CA1

NANYANG PRIMARY SCHOOL

PRIMARY 4 SCIENCE

FIRST CONTINUAL ASSESSMENT 2005

Name _____ _____( ) Date : _____

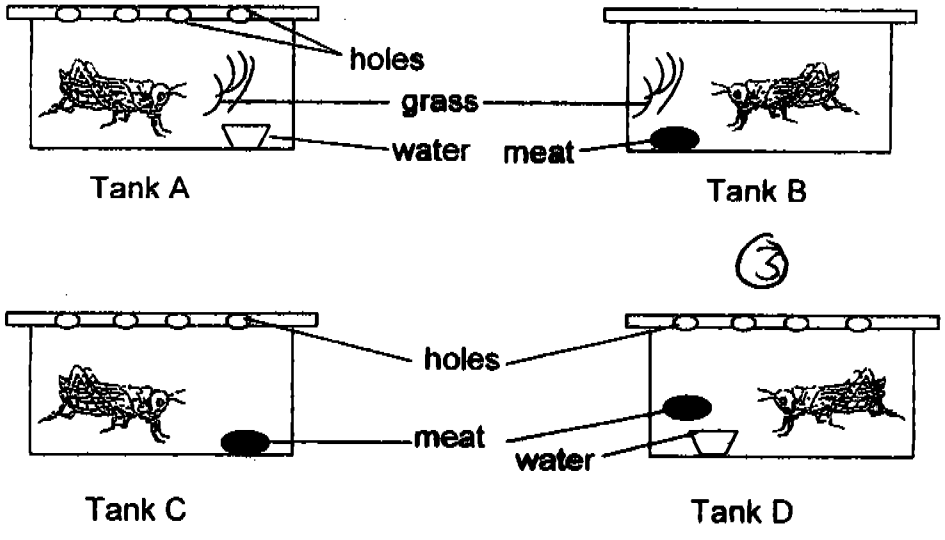
Class : Primary 4 ( ) Duration : 1 h 45 min

Parent's signature: _____ Score : 100

Section A (30 x 2 marks = 60 marks)

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

1. Ahmad set up an experiment as shown below. He placed similar adult grasshoppers into identical tank A, B, C and D. Plastic sheets were used to cover the mouths of these tanks.



3

Arrange the life spans of the grasshoppers beginning with the shortest to the longest.

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

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2. Which one of the following describes the difference between a spiny anteater and a sheep?

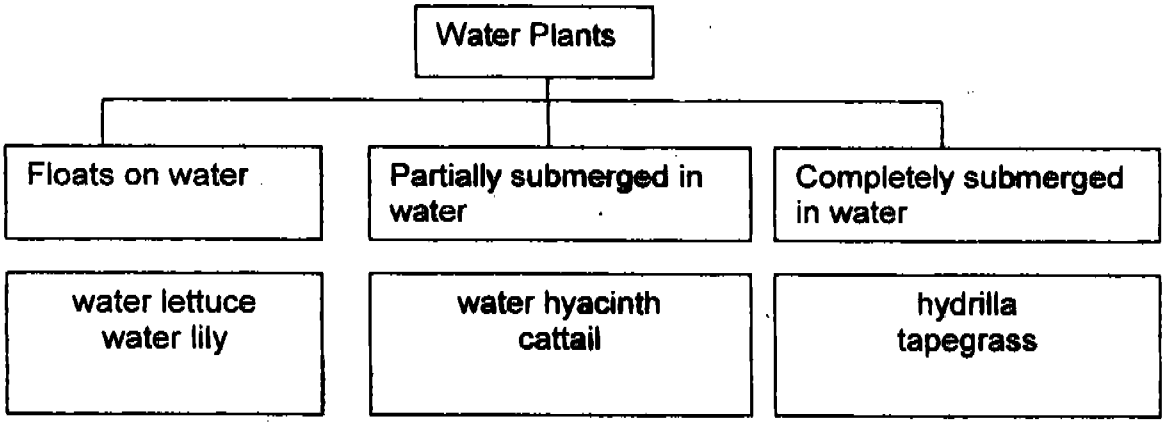
(1) The spiny anteater lays eggs while a sheep does not.
(2) The spiny anteater has wings but a sheep does not have.
(3) The spiny anteater has an exoskeleton while a sheep has hair.
(4) The young of a spiny anteater does not look like its adult while the young of a sheep does.

3. Which of the following materials are made from plant parts?

A Silk
B Paper
C Ivory
D Cotton
E Feather

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

4. Study the classification table below.



Which of two plants have been wrongly classified?

(1) hydrilla and cattail
(2) ~~tapegrass~~ cattail and water lettuce
(3) water lettuce and tapegrass
(4) water lily and water hyacinth

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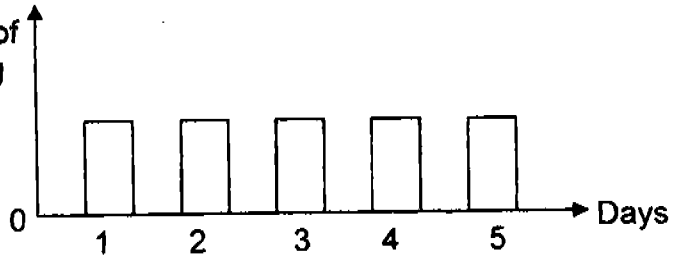
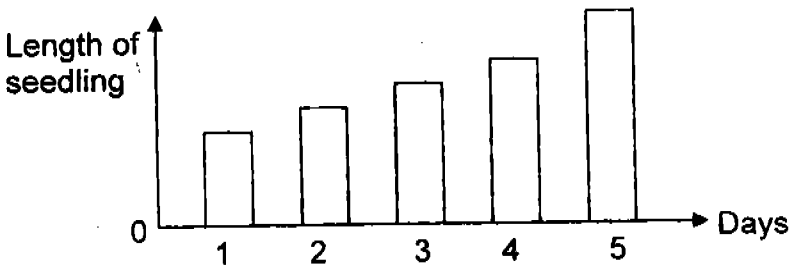
5. Jane placed a red bean seedling inside a refrigerator. Which one of the following graphs will show the length of the seedling over a period of five days?

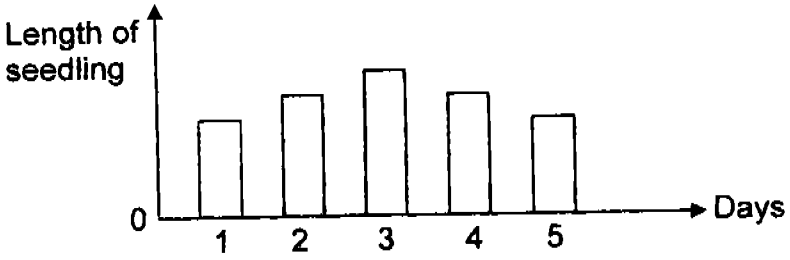
(1)



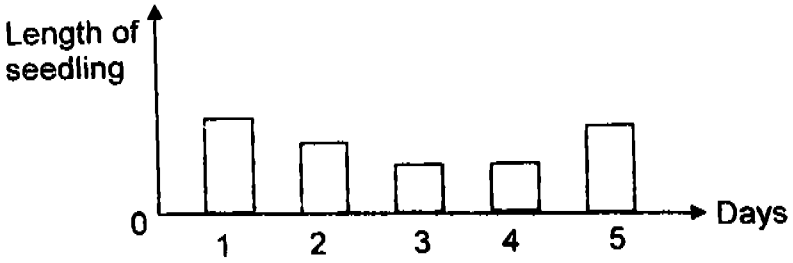
(2)



(3)



(4)



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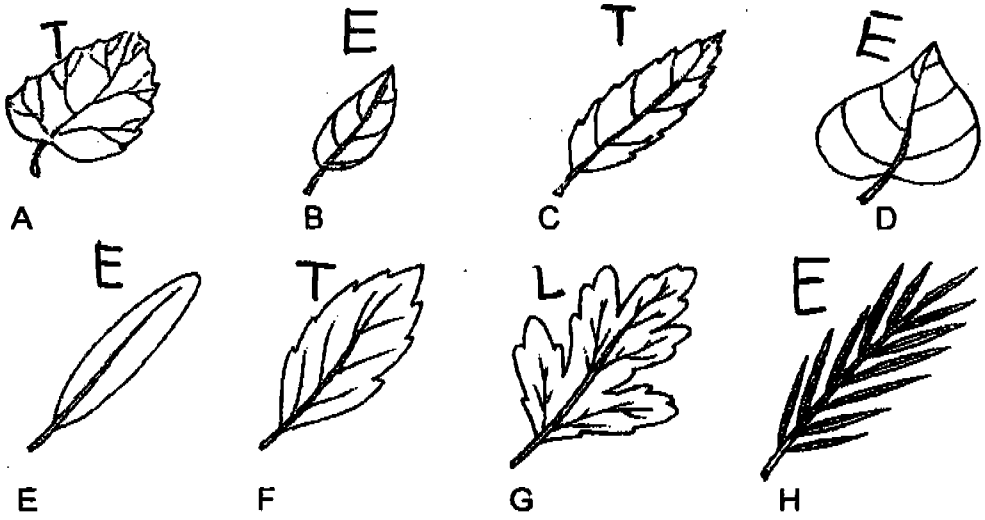
6. Study the leaves below carefully.



Siti is asked to classify the leaves according to their edges. Which one of the following classifications is correct?

	lobed edged leaves	toothed edged leaves	entire edged leaves
(1)	E	A,C,F,H	B,D,E
(2)	G	A,C,F	B,D,E,H
(3)	B, E,	A,C,F,G,H	D
(4)	A,B,D	C,F,G	E,H

7. Which one of the following statements is not true about fungi?

(1) They have chlorophyll.
(2) They reproduce by spores.
(3) Puff ball is a type of fungus.
(4) They feed on decaying matter.

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8. Study the four groups of animals below.

Group A	Group B	Group C	Group D
 centipede	 ant	 lobster	 frog
 millipede	 honey bee	 crab	 turtle

A picture of a termite is shown below.

In which one of the groups, A, B, C and D would you classify termite?

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

9. Wei Li put each of the four slices of bread of the same brand in different places as shown in the table below.

Bread	A	B	C	D
Location and condition of the bread	bread is toasted and covered with a paper plate in a room	bread is toasted and put under the sun	bread is moistened, covered with a clear plastic sheet and put under the sun	bread is moistened and placed inside a shoe box in a room

Which slice of bread, A, B, C or D would turn mouldy fastest?

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

10. Based on the table in Question 9, which two slices of bread should be used to conduct the experiment to prove that bread mould grow best in dark places?

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

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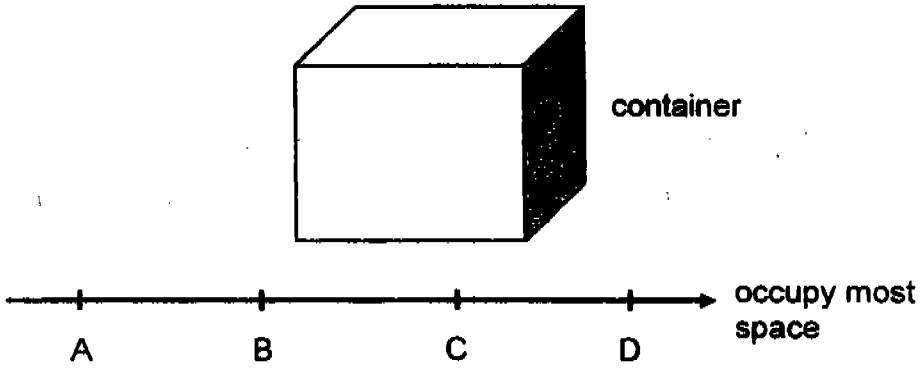
11. Which one of the following pairs cannot be classified as matter?

(1) fire and ash
(2) air and hair
(3) thunder and shadow
(4) lightning and raindrop

12. You are given some coffee powder, cloth, coffee beans and an iron ball, each with a mass of 1 kg. You are to arrange these four items based on the amount of space they occupy in the container shown below.



	A	B	C	D
(1)	iron ball	coffee powder	coffee beans	cloth
(2)	iron ball	coffee beans	coffee powder	cloth
(3)	cloth	coffee powder	coffee beans	iron ball
(4)	cloth	coffee beans	coffee powder	iron ball

13. When you spread one tablespoon of peanut butter on a slice of bread, which property of the peanut butter are you changing?

A size
B mass
C shape
D volume

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

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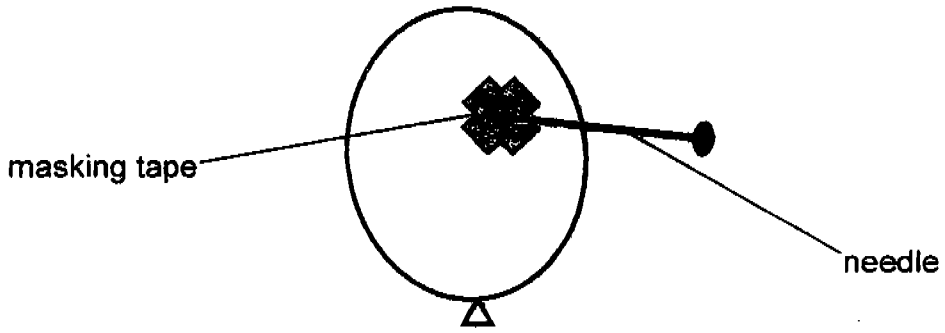
14. Ali drops three objects which are of identical volume and shape into a beaker of water and observes their positions in the water. Object X sinks to the bottom of the beaker quickly, Object Y sinks to the bottom of the beaker slowly and Object Z floats on the water.
Which one of the following statements is true about the above observations?

(1) Object Z has the smallest mass.
(2) Object Y weighs more than Object X.
(3) Object X and Y have the same mass.
(4) Object Y has a smaller mass than Object Z.

15. John pumped air into a balloon and marked a spot on the balloon with masking tape. He took a needle and pierced the spot covered with the masking tape gently and slowly. Then he removed the needle. What would he observe immediately?



A The balloon burst.
B He heard a hissing sound.
C The balloon decreased in size.
D He felt air escaping from the balloon.

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

16. Which of the following statements about matter are correct?

A Matter can be seen.
B Matter has definite shapes.
C Matter has mass but no volume.
D Matter consists of both living and non-living things

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

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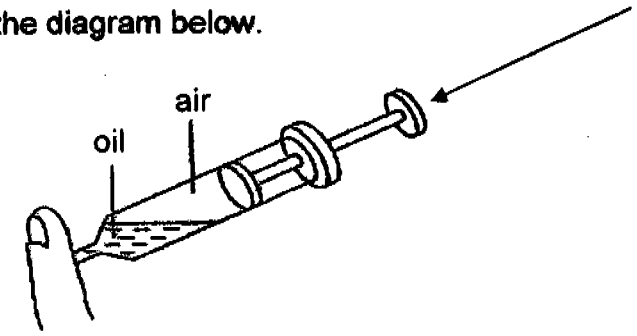
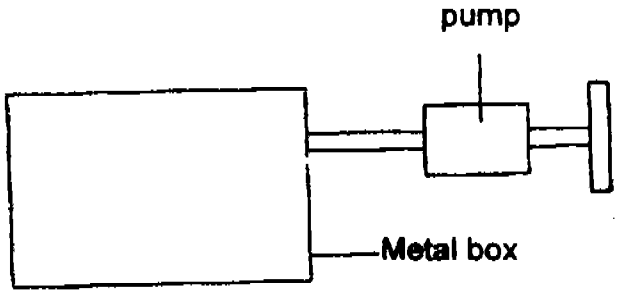
17. Study the diagram below.



Which one of the following is true when the plunger above is pushed in?

	Volume of air in the syringe	Volume of oil
(1)	increases	decreases
(2)	decreases	increases
(3)	remains unchanged	remains unchanged
(4)	decreases	remains unchanged

18. A pump is used to fill a 500cm³ metal box with air. With each stroke of the pump, 100 cm³ of air enters the box.



What is the volume of the air in the metal box after three strokes of air is pumped into the box?

(1) 200cm³ (2) 300cm³
(3) 500 cm³ (4) 800cm³

19. Study the table below. Which one of the following substances, A, B, C or D is likely to be honey?

	Substance	Does it have a definite volume?	Does it have a definite shape?	Can it be compressed?
(1)	A	Yes	No	Yes
(2)	B	Yes	No	No
(3)	C	Yes	Yes	No
(4)	D	No	Yes	Yes

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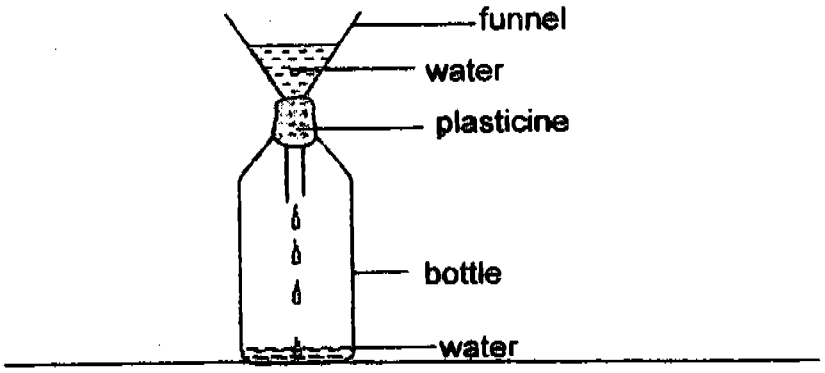
20. In the experiment below, Su Lin noticed that the water in the funnel dripped into an empty bottle very slowly.



After some time, she observed that the dripping stopped and there was a small amount of water at the bottom of the bottle. What does the above setup show about air?

(1) Air has mass.
(2) Air occupies space.
(3) Air can be compressed.
(4) Air has a definite volume.

21. Oxygen and milk are similar because they _____.

A have mass
B occupy space
C have definite volume
D have no definite shape

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

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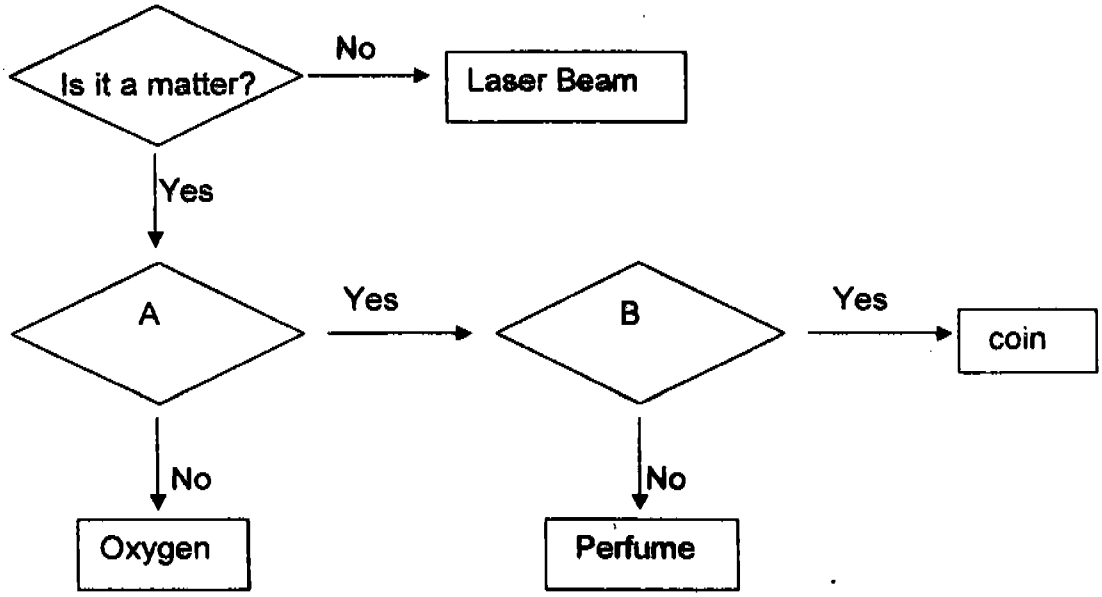
22. Study the flow chart below.



Which one of the following best represents A and B?

	A	B
(1)	Does it occupy space?	Does it have mass?
(2)	Can it be compressed?	Does it have mass?
(3)	Does it have definite volume?	Does it have definite shape?
(4)	Does it have definite shape?	Does it have definite volume?

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

A Pure water is colourless and odourless.
B Water can exist in the solid and liquid states only.
C Water has a definite volume and it cannot be compressed.
D Water can change from one state to another depending on its temperature.

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

24. I would be able to dry some mushrooms in the shortest possible time, on a _____ day.

(1) sunny and humid
(2) cloudy and windy
(3) cloudy and humid
(4) sunny and windy

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25. Wilson took a glass of ice-coffee out of the refrigerator and left it on the table. After a few minutes, he noticed water droplets on the outer surface of the glass.
Which one of the following could he do to increase the number of water droplets on the glass?

(1) Pour the coffee into a shallow tray.
(2) Pour into the glass some tap water.
(3) Put more ice cubes into the coffee.
(4) Put the glass of ice-coffee in a colder room

26. In one which of the following situations would condensation most likely take place?

(1) A frozen fish being left in the freezer.
(2) A piece of wet clothing being left near a fire.
(3) A cup of tap water being left near the window.
(4) A mirror placed near the nose when you breath.

27. Sammy left an unopened can of coke in the freezer overnight. Which of the following would she observe when she removed the can from the freezer the next morning?

A The can would be out of shape.
B The coke would remain in the liquid state
C The can tab would be forced open.
D There would be a decrease in the mass of the coke in the unopened can.

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

28. Santhi cut a watermelon into two halves. After wrapping one half of the fruit completely with plastic food wrap (cling wrap), she placed it in the fridge as she wanted to eat it later.
Why did Santhi wrap the watermelon with the plastic food wrap?

A To prevent the watermelon from freezing.
B To minimize water loss from the watermelon.
C To prevent the watermelon from being contaminated.
D To allow condensation to occur at the surface of the watermelon.

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

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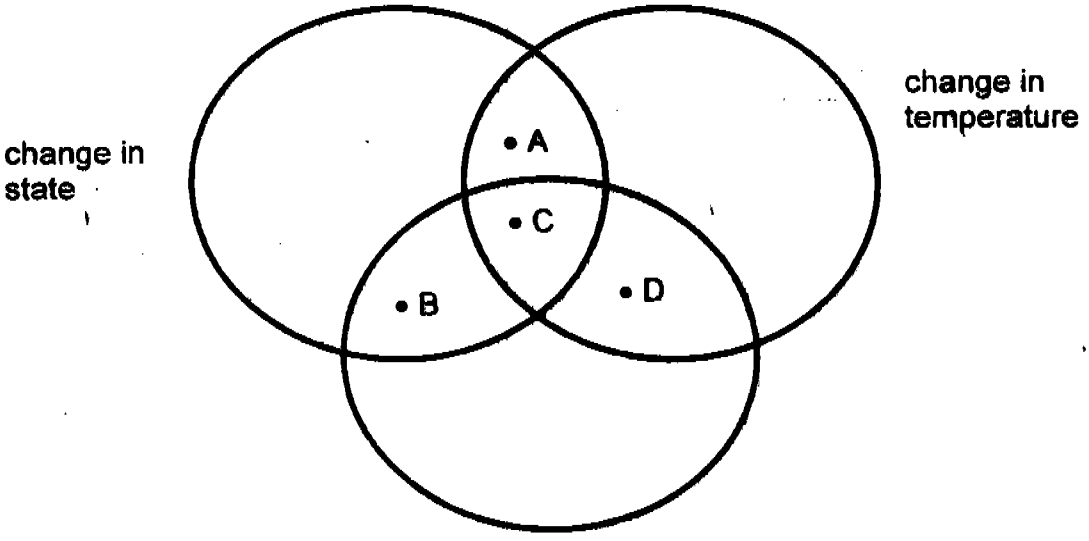
29. Muthu boiled some water in a beaker for his Science experiment. He recorded the findings in the table below.

Temperature (^{0}C)	30	60	80	90	100	100	100
Time (min)	0	3	5	7	9	14	19

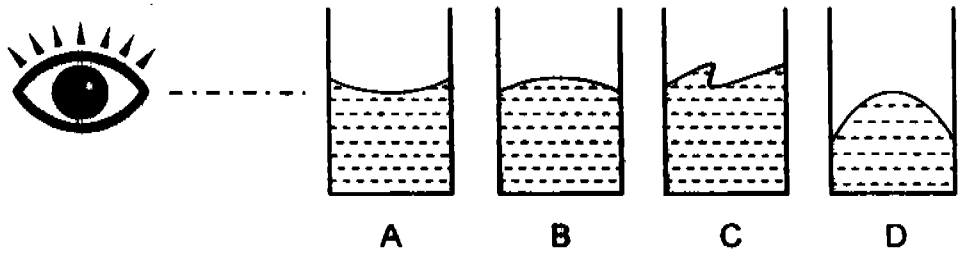
Study the Venn diagram below.



Which letter, A, B, C or D in the Venn diagram best represents the change that would take place during the last ten minutes of the experiment?

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

30. Which one of the following diagrams shows the correct water level in a narrow cylinder when observed at eye level?



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

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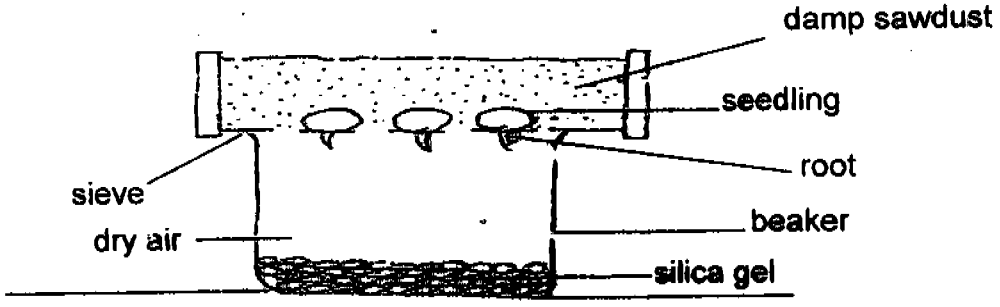
Name: _____( ) Date : _____

Class : Primary 4 ( )

Section B (40 marks)

Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

31. Norman conducted an experiment as shown below. He placed three seedlings on a sieve to hold the seedlings. The sieve and the seedlings were then placed on top of a beaker which contained silica gel. The silica gel helped to absorb moisture in the beaker. He then covered the seedling with damp sawdust and left it to grow in the dark place. The sawdust was kept damp at all times.



(a) After a few days, Norman observed that the roots of the seedlings had grown in size and length and had more root hairs. State another observation he would have made about the roots. (1 mark)

_____

_____

(b) What could Norman conclude from this experiment? (1mark)

_____

_____

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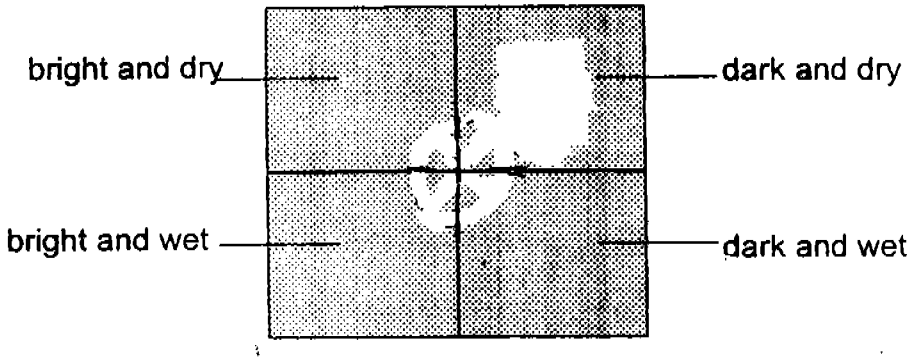
32. Mrs Lee divided a tray of sand into four sections. Each section of the sand had a different condition as stated in the diagram below. She then placed 20 mealworms onto the tray.



(a) Draw the symbol on the diagram above to show where Mrs Lee should place the mealworms at the start of the experiment. (1mark)

(b) After an hour, she recorded her observations in the table below. She observed that the dark and damp portion was most preferred by the mealworms.

Conditions of the sand	Number of mealworms found
bright and dry	1
bright and wet	3
dark and dry	
dark and damp	12

Study the table carefully and fill in the number of mealworms that could be found in the portion which was dark and dry. (1mark)

(c) Explain your answer to part (b). (2marks)

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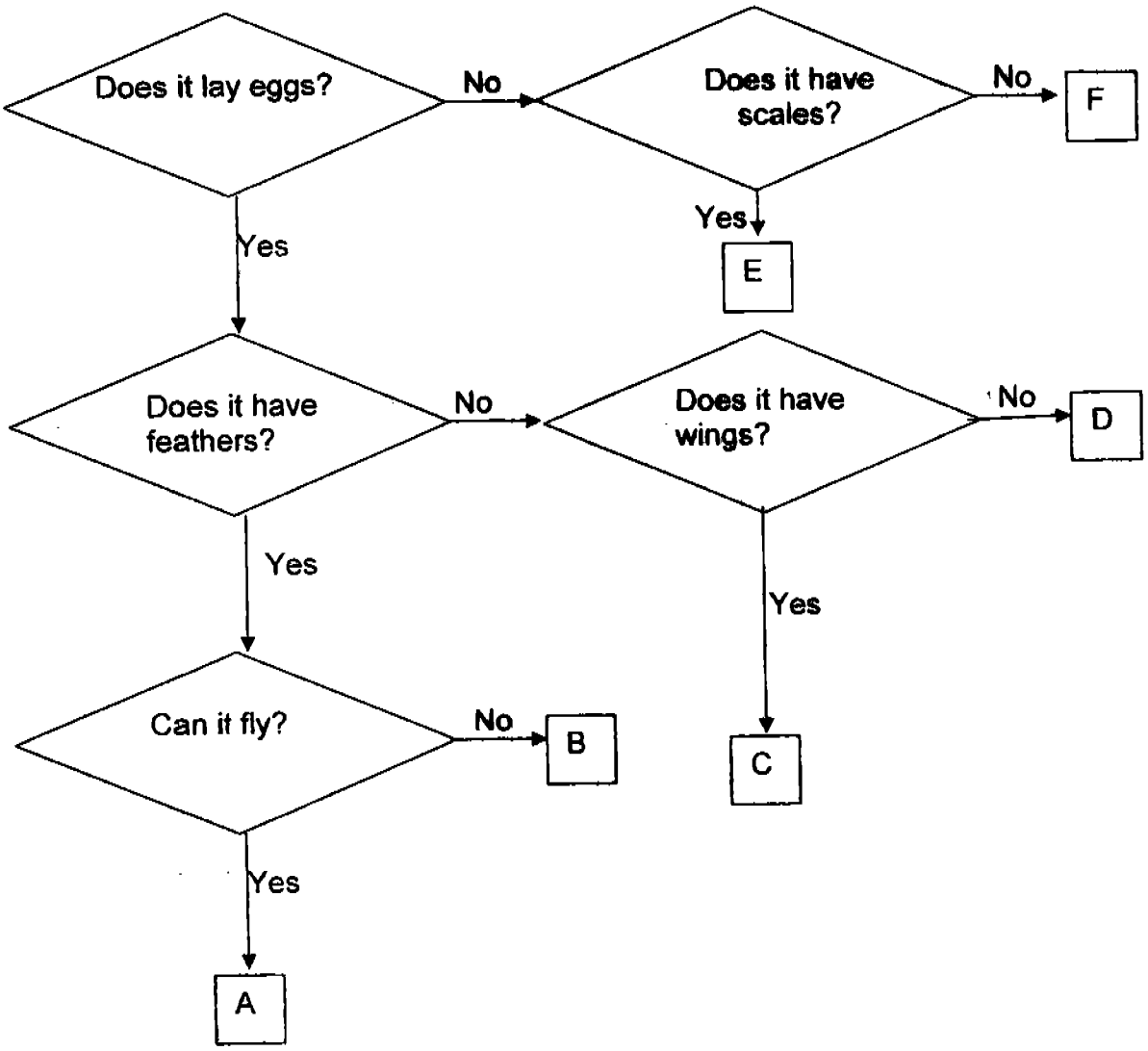
33. Study the flow chart below.



(a) Using the above chart, identify and match the letters that represent each of the following animals. (2marks)

(i) Whale : _____

(ii) Emu : _____

(iii) Ladybird beetle : _____

(iv) Guppy : _____

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(b) The animals in (a) can be classified into 2 groups as shown below.

Group X	Group Y
Whale	Ladybird beetle
Emu	
Guppy	

Give a suitable heading for Group X and Y. (1mark)

Group X :

Group Y

34. Sam carried out an experiment to identify the hardness of materials of objects W, X, Y and Z. He used each object to scratch another and tabulated his observation as follows.

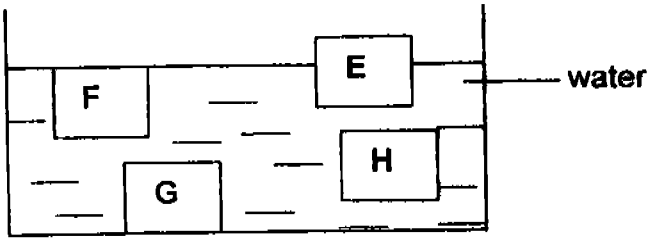
Observations:

- X can scratch Y.
- Z can scratch Y.
- W can scratch Z.
- Z cannot scratch X.

In the space provided, put a tick in the correct column for each statement. (4 marks)

	Statements	True	False	Not possible to tell
(a)	W can scratch X.			
(b)	W is the hardest object.			
(c)	Y is the softest object.			
(d)	Object Z is harder than X.			

35. The diagram below shows a tank of water in which four objects, E, F, G and H were dropped into it one by one at a time. (2 marks)



Identify and match the letters that represent each of the following objects. The letters may be used more than once.

(i) a needle : _____

(ii) a rubber band: _____

(iii) a plastic bag filled with oil: _____

(iv) a capped plastic bottle half filled with water: _____

36. Fill in the classification table with the words given in the box below. (2 marks)

apple juice music	sponge water vapour	petrol echo

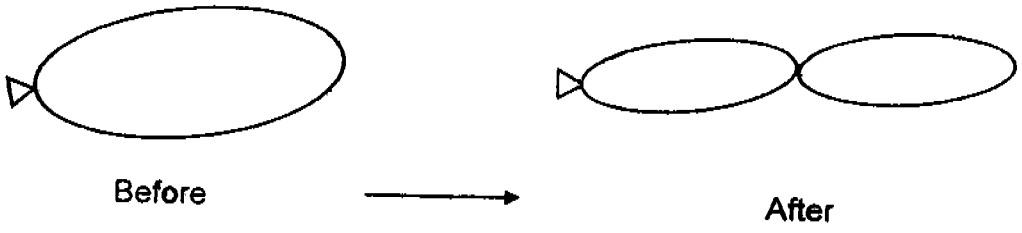
MATTER		
Solid	**Liquid**	**Gas**

37. Melvin filled an opaque vase to its brim with marbles. He concluded that the marbles had filled up all the space in the vase.
However, Jane disagreed. She said that she could carry out an experiment to prove that the marbles did not occupy all the space in the vase without removing any marble from the vase.
What could Jane do to prove her statement? (2 marks)

_____

_____

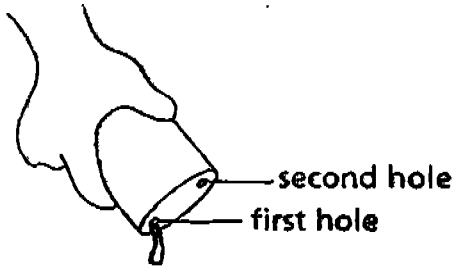
38. Xianwen filled a balloon with water. She squeezed the balloon and tied a rubber band in the middle of the balloon as shown below.



(a) Is there any change in the volume of water in the balloon? Explain why.
(1 mark)

(b) What does the change in shape of the balloon tell you about the property of water?
(1 mark)

39. Ben punched a hole on the cover of a tin of condensed milk and tried to pour some condensed milk into a pan. However, he discovered that the condensed milk flowed out of the tin very slowly.
He punched a second hole on the cover of the tin. He observed that condensed milk was able flow out of the tin more quickly.



Explain how the second hole helped the milk flow out of the tin more quickly.
(2 marks)

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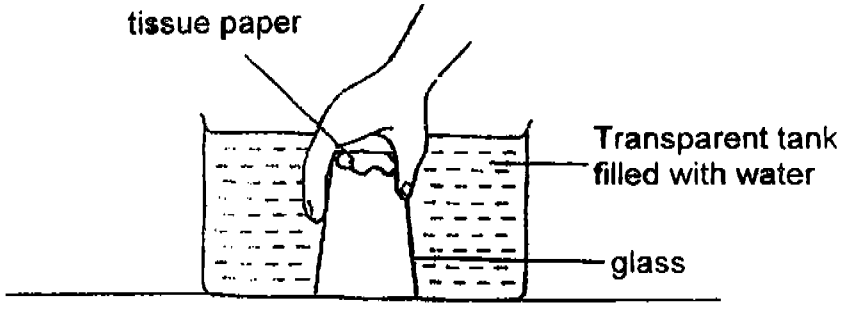
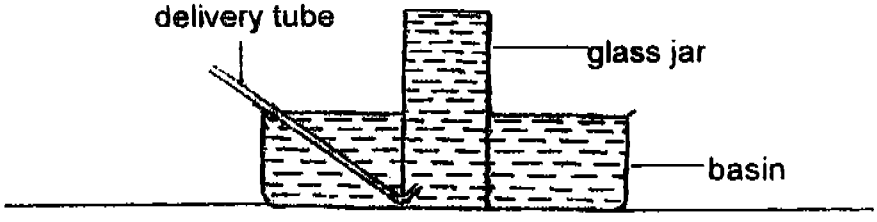
40. Salim stuck some pieces of tissue paper at the base of a ~~paper cup~~ glass. He then inverted the cup into a transparent tank that was filled with water as shown in the diagram below. He noticed that the tissue paper remained dry.



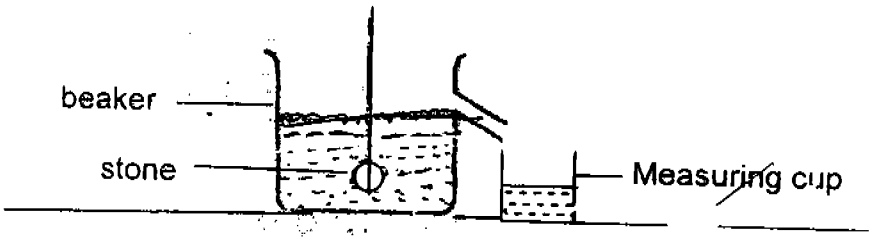
Without removing the glass from the tank and still maintaining it immersed in the water, describe what you would do to make the tissue paper inside the cup wet. (1mark)

41. Mrs Teo demonstrated an experiment as shown below. She filled a glass jar completely with water and inverted it over a basin of water. She then blew air through the delivery tube.



Describe what would be observed in the experiment setup. (2 marks)

42. Abdul set up an experiment. He lowered a stone into a beaker of water as shown in the diagram below.



(a) In the diagram above, indicate the water level in the beaker after the stone has been lowered into the beaker. (1mark)

(b) What does the water in the measuring cup measure? (1mark)

43. Farmer Lee has two identical packs of wet sand. He decided to dry the equally wet packs of sand.
He opened pack A, poured the wet sand out and moulded it into a big heap. Then, he opened pack B and spread the wet sand into a thin layer.
He left the two packs of sand to dry in the same field.
Which pack of sand would dry in a shorter time? Explain why. (2 marks)

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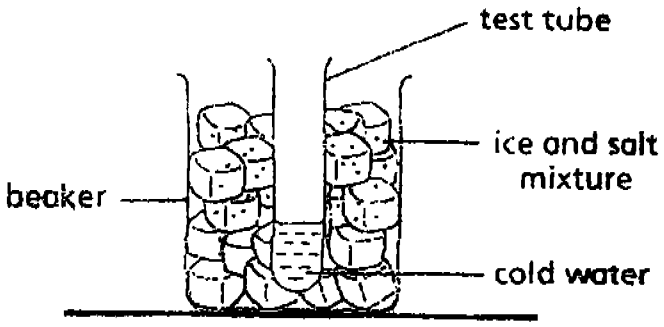
44. Howard conducted an experiment to freeze the water in the test tube as shown in the diagram below.



He repeated the experiment, using different amounts of salt but the same mass of ice cubes each time. He recorded his results in the table below.

Amount of salt used (g)	Time taken (min)
5	8
10	4
20	2
40	1

(a) What is the relationship between the amount of salt used and the time taken? (1 mark)

(b) State two variables that he must keep constant in order to have a fair experiment. (2 marks)

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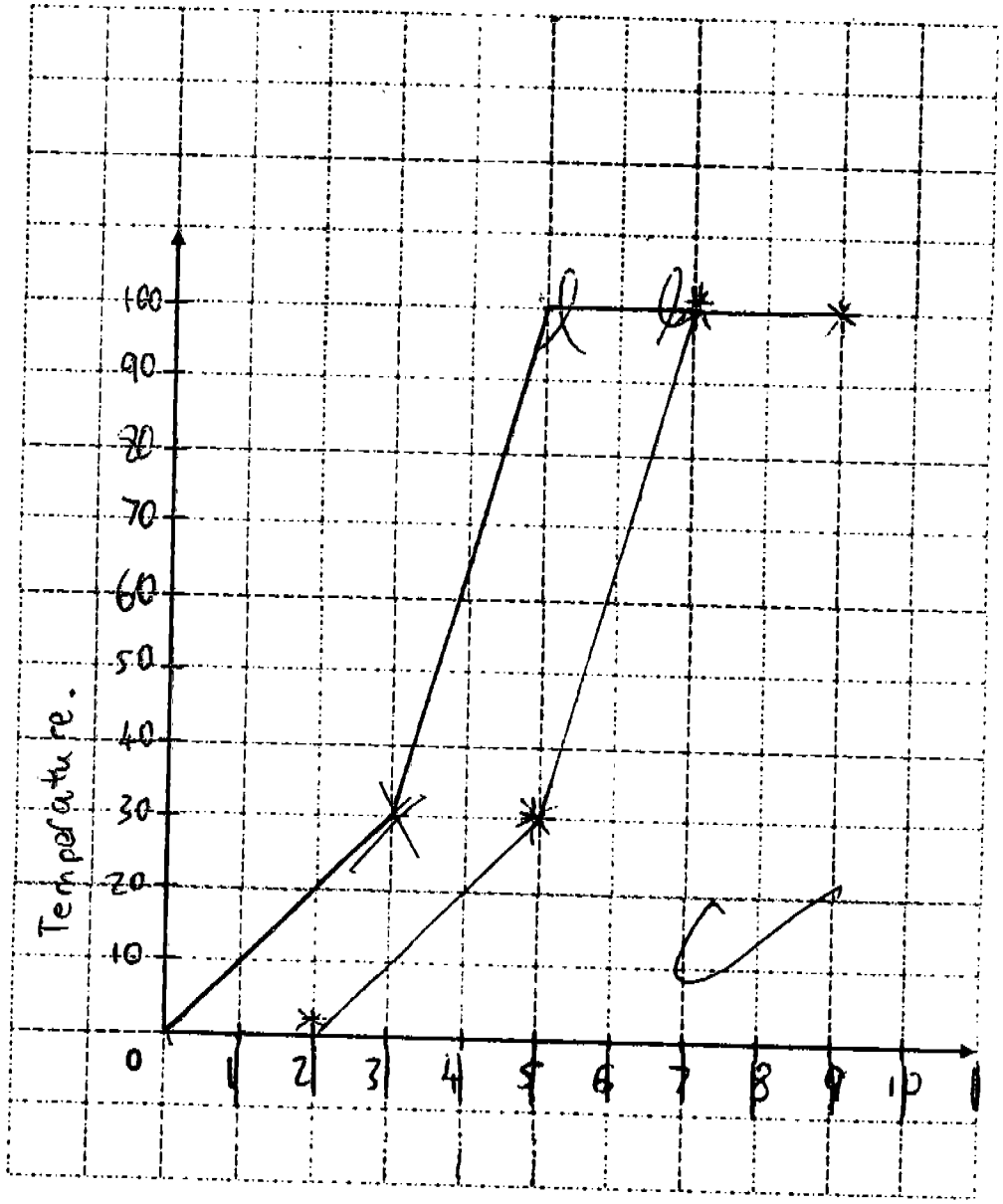
45. Sharon put some ice in a beaker. After two minutes, she observed that all the ice had melted. Three minutes later, she placed a thermometer in the beaker and observed that the temperature of the water was 30 ^{0}C. Next, she heated the water over a bunsen burner. The water started to boil after two minutes. She recorded the temperature and left the beaker on the burner for another two minutes.
She recorded her readings in the graph below.

(a) Draw a line graph to represent the information above. (2 marks)

(b) Label the horizontal and vertical axis of the line graph. (2 marks)



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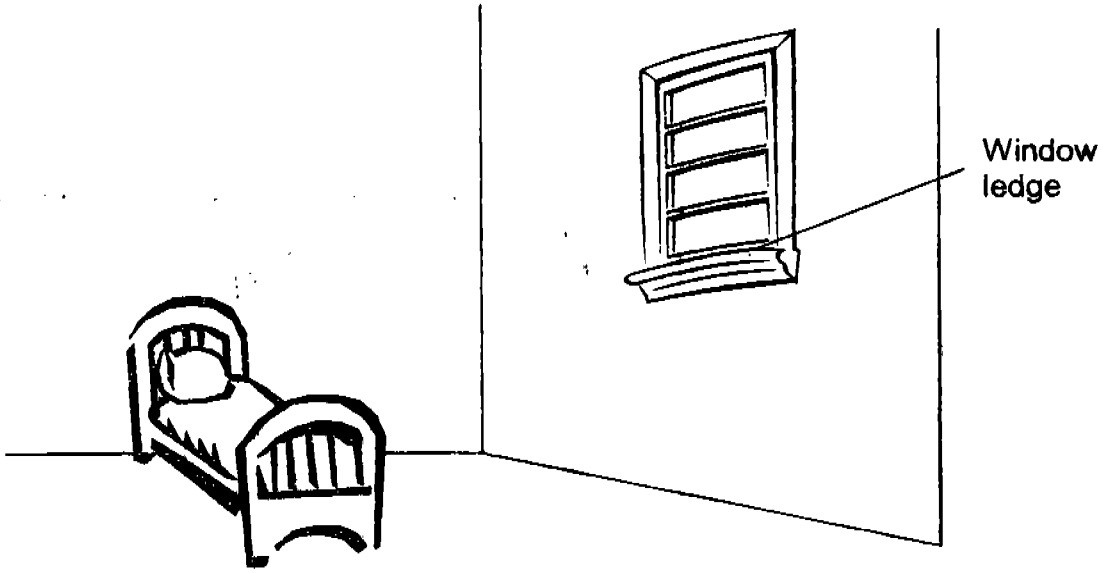
46. Tina set the air-conditioner in her bedroom at 18 ^{0}C and went to bed. When she woke up the next morning, she noticed water droplets on her bedroom windowpane. It did not rain the night before and she could not find any signs of leakages from the air-conditioner too.
Half an hour after she had switched off the air-conditioner, she observed a small puddle of water collected on the window ledge.



(a) Was the puddle of water inside or outside of her bedroom?
(1 mark)

_____

(b) Explain how the water droplets on the windowpane were formed.
(2 marks)

_____

_____

_____

----------END OF PAPER----------

Setters: Miss Alice Chong
Miss Chou Shin Chieh

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CA1

Nanyang Primary School

Primary 4 Science CA1 Exams (2005)

[redacted]

Answer Sheets

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

31a. The roots will grow towards the damp sandust.

31b. Roots respond to where water is.

32a. 

32b. 4

32c. Since there are 12 mealworms in the dark and dump in the bright and wet, there should be 4 mealworms left.

33a. (i) F
(ii) B
(iii) C
(iv) E

33b. Group X : cannot fly
Group Y : can fly

34a. Not possible to tell
34b. Not possible to tell
34c. True
34d. False

35. (i) G
(ii) F
(iii) E
(iv) E

36.

Solid	Liquid	Gas
Sponge	Apple juice	Water vapour
	Petrol	

37. She could add water to the vase.

38a. No, liquid has a definite shape

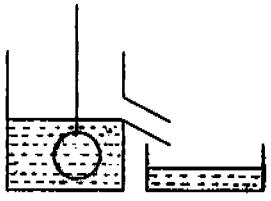
38b. Water has indefinite shape.

39. When the second hole was punched, the milk could flow out more quickly because when the milk flowed out, the air was unable to occupy the space previously occupies by the milk.

40. I could tilt the cup to one side.

41. Air bubbles can be seen the water level in the glass would drop and the water in the basin would rise.

42a.



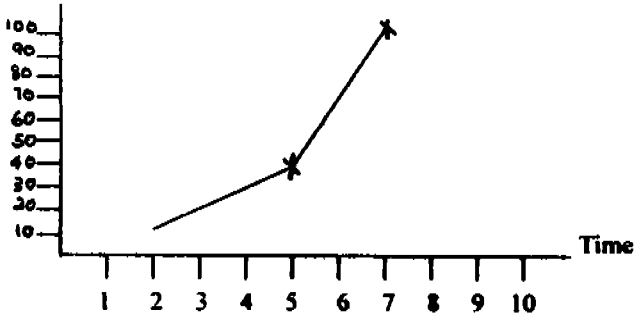
42b. It measure's the stone's volume.

43. Pack B will dry first, the area of exposed surface is greater for evaporation for Pack B than Pack A.

44a. The grater amount of salt used, the less time taken for the water to freeze.

44b. Initial temperature of the water and amount of water.

45.



25

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46a. It was outside

46b Water vapour in the surrounding air outside the bedroom condenses on the cold windowpane

25(a)

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