NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2010
PRIMARY 5

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 marks)

Total Time for Booklets A and B : 1 hour 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

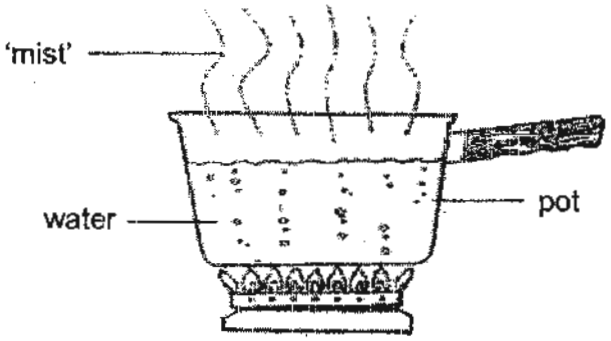
Booklet A		/ 60
Booklet B		/ 40
Total		/100

Name: _____ _____ _____ ( ) **Class: P 5** __ __

Date : 12 May 2010 **Parent's Signature:**_____

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. When water boils in a pot, we can see a 'mist'.



What is this 'mist'?

(1) Steam
(2) Oxygen
(3) Water vapour
(4) Water droplets

2. Which of the following statements about water are true?

A : Water is needed by an animal to transport materials in its body.
B : Water from the oceans and rivers evaporates and forms water droplets.
C : Water is used as a raw material by plants to make food.

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

3. Which one of the following statements is true about the Bird's Nest Fern?

(1) It is a flowering plant that can make its own food.
(2) It is a non-flowering plant that reproduces by spores.
(3) It is a fungus that feeds on the tree which it stays on.
(4) It cannot photosynthesize as it does not have chlorophyll.

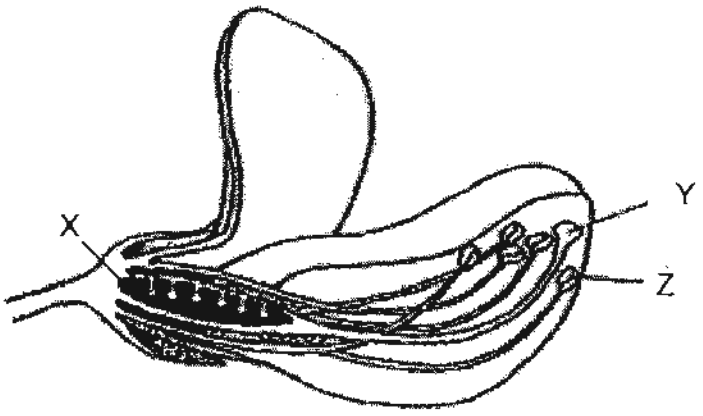
4. Which parts of a plant are involved in the process of successful pollination?

(1) Anther and stigma
(2) Ovary and stigma
(3) Stamen and anther
(4) Style and ovules

5. The jay is a bird. It collects acorns from oak trees and buries them in the ground to eat later. Sometimes the jay does not go back for the acorns.
The jay helps part of the oak tree's life cycle.
Which part of the oak tree's life cycle does the jay help?

(1) Pollination
(2) Seed dispersal
(3) Growth
(4) Fertilization

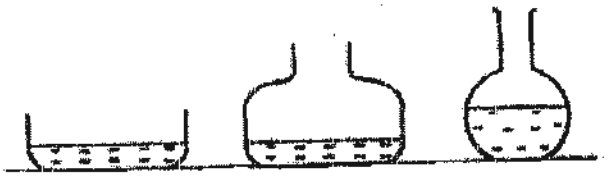
6. The diagram shows the structure of a flower.



Where do pollination and fertilization take place?

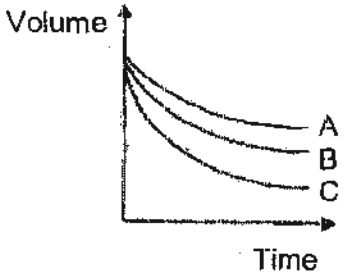
	Pollination	Fertilization
(1)	X	Y
(2)	Y	X
(3)	Y	Z
(4)	Z	Y

7. Equal amounts of water are put into three different containers and placed side by side on a windy and sunny day.

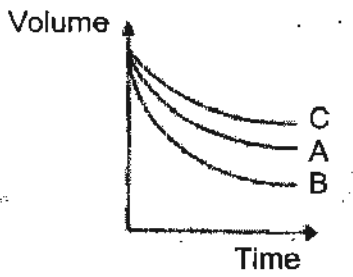


Which one of the graphs below shows the change in the volume of water in the three containers?

(1)



(2)



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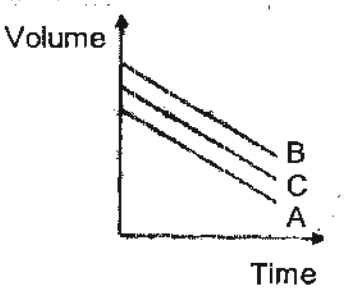

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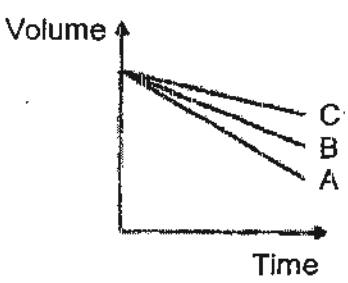


8. Mr and Mrs Tan have the following features.

	Hair	Eyes	Ears	Nails
Mr Tan	Straight	Black	Detached	Short
Mrs Tan	Curly	Brown	Detached	Short

They have four children and the table below contains their description.

	Hair	Eyes	Ears	Nails
Amy	Straight	Brown	Detached	Short
Bernard	Curly	Brown	Detached	Short
Charlene	Curly	Black	Attached	Short
David	Straight	Black	Detached	Long

One of the children is adopted. Who is most likely to be the adopted child?

(1) Amy
(2) Bernard
(3) Charlene
(4) David

9. Which one of the following statement(s) about the reproduction of humans is/are true?

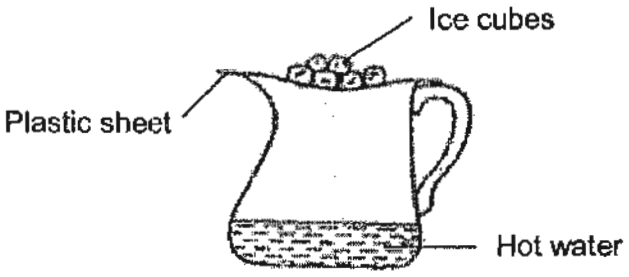
A : The foetus is developed from a fertilized egg cell.
B : The foetus stays in the stomach of the mother.
C : The foetus receives food and oxygen from the mother through the umbilical cord.

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

10. How does an unborn baby obtain oxygen?

(1) There is oxygen in its mother's womb.
(2) The unborn baby breathes using its lungs.
(3) There is oxygen in the liquid-filled sac it is in.
(4) The unborn baby obtains oxygen from its mother's blood.

11. The diagram below shows an experiment making rain.

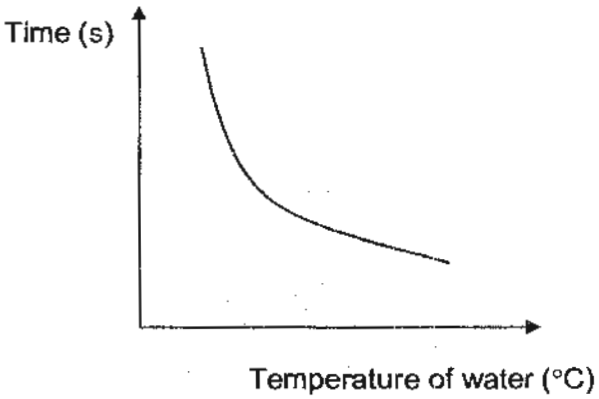


Sally set up a similar experiment as above.

She recorded the temperature of the water at the start of the experiment and the time taken for the first drop of rain to drip off the plastic sheet.

She repeated the experiment by keeping all variables the same except for the temperature of water at the start of each experiment.

Sally drew a graph as shown ~~in the next page~~ below using the data recorded.

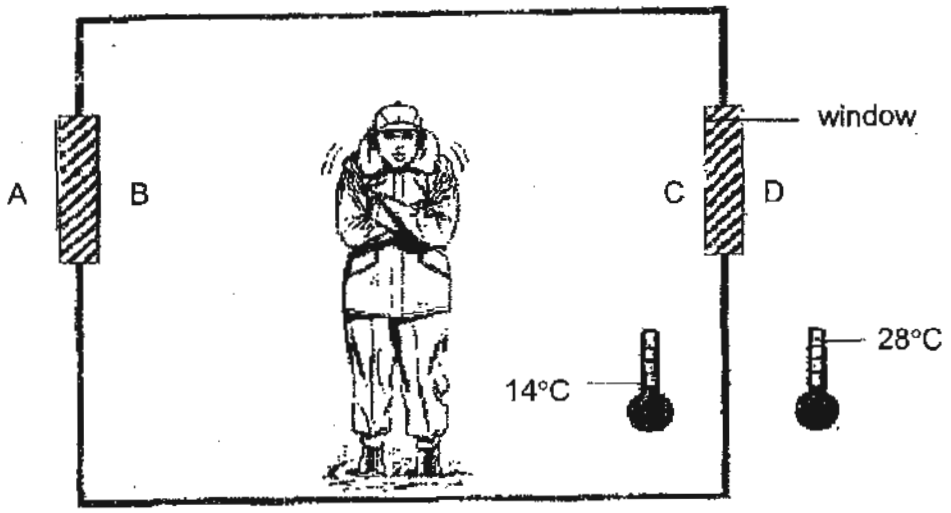


Which one of the following is the best conclusion she can draw from the results of her experiment?

(1) There is no pattern to show that the temperature of water affects the time taken for the first drop of rain to drip off the plastic sheet.
(2) The higher the temperature of water, the longer the time taken for the first drop of water to drip off the plastic sheet.
(3) The higher the temperature of water, the shorter the time taken for the first drop of rain to drip off the plastic sheet.
(4) The shorter the time taken for the first drops of rain to drip off the plastic sheet, the lower the temperature of water.

9

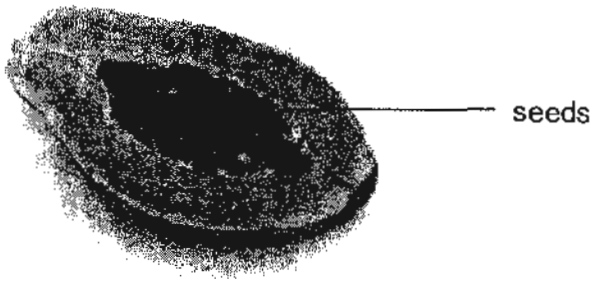
12. Tommy was standing in an air-conditioned room with two windows.



After some time, he noticed that water droplets had formed on the windows. Where will the water droplets be most likely found?

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

13. The diagram below shows the cross-section of a papaya.



Which one of the following statements is most likely to be true about the flower from which this fruit has developed from?

(1) The flower has many ovaries.
(2) There are many ovules inside an ovary.
(3) The fruit developed from a flower with male parts.
(4) The flower did not go through pollination before the fruit was formed.

14. Which of the following statement(s) about plant reproduction is/are true?

A : Flowering plants can reproduce from seeds only.
B : Non-flowering plants can reproduce from both seeds and spores.
C : Ferns reproduce from spores that are found on the upper surface of the leaves.
D : Some flowering plants can reproduce from plant parts.

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

15. A gardener conducted an experiment using some similar flowers in his garden. He wanted to find out if each flower would still develop into a fruit when a certain part of it was removed.

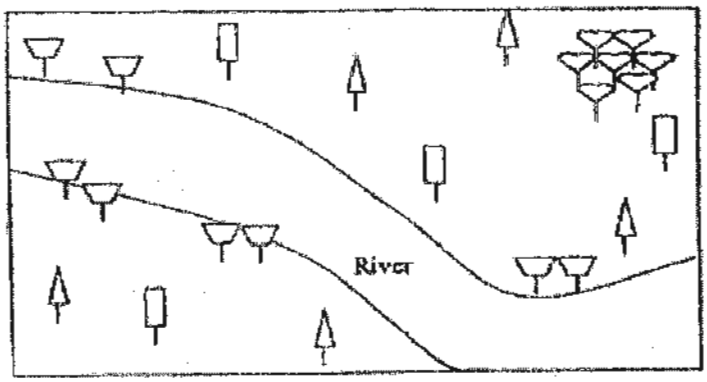
Flower	Parts removed
X	Petal
Y	Anther
Z	Style

The gardener then dusted pollen grains from the same type of flowers over flowers X, Y and Z. He then observed them for 2 weeks.

Which of the flowers are most likely to have produced fruits?

(1) X only
(2) X and Y only
(3) Y and Z only
(4) X, Y and Z

16. The diagram below shows the distribution of 4 types of trees in a section of the forest. From the diagram, which type(s) of tree(s) has/have seeds that are most likely dispersed by wind?



A)  B)  C)  D) 

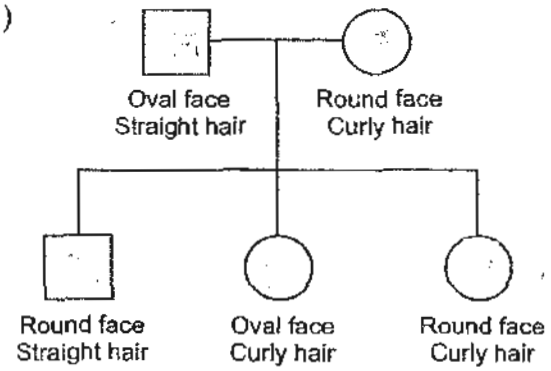
(1) B only
(2) B and C only
(3) D only
(4) A and D only

17. In the box below is some information about the Lee family.

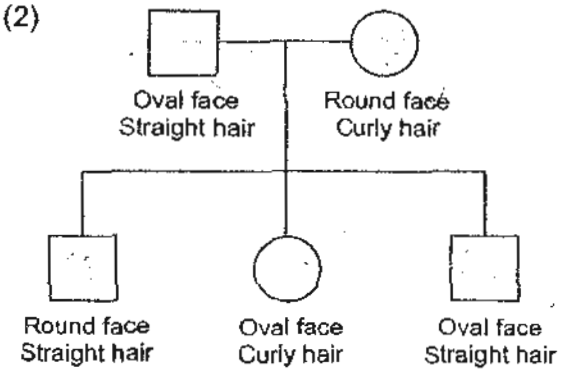
There are 3 children in the family. A son inherited his mother's face and his father's hair. A daughter inherited her father's face and her mother's hair. None of the children has exactly the same hair and face characteristics as either their father or mother.

Choose the family tree that belongs to the Lee family matching the information given.

(1)



(2)



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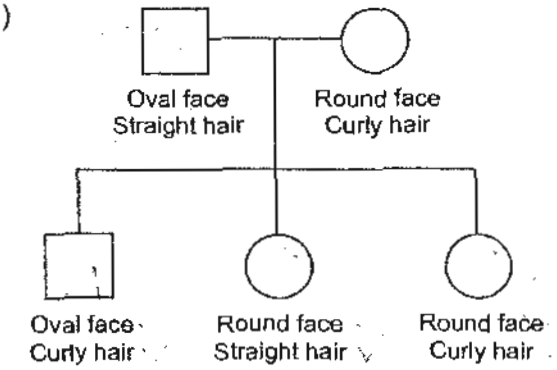

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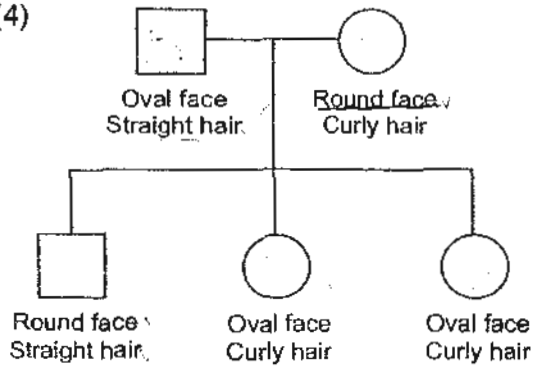
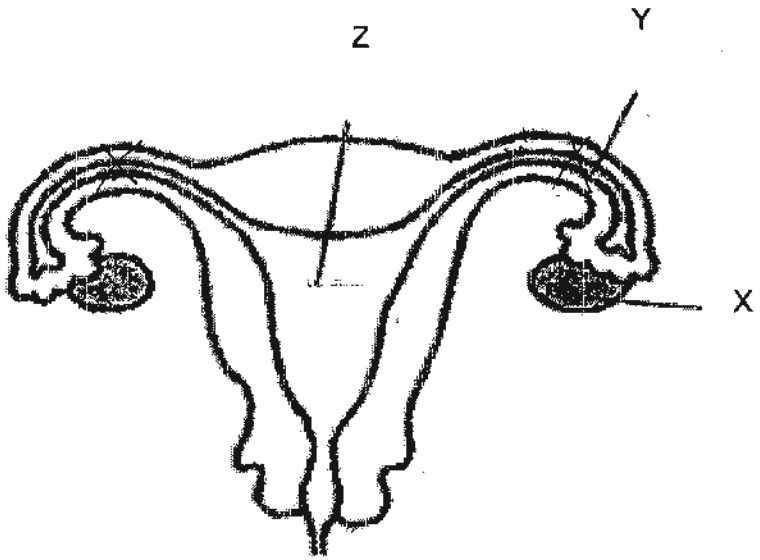


18. The diagram below shows parts of the female human's reproductive system.



Which one of the following statements is **TRUE** of the system shown above?

(1) The egg travels from Y to X.

(2) A fertilized egg is released from X every month.

(3) The sperm fuses with the egg at X during fertilization.

(4) Cell division takes place in Z after the sperm fuses with the egg.

19. Our blood can be classified into four groups – A, B, AB and O.

The table below shows how the blood types of blood donors and recipients are matched.

Blood Type	Blood type of person donating blood			
Blood type of person receiving blood	A	B	AB	O
A	Yes	No	No	Yes
B	No	Yes	No	Yes
AB	Yes	Yes	Yes	Yes
O	No	No	No	Yes

Michael's family members have the following blood types:

Family member	Blood type
Father	B
Mother	A
Brother	AB
Sister	O
Michael	B

If Michael needs a blood transfusion, who can he receive blood from?

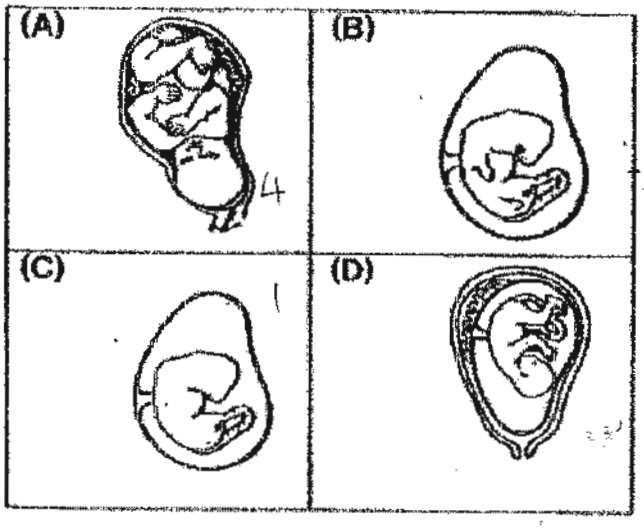
(1) His father only

(2) His mother and brother only

(3) His father and his sister only

(4) His father, brother and sister only

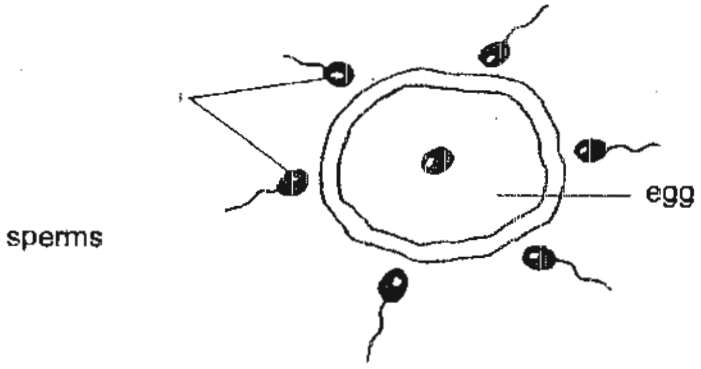
20. The diagram shows the stages of growth of a baby in its mother's womb.



Arrange the stages of growth of the baby in the correct order.

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

21. The diagram below shows many sperms near an egg.



Which of the following statements about reproduction in animals is/are **incorrect?**

A : Sperms are produced by male animals
B : Usually one egg is fertilized by many sperms.
C : After fertilization, the egg will develop into a young animal.
D : Fertilization always takes place while the egg is still inside the body of the female animals.

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

22. Study the table below carefully.

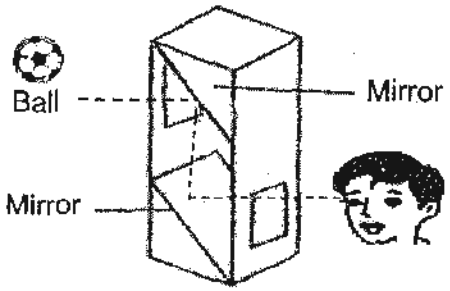
Mammal Lifespan	
Animal	**Lifespan**
Human being	60 – 80 years
Asian Elephant	70 – 75 years
Camel	25 – 40 years
Chimpanzee	30 – 45 years
Red Deer	up to 20 years
Rat	4 years

From the information given above, which of the following statements are correct?

A : The bigger the animal, the longer its lifespan.
B : The camel and chimpanzee have the same lifespan
C : The rat has the shortest lifespan among all the mammals.
D : The red deer most probably cannot live for more than 20 years.

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

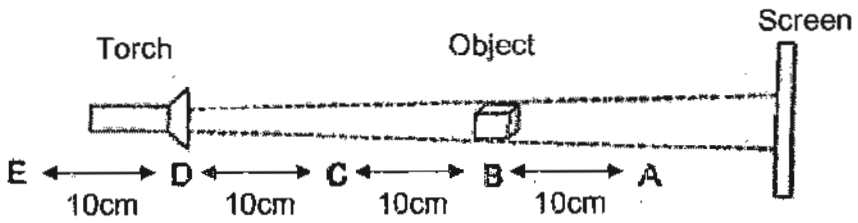
23. The diagram below shows a periscope.



Which one of the following statements explains why the boy can see the ball?

(1) Mirrors reflect light.
(2) Light travels in all directions.
(3) Light travels in zigzag direction.
(4) Mirrors allow light to pass through them.

24. In the diagram below, a torch was placed at position D and shone at an object at position B. A shadow was cast on the screen.

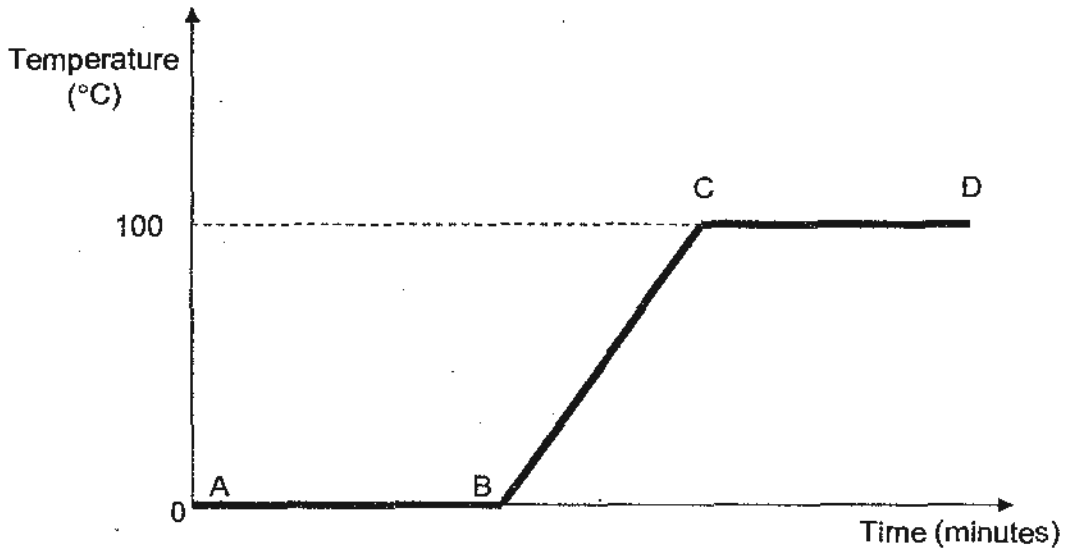


At which positions should the torch and the object be placed so as to obtain a larger shadow on the screen than before.

	Position of torch	Position of object
(i)	D	A
(ii)	E	D
(iii)	C	B
(iv)	E	A
(v)	D	C

(1) (i) and (ii) only
(2) (ii) and (iii) only
(3) (iii), (iv) and (v) only
(4) (ii), (iii) and (v) only

25. A beaker of ice is heated over a period of time. The temperature changes that take place during this period of time are shown in the graph below. Study the graph below carefully.



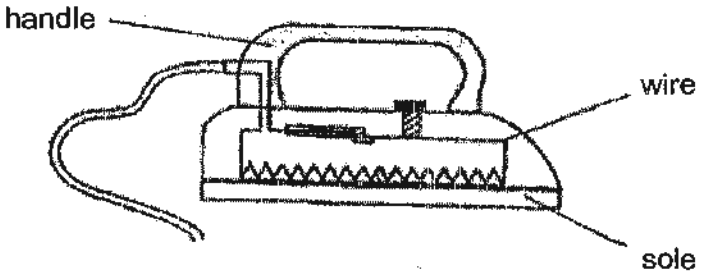
Which part(s) of the graph show a gain in heat?

(1) BC only
(2) AB and BC only
(3) BC and CD only
(4) AB, BC and CD only

26. Sam placed a cup in a room. He poured some hot coffee and put an aluminium spoon into the cup. Which one of the following correctly indicated if the coffee, spoon and the cup lost or gained heat?

	Coffee	**Aluminium Spoon**	**Cup**
(1)	Lost heat	Gained heat	Lost heat
(2)	Lost heat	Gained heat	Gained heat
(3)	Gained heat	Lost heat	Lost heat
(4)	Gained heat	Gained heat	Lost heat

27. The diagram below shows three parts of an electric iron.



Which one of the following best describes the property of the material that makes it suitable for making each of the three parts?

	Handle	Sole	Wire
(1)	Poor conductor of heat	Good conductor of heat	Good conductor of electricity
(2)	Poor conductor of heat	Good conductor of electricity	Good conductor of heat
(3)	Poor conductor of electricity	Good conductor of heat	Good conductor of electricity
(4)	Poor conductor of electricity	Good conductor of electricity	Good conductor of heat

28. Joe conducted several tests to find out the properties of Material X and tabulated his results as shown below.

Can be magnetized	Yes
Conducts electricity	Yes
Good conductor of heat	Yes
Allows light to pass through	No

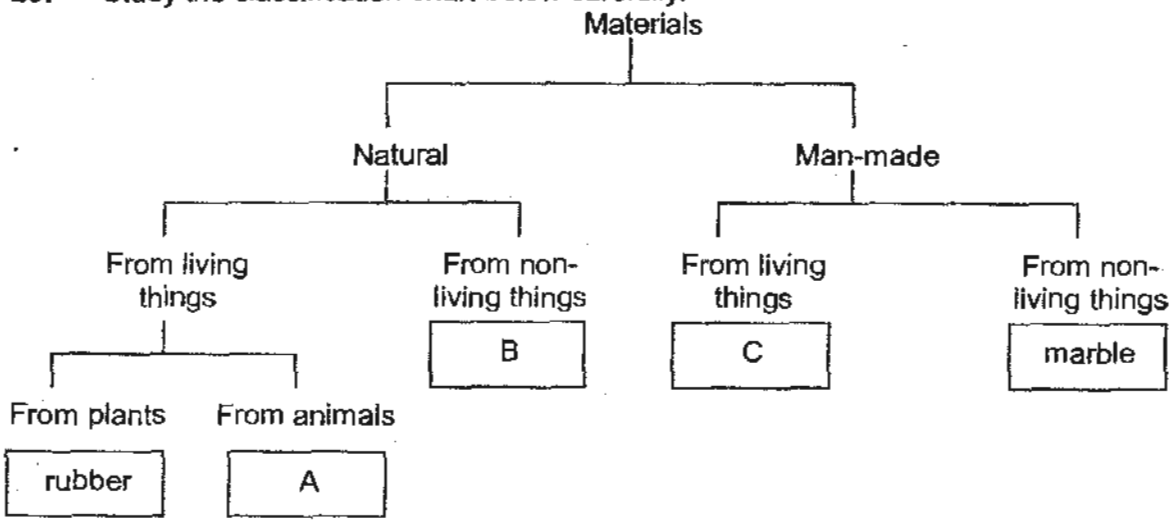
Which of the following can he conclude based on his results?

A : Material X is strong.
B : Material X is aluminium.
C : Material X is not copper.
D : Material X will sink in water.

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

19

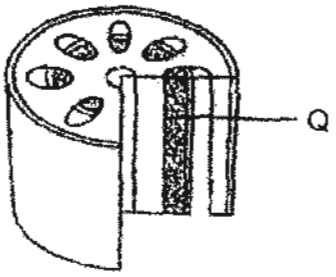
29. Study the classification chart below carefully.



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

	A	B	C
(1)	wood	ceramic	glass
(2)	silk	leather	cotton
(3)	wool	rock	paper
(4)	sand	coal	plastic

30. The diagram below shows a section of a stem.



What is the main transport function of tissue Q?

	Substance transported	**Carried from**	**Carried to**
(1)	sugar	roots	leaves
(2)	sugar	leaves	roots
(3)	water	roots	leaves
(4)	water	leaves	roots

NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2010
PRIMARY 5

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

Total Time for Booklets A and B : 1 hour 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

Name: _____ _____ ( ) **Class: P 5** ___

Date : 12 May 2010 **Parent's Signature:**_____

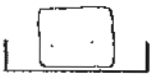
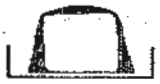
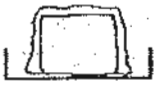
Section B: (40marks)
Write your answers to question 31 to ~~46.~~
The number of marks awarded is shown in brackets [ ] at the end of each question or part question.

31. Sandra's teacher told her that in cold countries, people sprinkled salt on the snow-covered pavements to make the snow melt faster.

Sandra wanted to conduct an investigation to find out if this is true.

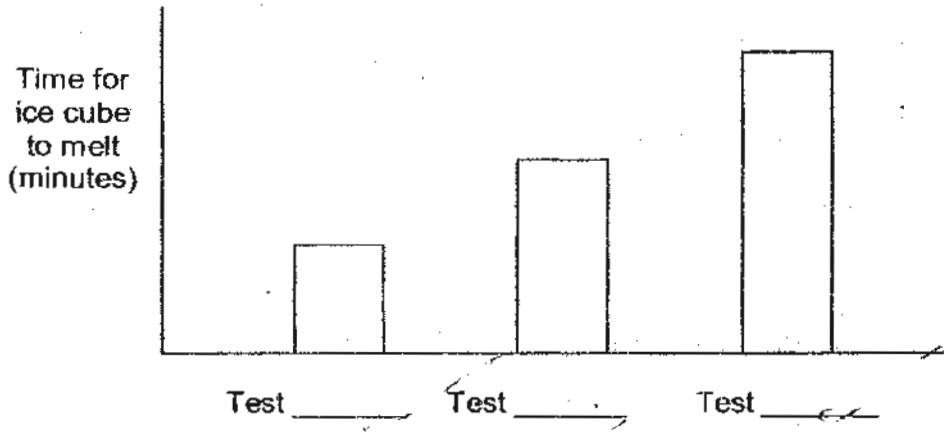
She put 3 ice cubes on three separate dishes. She left one uncovered, covered one with a tablespoon of salt and one with a tablespoon of flour.

She recorded how long it took for each ice cube to melt.

Test	A	B	C
Description	 uncovered ice cube	 ice cube with salt	 ice cube with flour
Time for ice cube to melt (minutes)	100	40	130

Sandra plotted a graph of the results.

(a) Complete the labels by writing A, B or C under each bar on the graph below to name which test each bar shows. [1]



(b) Sandra discovered that flour slows down melting of ice. Give a reason to explain why this is so. [1]

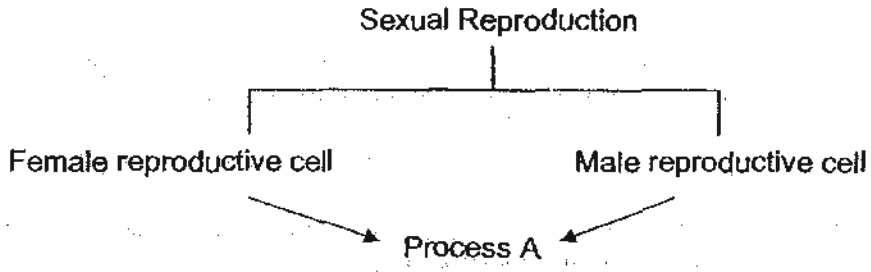
_____

_____

1 / 2

23

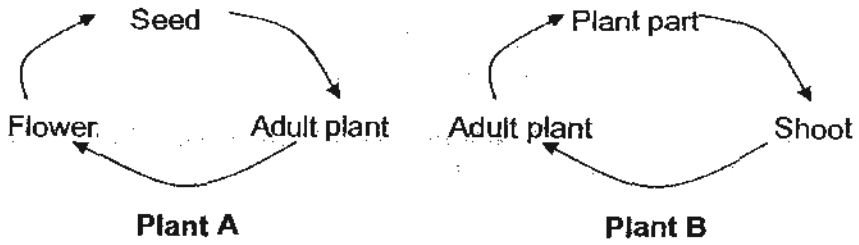
32. The flow chart below shows the sexual reproduction of humans and some flowering plants.



(a) Process A is called _____

In humans, this happens when the _____ from the male fuses with the egg from the female. [1]

(b) The diagrams below show the life cycle of two types of plants.

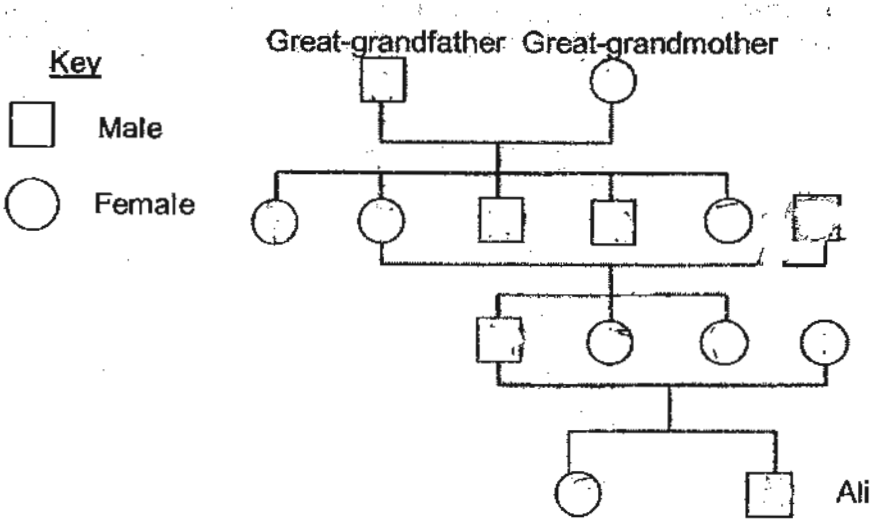


In the table below, put a tick in the box if the process is present in the life cycles of Plant A and Plant B. [2]

Process	Plant A	Plant B
Seed Germination		
Pollination		
Fertilization		
Asexual Reproduction		

Score	3

33. Study Ali's family tree and answer the following questions.

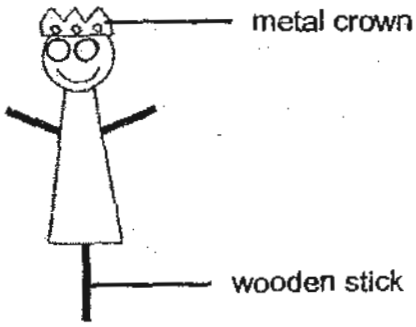


(a) How many children do Ali's great-grandparents have? [1]

(b) Shade the symbol that represents Ali's grandfather. [1]

Score	/ 2

34. Jane makes a stick puppet. She draws a face on it. The puppet has a metal crown. When Jane shines a light on the puppet, the crown looks shiny.



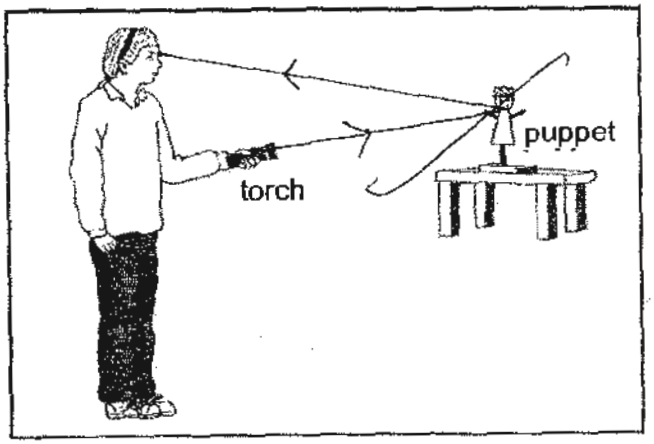
Jane's puppet

(a) Why does the metal crown look shiny when the light is shone on it? [1]

_____

_____

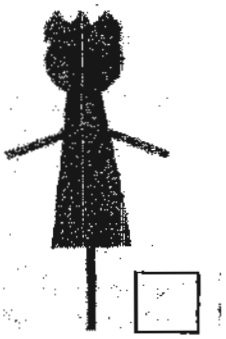
(b) Draw **TWO** arrows on the diagram below to show how Jane can see the light shinning on the puppet's crown. [1]



Score	2

(c) When the light shines on the puppet, Jane can see a shadow of the puppet on the wall behind. Why does a shadow form behind the puppet when the light shines on it? [1]

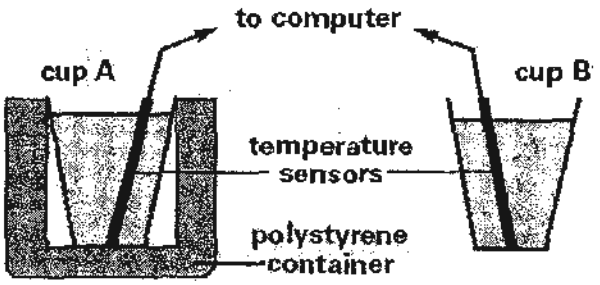
(d) Which of the following shows the correct shadow of ~~Emma's~~ Jane's puppet? Tick one box. [1]

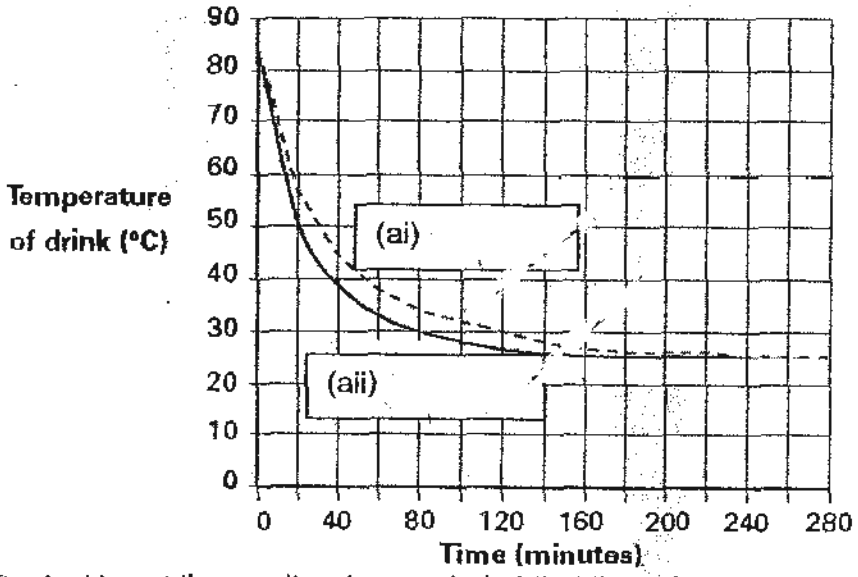
Score	2

27

35 Rudy wants to test if a polystyrene container keeps her drink hot for longer. She makes her drink from boiled water. She measures the temperature in two plastic cups (A and B) every ten minutes with sensors joined to a computer.



The graph below shows her results.



After looking at the results, she concluded that the polystyrene container kept her drink hot for a longer time.

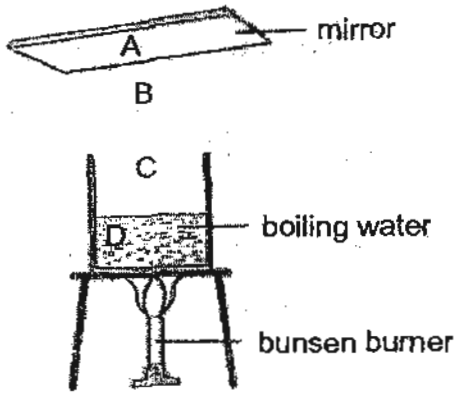
(a) Later, Rudy realized that she had forgotten to label her graph. Fill in the labels "Cup A" and "Cup B" in the appropriate boxes on the graph. [1]

(b) Estimate the temperature of the room. [1]

(c) Describe another way Rudy could keep her drink hot for a longer time. [1]

Score	3

36. Shanon sets up the experiment as shown below. A mirror is placed above a beaker of boiling water.



(a) What can Shanon expect to see on the surface of the mirror after some time. Explain why this happened. [2]

_____

_____

(b) In the water cycle, water from the sea becomes rain water. Why is rain water not salty when it comes from salty sea water? [1]

_____

_____

Score	— / 3

29

37. Alan and Melissa planted the some lettuce seeds at three temperatures. They recorded their observations below.

Temperature (°C)	Total number of lettuce seeds germinated					
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
5	0	0	?	0	1	1
15	0	0	0	1	5	9
25	0	2	8	12	13	13

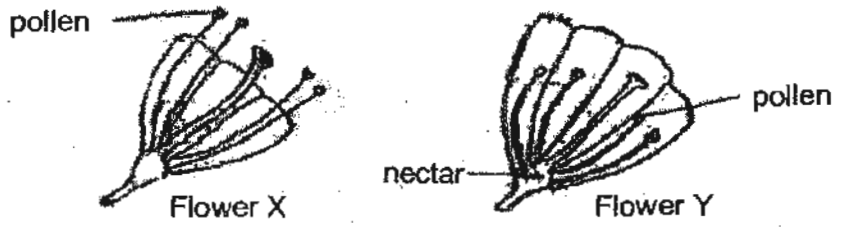
(a) How many seeds germinated at 5°C on Day 3? [1]

(b) The children were trying to find out something about lettuce seeds. What is the aim of their experiment? [1]

(c) Name two other variables the children must keep the same in order for them to conduct a fair test. [2]

Score	
	4

38. The diagrams below show two flowers. One is wind pollinated and the other is insect pollinated.



(a) Which flower, X or Y, is wind pollinated? [1]

_____

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

_____

_____

39. Mrs Lee discovered that she was one month pregnant in April.
The table below shows her mass over a period of 6 months.

Month	April	May	June	July	August	September
Mass (kg)	48	50.3	55	58	60	63

(a) What changes do you observe in Mrs Lee's mass over a period of 6 months? [1]

_____

(b) Give one reason for the changes in Mrs Lee's mass. [1]

_____

_____

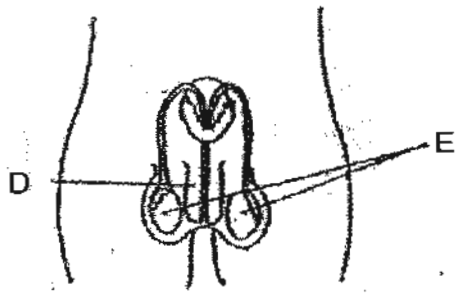
(c) In which month will the baby be born? [1]

_____

Score	5

3 1

40. The drawing below shows the male reproductive organs of human beings.



(a) Name the parts D and E. [1]

Part D : _____

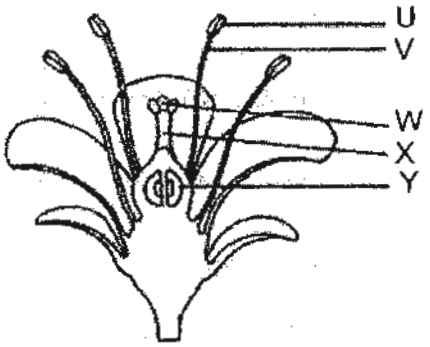
Part E : _____

(b) What is the function of Part E? [1]

_____

_____

Compare the male reproductive structures of a human being with that of a flower shown below.

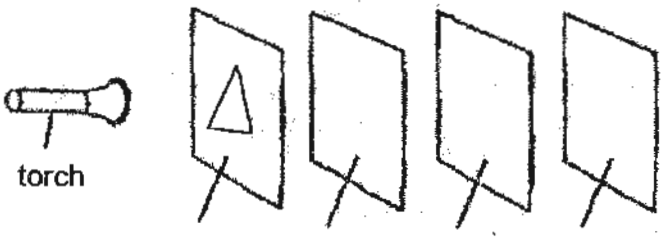


(c) Which part of the flower above has the same function as the part labelled E? [1]

_____

Score	
	3

41. An experiment shown below is carried out in a dark room. Sheets A, B, C and D are arranged in a straight line. A torch light is shone, and a bright triangular patch of light is seen on Sheet D.



(a) State the relevant property of the materials that Sheets A, B, C and D are made of. [2]

A : _____

B : _____

C : _____

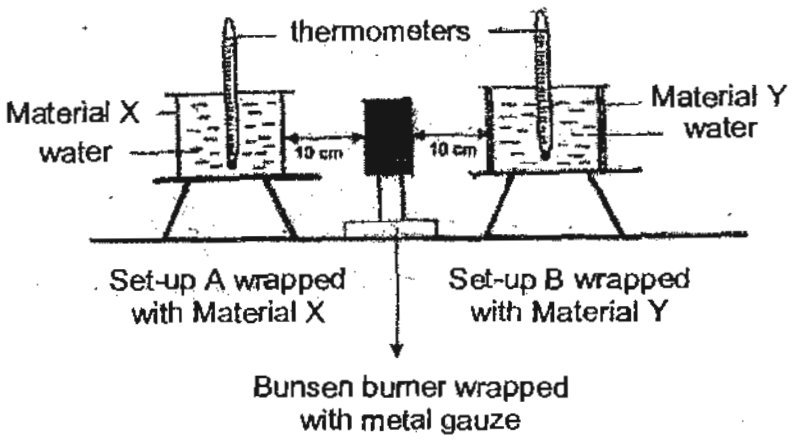
D : _____

(b) Shade the diagram below to show the shadow formed on Sheet D. [1]

Sheet D

Score	3

42. Rose carried out an experiment as shown in the set-ups below. The beaker in Set-up A was wrapped with Material X while the beaker in Set-up B was wrapped with Material Y. The temperature of the water in the 2 beakers at the start of the experiment was 27°C.



She then recorded the temperature of the water in the 2 set-ups every 10 minutes as shown in the table below.

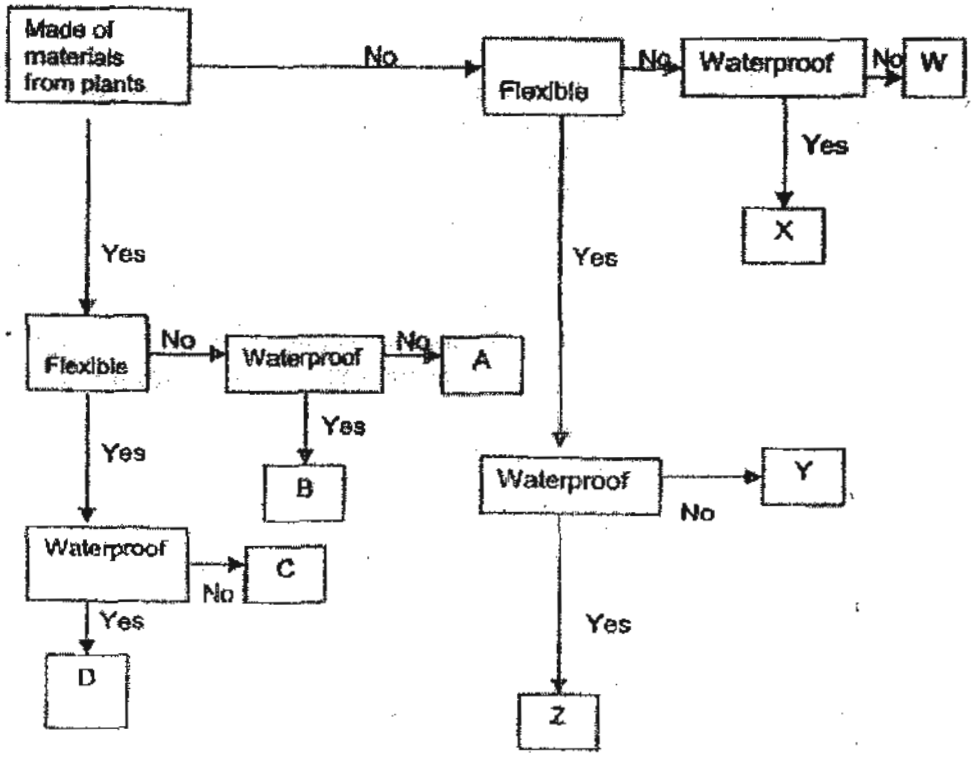
Time (mins)	Temperature in Set-up A ((C)	Temperature in Set-up B ((C)
10	50	40
20	72	52
30	95	70

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

(b) Based on the results of the experiment, which material is more suitable for making containers for keeping food warm? Give a reason for the choice of the material. [2]

3

43. The chart as shown below shows the characteristics of 8 different objects represented by the letters A, B, C, D, W, X, Y and Z.
Refer to the chart below and answer the following questions.



(a) What characteristic(s) do objects A and W have in common? [1]

_____

(b) Which object represented by the letters C, D, W, Y or Z best represents a plastic bag? [1]

_____

(c) If the objects are to be placed into two different groups based on the characteristics above, what will be a suitable heading for each of the following groups? [1]

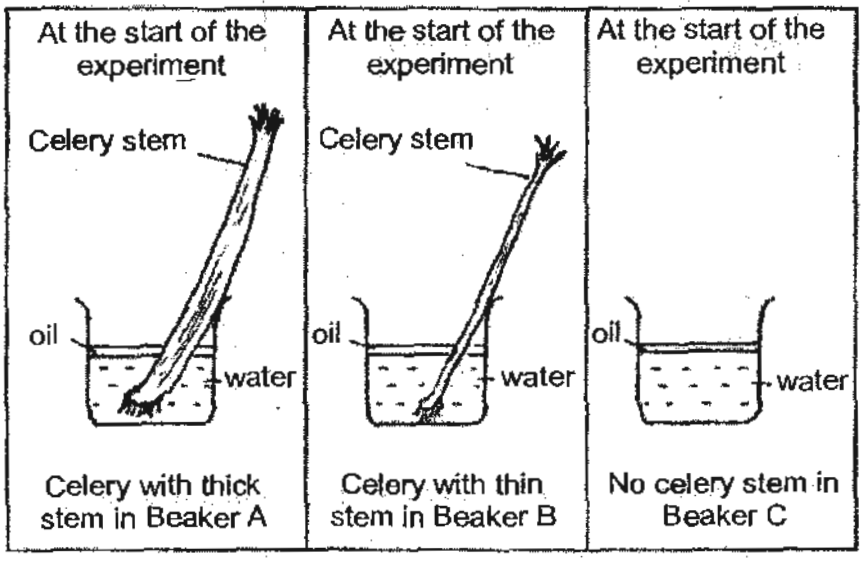
Objects B, D, X and Z : _____

Objects A, C, W and Y : _____

Score	
	3

44. Lisa noticed that some plants needed more water than others.
She wanted to find out if plants with thicker stems took in more water than plants with thinner stems.
She carried out the following steps.

Step 1 : She chose 2 celery stems, one thick and the other thin.
Step 2 : She put an equal amount of water into three beakers A, B and C.
Step 3 : She put a thin layer of oil in the water of each beaker.
Step 4 : She put 1 celery stem into each of the beakers A and B.
Step 5 : She placed the 3 set-ups near an open window.



(a) What was the purpose of Beaker C in the above experiment? [1]

_____

_____

(b) What should she compare to make a suitable conclusion for her experiment? [1]

_____

_____

Score	2

ANSWER SHEET

EXAM PAPER 2010

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA1

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

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

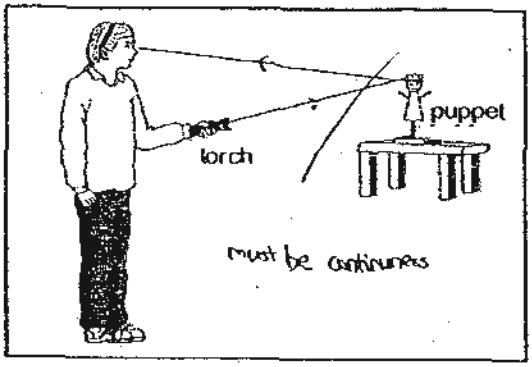
31)a)B, A, C
b)The flour prevents the ice from gaining heat the fastest from the surrounding so it melt the slowest.

32)a)fertilisation, sperm
b)

Plant A	Plant B
√	
√	
√	
	√

33)a)5 children
b)

34)a)It reflects the light into Jane's eyes.
b)



34)c)Light shining on the puppet travels in straight lines. As the puppet is made of an opaque material, it blocks the path of light hence forming a shadow.

d) ☐ ☐
☑ ☐

35)a)i)Cup A. ii)Cup B

b)24℃

c)He could put it in a thicker cup so that the heat will take more longer to reach the water.

36)a)Hot water vapour from the boiling water, touches the cooler surface of the mirror, lose heat to the mirror and condensed to form water droplets.

b)Only the water in the sea evaporates, not the salt.

37)a)0

b)To find out what is the best temperature for lettuce seeds to germinate.

c)The type of soil and the type of seed.

38)a)Flower X.

b)The anthers of flower X are hanging out of the flower so that the wind can carry the pollen grains away.

39)a)She is getting heavier.

b)The baby is growing so the mass of the baby is more.

c)December.

40)a)D: Penis E: testis

b)It is to produce sperms to fertilise the egg in the female body.

c)U.

41)a)A: opaque B: transparent C: transparent D: opaque

b)

42)a)To find out which material is a better conductor of heat.

b)Material Y. Y is a poorer conductor of heat, hence it will slow down heat loss from the food as quickly as X.

43)a)They are not waterproof not flexible.

b)Z.

c)Z: waterproof.

Y: not waterproof.

44)a)Beaker C acts as a control to confirm that plants with thicker stems take in more water.

b)She should compare the water level Beakers A and B and see which is lower.