometer? [1]

\_\_\_\_\_

Score	4
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38. Joseph set up the experiment shown below.



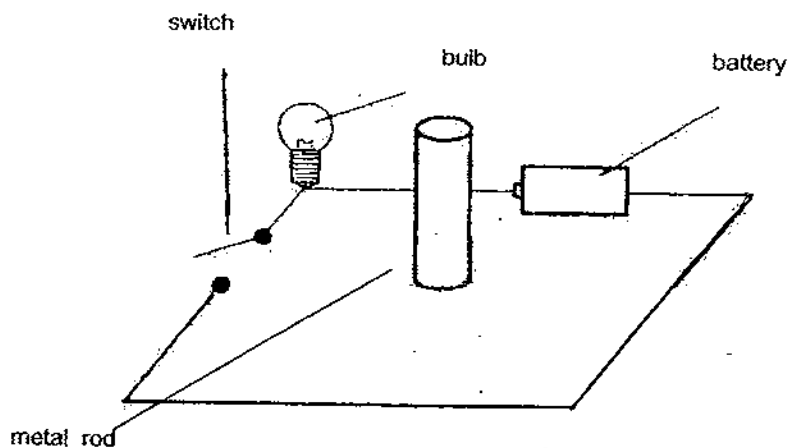
- (a) When Joseph switched on all the lights, would a shadow be formed? [1]

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- (b) Explain your answer for (a). [1]

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clear  
Joseph then replaced the frosted glass rod with a metal rod. He removed 3 bulbs as shown in the diagram shown below.



- (c) Explain why a shadow is formed when the bulb is switched on. [1]

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- (d) Draw the shadow of the metal rod in the diagram above below. [1]

Score	
	4

39. A cup of hot coffee and a glass of ice-cream are left on the kitchen table. In the table below, identify the object that is gaining or losing heat. Write the letter (A to ~~G~~) of the correct answer in the correct column. [4]

Example	Object that is <del>is</del> <sup>are</sup> losing heat	Object that is <del>is</del> <sup>are</sup> gaining heat
 <p>Cup of hot coffee</p>		
 <p>Glass of ice-cream</p>		

40. Our normal body temperature is about  $37^{\circ}\text{C}$ . A nurse measured the temperatures of five patients and recorded it in the table as shown below.

Patient	Temperature
Tom	$36.5^{\circ}\text{C}$
Betty	$37^{\circ}\text{C}$
Hannah	$37.9^{\circ}\text{C}$
Patrick	$36.9^{\circ}\text{C}$
Boon Huat	$38.5^{\circ}\text{C}$

- (a) Who does / do not have a fever? [1]

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- (b) The nurse placed ice packs on the foreheads of patients with a fever. How does an ice pack help to bring a fever down? [1]

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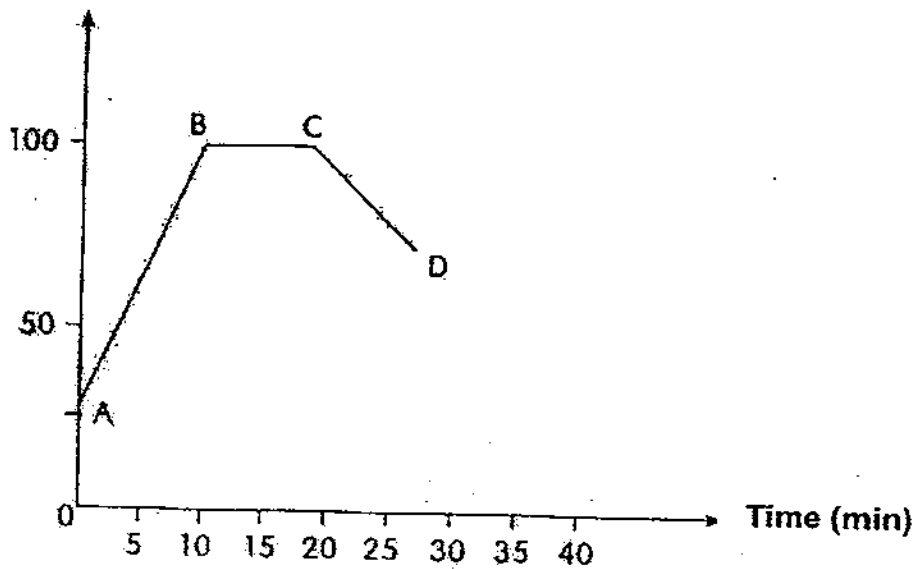


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Score	6
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41. The graph below shows some water being heated for some time before the heat source was removed.

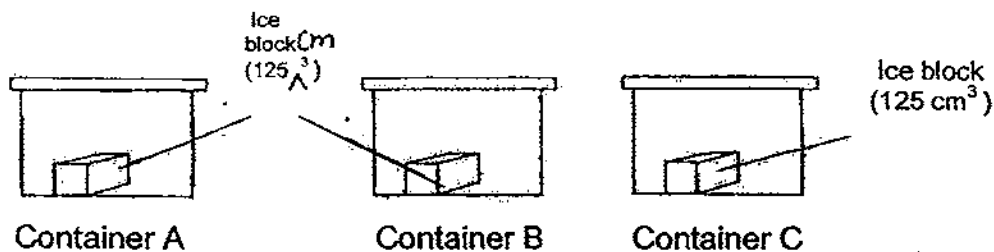
Temperature ( $^{\circ}\text{C}$ )



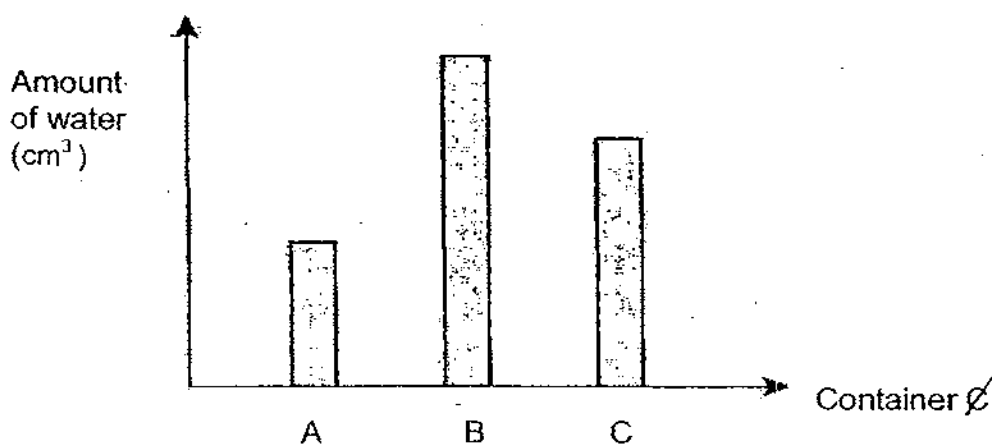
- (a) What was the temperature of the water before it was heated? [1]
- 
- (b) At which point was the source of heat removed? [1]
- 
- (c) Which part of the graph shows that water was losing heat? [1]
- 

Score	3
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42. Janet put an ice block of equal volume in each container for 30 minutes.



After 30 minutes, she removed the blocks of ice from each container. She collected the water in each container and recorded her findings in a graph as shown below.



- (a) Janet is going on a picnic. Which container should she use to keep her food warm? [1]

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- (b) Explain why she should choose the type of container in (a)? [2]

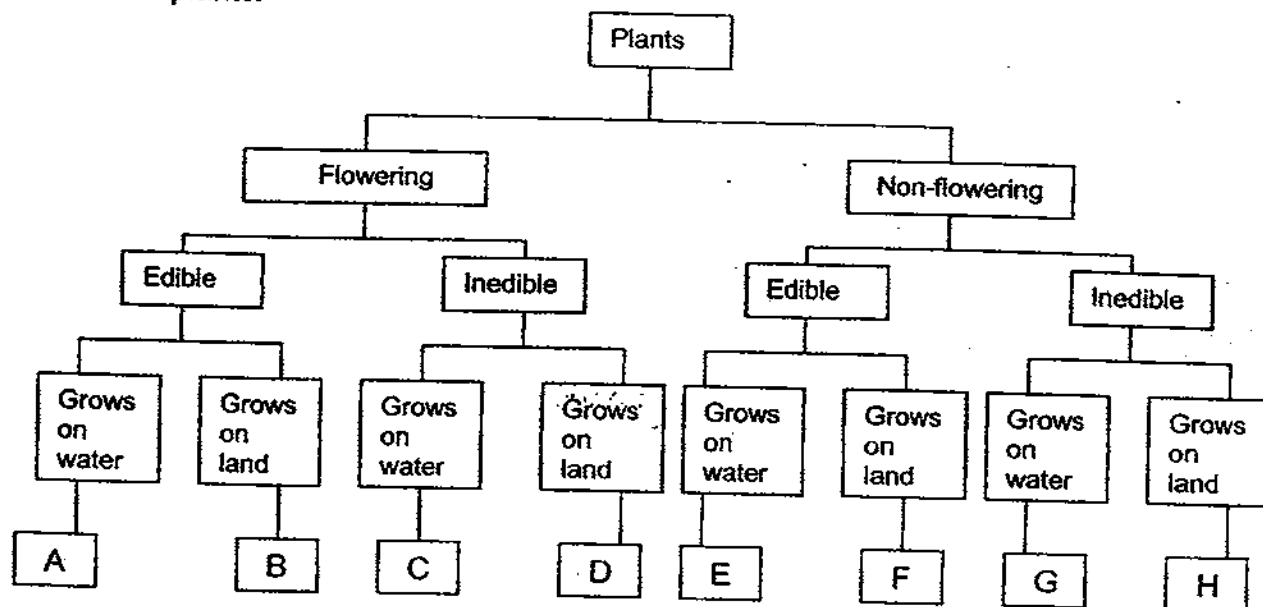
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Score	3
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43. Study the classification chart below and fill in the blanks. The letters A to H represent 8 different plants.



- (a) Maize is represented by the letter \_\_\_\_\_ [1]
- (b) The lotus is represented by the letter \_\_\_\_\_ [1]
- (c) Plant X is a non-flowering and inedible plant found in ponds. Which letter represents Plant X? \_\_\_\_\_ [1]

44. Four different types of tests were carried out to determine the properties of materials X, Y and Z. The results were shown below.

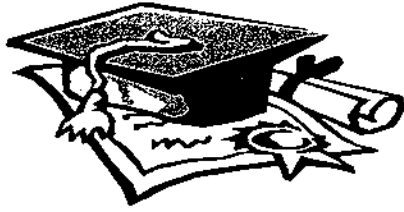
Type of test conducted	Material X	Material Y	Material Z
Does it float on water?	x	x	x
Does it break easily?	√	x	x
Is it waterproof?	√	√	x
Is it flexible?	x	x	√

- (a) From the results shown, which material is best suited for making a pair of socks? [1]  
\_\_\_\_\_
- (b) Give a reason for your choice of the material in your answer in (a). [1]  
\_\_\_\_\_
- (c) State one similarity between material Y and Z. [1]  
\_\_\_\_\_

End of Paper

Score	6
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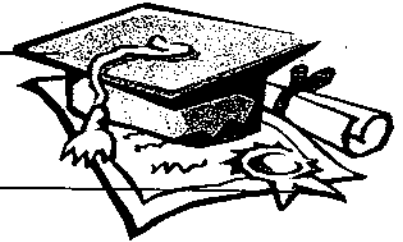
# ANSWER SHEET

**EXAM PAPER 2009**

**SCHOOL : NAN HUA PRIMARY SCHOOL**

**SUBJECT : PRIMARY 4 SCIENCE**

**TERM : SA 1**



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

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

**31) Non-electrical**

**Firefly**

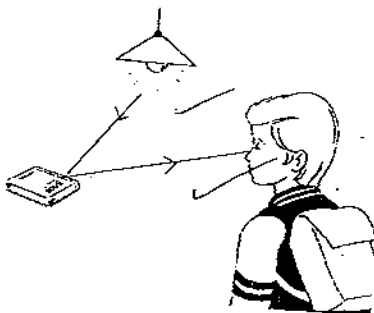
**Glowworm**

**Electrical**

**Torch**

**Lightning**

**32)**



**33)**

**Translucent**

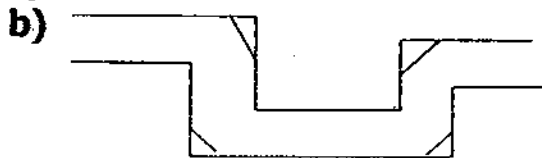
**cardboard**

**frosted glass**

**Allows most light to pass through**

- 34)a)i)street lamp      ii)stars  
b)We need light to see things.

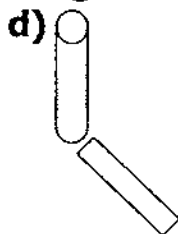
- 35)a)We need to use four mirrors.



- 36)B: Transparent      C: Transparent

- 37)a)Clinical thermometer.  
b)The temperature is  $39^{\circ}\text{C}$

- 38)a)No.  
b)The light can pass through the clear glass rod.  
c)The metal rod is opaque and H blocks the path of light, causing a shadow to be formed.



- 39)A      B,D,C  
F,G,H      E

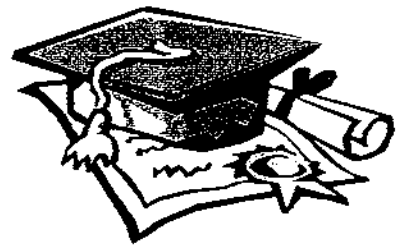
- 40)a)Tom, Betty, Patrick do not have a fever.  
b)The body will lose heat to the ice pack and it helps to cool down the patient.

- 41)a) $26^{\circ}\text{C}$ - $30^{\circ}\text{C}$ .  
b)Point C  
c)Part CD.

- 42)a)Container A.  
b)Container A collected the least amount of water as the ice in it melted the slowest. This means it is best insulator of heat among the three containers so it will help to slow heat loss from the food.

- 43)a)B  
b)A  
c)G

- 44)a)Material Z.  
b)It is flexible.  
c)Both do not float on water.



---end---