



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 2 – 2014
PRIMARY 4**

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 4 _____

Date : 29 October 2014

Parent's Signature: _____

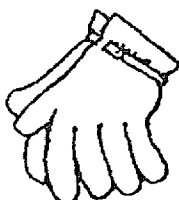
Section A: (30 x 2 marks = 60 marks)

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.

1. Which one of the following is a living thing?



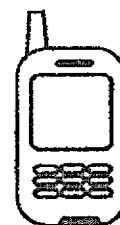
(1)



(2)



(3)



(4)

2. Which one of the animals shown below is **NOT** a bird?

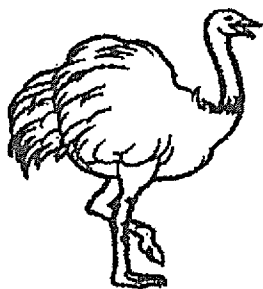
(1)



(2)



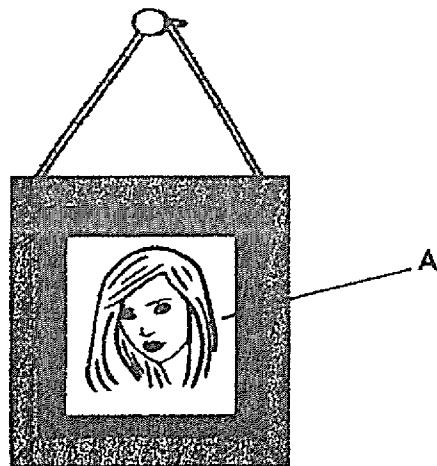
(3)



(4)

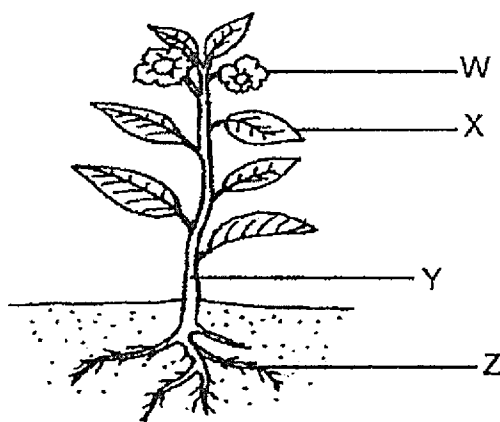


3. The diagram below shows a picture of a lady hanging on a wall.



Glass is used to make part A of the picture frame because it _____.

- (1) sinks in water
 - (2) is inflexible
 - (3) is transparent
 - (4) is strong
4. The diagram below shows a plant.

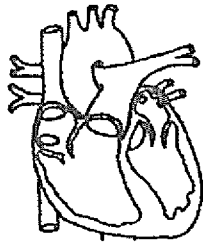


Which part (W, X, Y or Z) holds the plant upright?

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

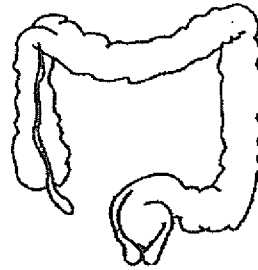
5. Which one of the following organs is part of our digestive system?

(1)



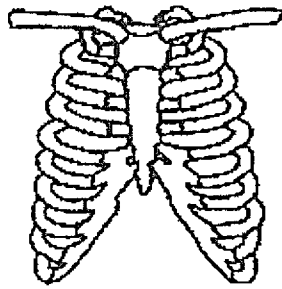
heart

(2)



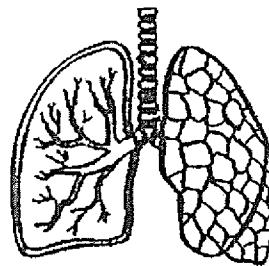
large intestine

(3)



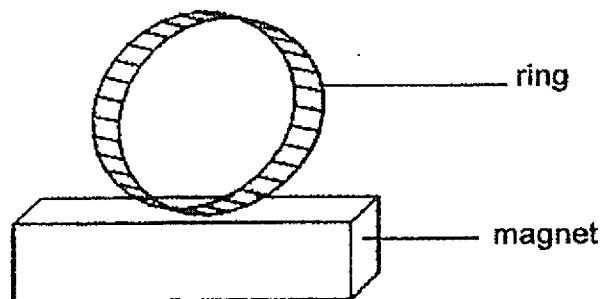
ribcage

(4)



lungs

6. A ring was attracted to a magnet, as shown in the diagram below.



The ring is made of _____.

- (1) gold
- (2) plastic
- (3) rubber
- (4) steel

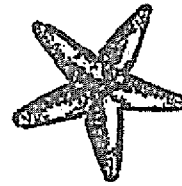
7. Which one of the following is a source of light?

(1)



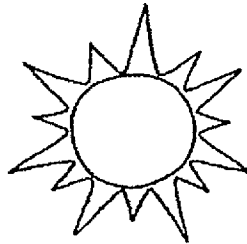
a mirror

(2)



a starfish

(3)



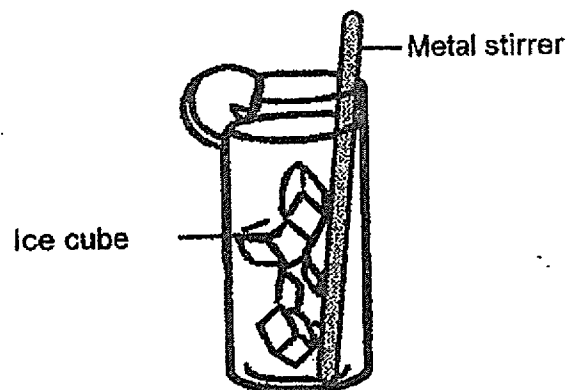
the Sun

(4)



an apple

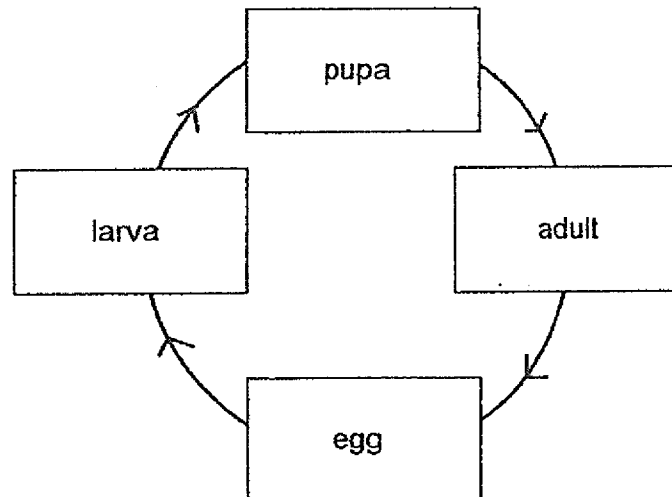
8. Cindy places a metal stirrer in a glass of ice lemonade. The stirrer becomes colder after a while.



Which one of the following best explains this?

- (1) The ice cubes lose heat to the stirrer.
- (2) The stirrer loses heat to the lemonade.
- (3) The stirrer gains heat from the lemonade.
- (4) The ice cubes gain heat from the lemonade.

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



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

- (1) frog
 - (2) cockroach
 - (3) grasshopper
 - (4) mealworm beetle
10. Matter is anything that has mass and occupies space.
- Which one of the following is matter?

- (1) steam
- (2) sound
- (3) shadow
- (4) sunlight

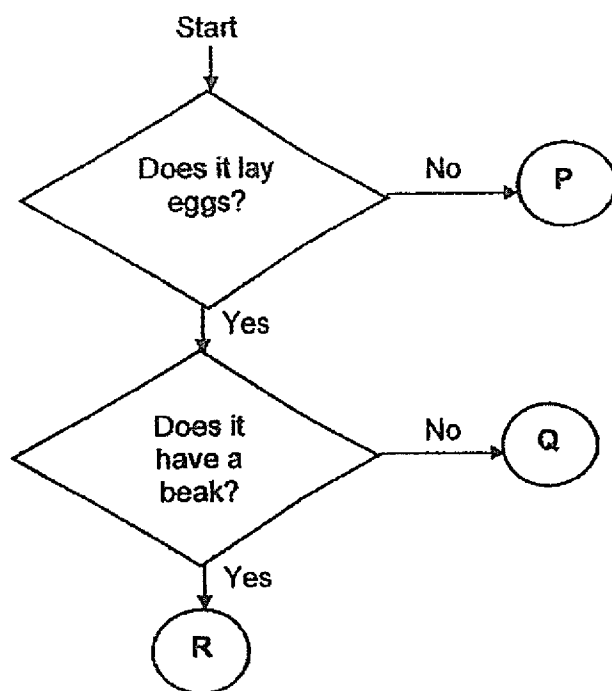
11. Perry wants to conduct an investigation to find out if organism Y can stay alive with only food given for a week. He placed similar organism Y in four different set-ups in the same room.

Set-up	A	B	C	D
Presence of food	No	Yes	Yes	No
Presence of water	Yes	No	Yes	No

Which of the above two set-ups should he use for his investigation?

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

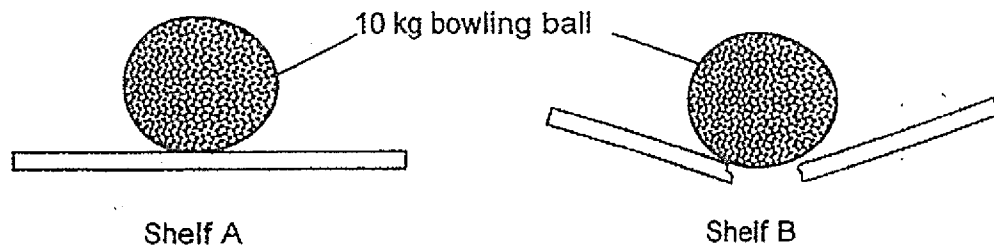
12. Study the flow chart below.



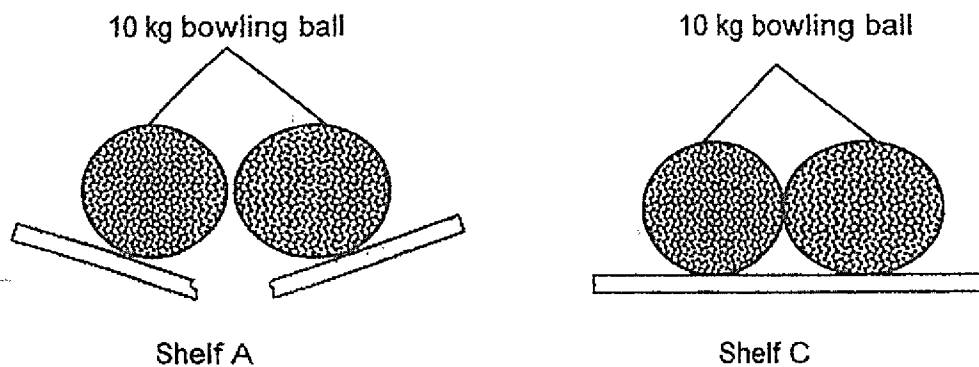
What could P, Q and R be?

	P	Q	R
(1)	horse	owl	parrot
(2)	whale	silverfish	sheep
(3)	platypus	guppy	eagle
(4)	rabbit	beetle	penguin

13. Adeline placed two similar 10 kg bowling balls on two wall shelves, A and B, made of different materials. After 5 minutes, she observed that shelf B broke while shelf A was still able to hold the 10 kg bowling ball.



After that, she placed the two bowling balls on shelf A and another two similar bowling balls on shelf C. After 5 minutes, she observed that shelf A broke but shelf C did not break.

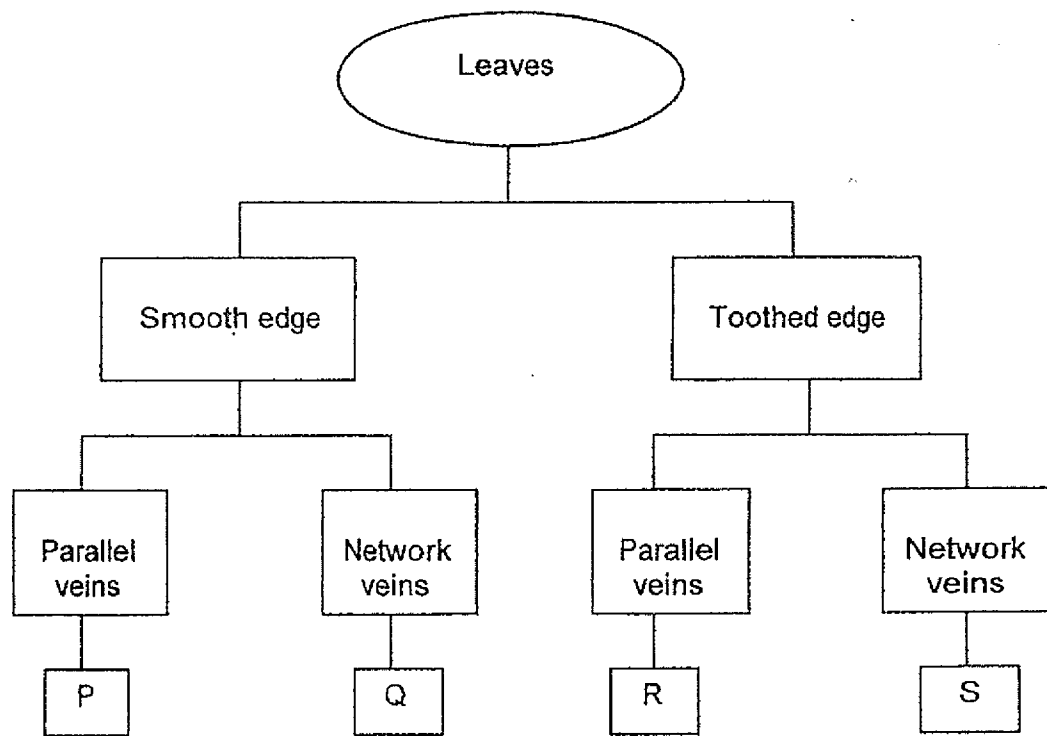


What conclusion(s) can Adeline make from her observations?

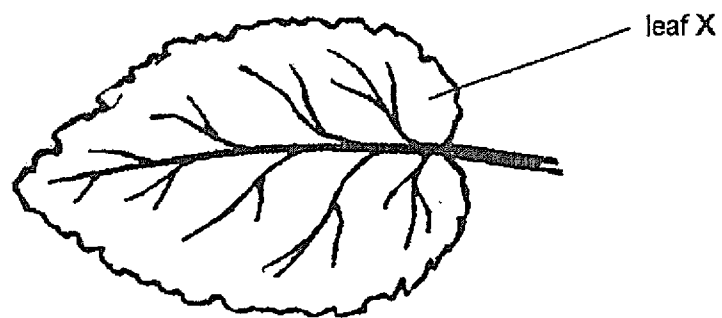
- A Shelf B is the weakest
- B Shelf C is weaker than shelf A.
- C Shelf A is stronger than shelf B and shelf C.
- D Shelf A and Shelf C is stronger than shelf B.

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

14. Study the classification chart below.



Which group of leaves does leaf X belongs to?



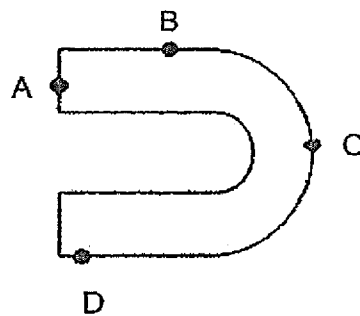
- (1) P
- (2) Q
- (3) R
- (4) S

15. Which of the following statement(s) is/are true about the human digestive system?

- A Food is not digested in the mouth and gullet.
- B Digestive juices are produced in the small intestine.
- C Water is absorbed from undigested food in the large intestine.

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

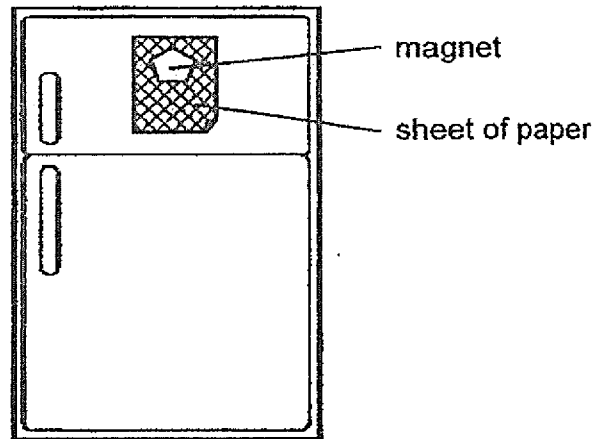
16. The diagram below shows a horseshoe magnet with different parts labelled A, B, C and D.



If part A can attract 5 pins, which of the following best represents the number of pins attracted by parts B, C and D of the horseshoe magnet?

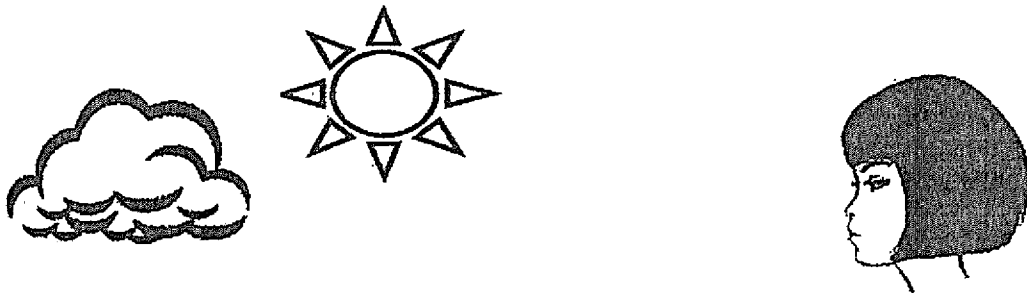
	B	C	D
(1)	1	3	4
(2)	1	4	3
(3)	3	1	4
(4)	3	4	1

17. Mala used a magnet to hold a sheet of paper on the surface of a refrigerator. She noticed that the magnet can only hold up to 6 sheets of the same type of paper.



Which one of the following best explains her observation?

- (1) The magnet can attract up to 6 sheets of paper.
 - (2) The refrigerator and the paper are made of magnetic material.
 - (3) The magnetism of the magnet cannot pass through 6 sheets of paper.
 - (4) The magnetism of the magnet can only pass through a maximum of 6 sheets of paper.
18. Which of the following path of light correctly shows how Jane sees the clouds?



- (1) From Jane's eyes to Sun to clouds.
- (2) From Jane's eyes to clouds to Sun.
- (3) From Sun to Jane's eyes to clouds.
- (4) From Sun to clouds to Jane's eyes.

19. Fiona conducted an investigation using a torch and a light sensor to find out the amount of light that passes through hot water and black coffee. She recorded her readings in the table below.

Hot water	Black coffee
450 unit	30 unit

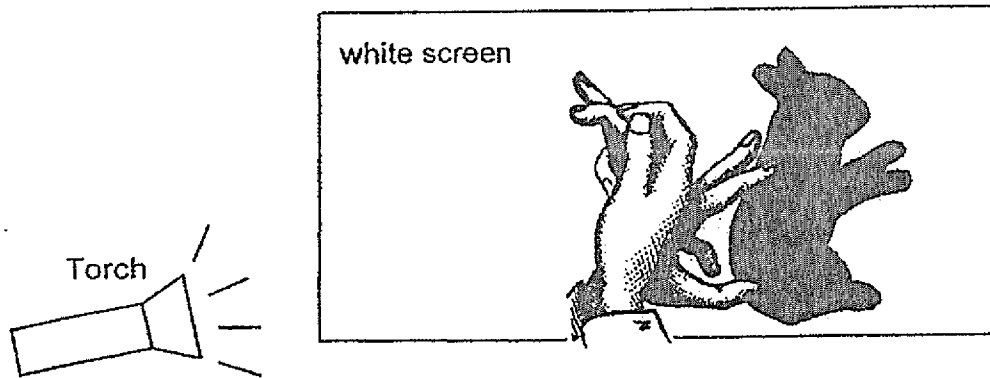
The next day, Fiona used the same set-up and mixed equal amount of substance X and substance Y into the hot water separately and recorded the readings of both mixtures in the table below.

Mixture of hot water and substance X	Mixture of hot water and substance Y
25 unit	450 unit

What substance could X and Y be?

	Substance X	Substance Y
(1)	sugar	salt
(2)	milo powder	sugar
(3)	salt	honey
(4)	soya sauce	milo powder

20. The diagram below shows how Mike created a shadow of a rabbit with his hands on a white screen in his study room.

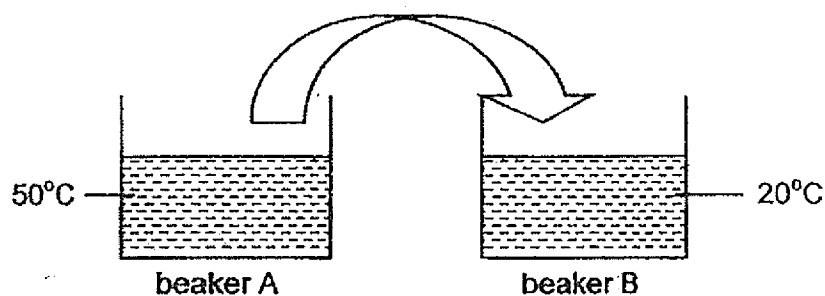


What should Mike do if he wants to create a bigger shadow?

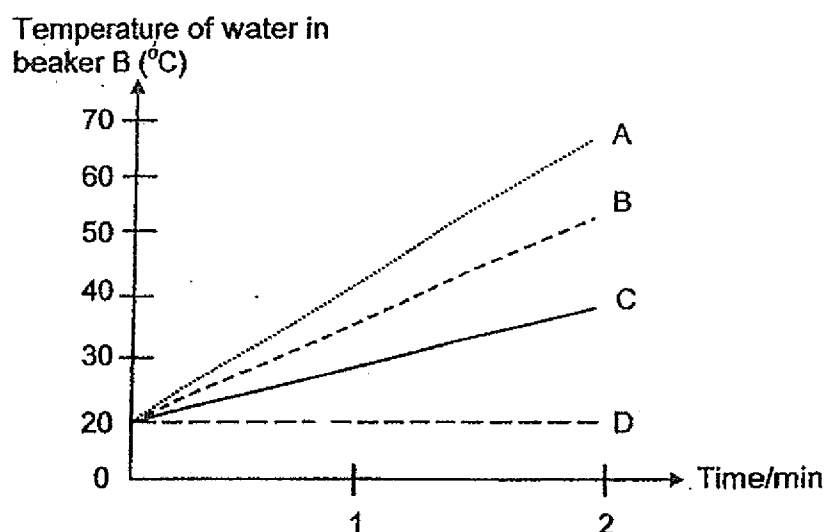
- A Move the torch nearer to his hands.
- B Move his hands further away from the torch.
- C Move the white screen further away from his hands.
- D Move his hands and torch nearer to the white screen.

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

21. The diagram below shows two beakers, each with 150 ml of water at different temperature.

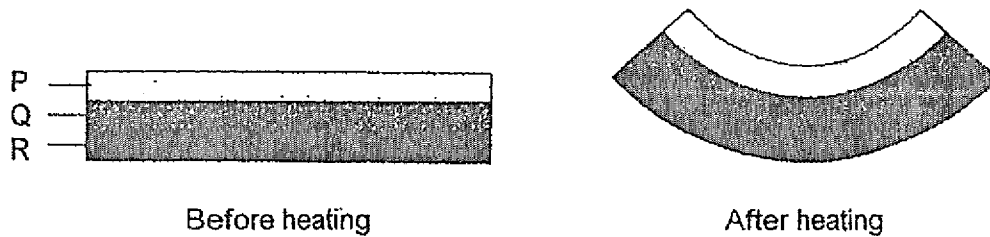


Which of the following lines in the graph correctly shows the changes in the temperature of water in beaker B over the next two minutes, when water in container A is poured into beaker B?



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

22. Benjamin had a metal bar which was made up of three different types of metals. After heating it for 5 minutes, Benjamin observed that the metal bar became curved as shown in the diagram below.



Which of the following would be the best conclusion made by Benjamin about the experiment he had done?

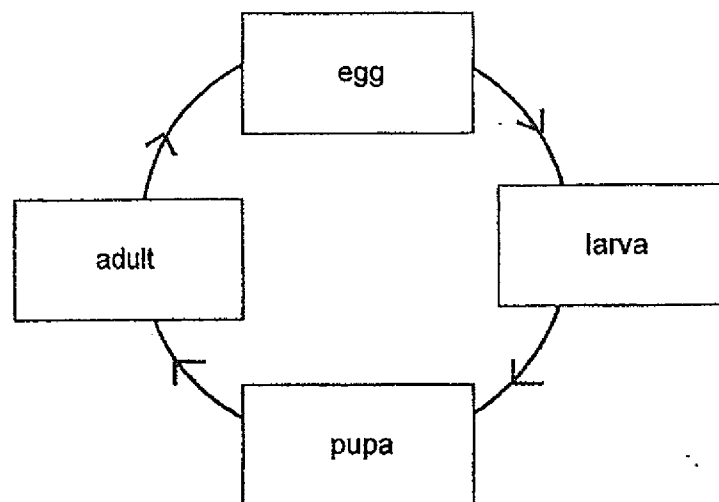
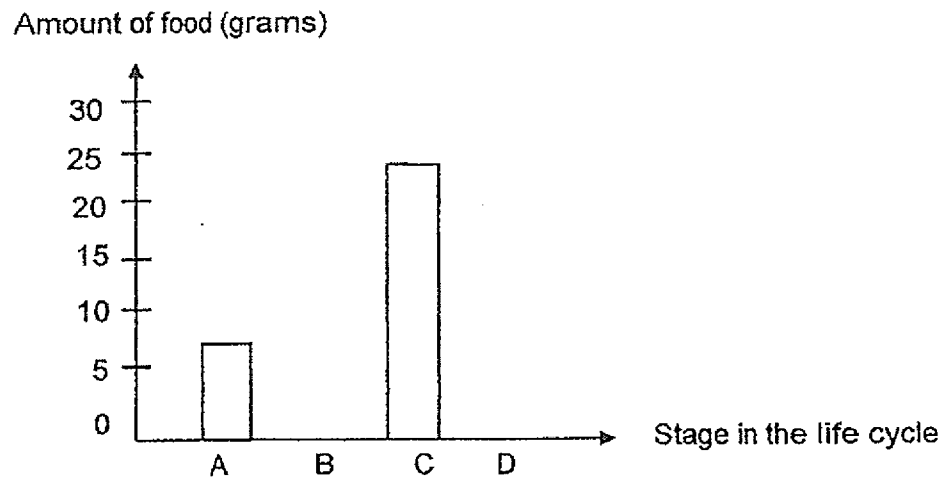
- (1) Only metal R expanded.
 - (2) Metal R expanded the most.
 - (3) Metal P contracted the most.
 - (4) Metal Q expanded less than metal R.
23. William conducted an experiment to find out the heat conductivity of four pots made of different materials. He poured equal amounts of tap water into the four pots and placed them under the sun in the same place. After 20 minutes, William recorded the temperature of the water in all four pots in the table below.

Type of pots	A	B	C	D
Starting temperature of tap water	25 °C	25 °C	25 °C	25 °C
Temperature of tap water after 15 minutes	29 °C	38 °C	26 °C	35 °C

Arrange the pots in order from the poorest conductor of heat to the best conductor of heat.

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

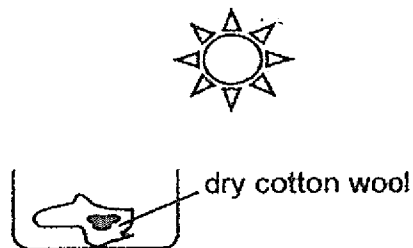
24. The graph below shows the amount of food taken in daily by animal X at different stages of its life cycle. The stages are not arranged in order.



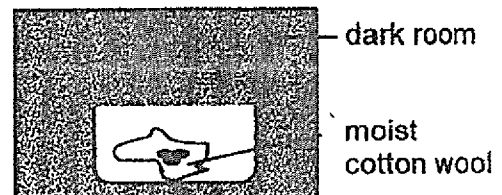
Which one of the stages in the graph best represents the larval stage of animal X?

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

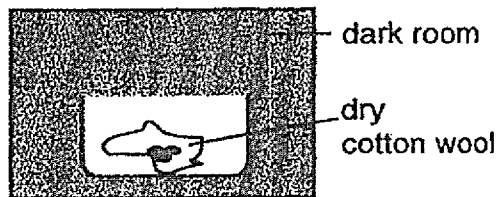
25. Mrs Lee prepared four different set-ups to teach her class about the conditions needed for seeds to grow. She placed equal number of seeds in each set-up but exposed them to different conditions as shown below.



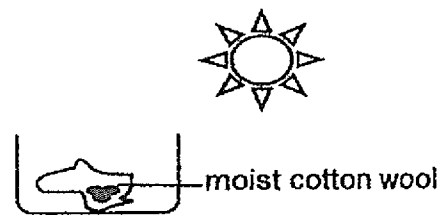
Set-up A



Set-up B



Set-up C

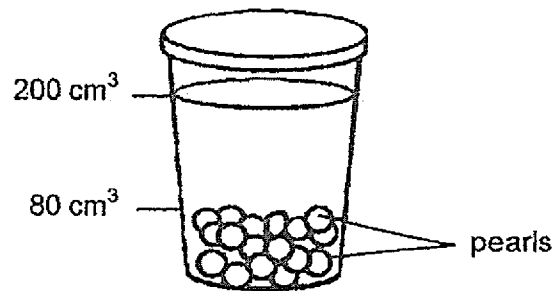


Set-up D

Which of the following set-up(s) will the seeds grow into seedlings after a few days?

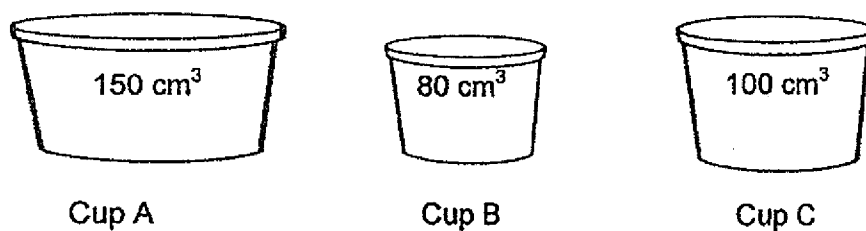
- (1) B only
- (2) A and D
- (3) B and D
- (4) B, C and D

26. Raymond bought a cup of milk tea with pearls filled up to the 200 cm^3 mark.



The cup was filled with pearls up to the 80 cm^3 mark before the milk tea was poured into the cup. What was the likely amount of milk tea used to make this cup of drink?

- (1) 80 cm^3
 - (2) 120 cm^3
 - (3) 140 cm^3
 - (4) 200 cm^3
27. The diagram below shows three cups with different volumes.



Which of the following cup/cups can contain 100 cm^3 of oxygen?

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

28. Which of the following correctly explains how clouds are formed in the water cycle?

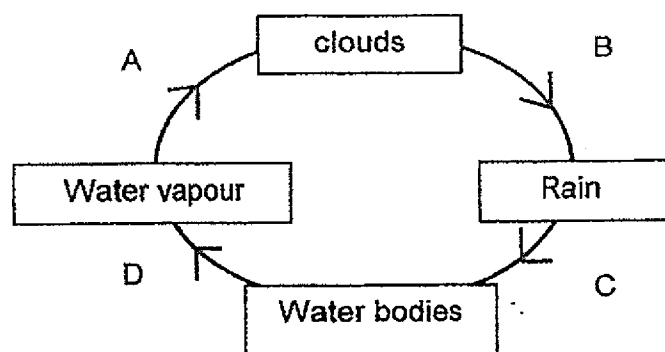
- (1) Water loses heat to the surroundings and forms clouds.
- (2) Water gains heat from the surroundings and forms clouds.
- (3) Water vapour loses heat to the surroundings and forms clouds.
- (4) Water vapour gains heat from the surroundings and forms clouds.

29. Which of the following activities help(s) us to conserve water?

- A Wash vegetables under a running tap.
- B Purify used water from homes and factories for other uses.
- C Collect rinse water from the washing machine to flush the toilet.

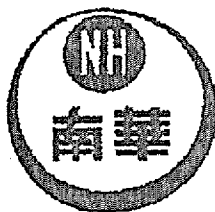
- (1) B only
- (2) A and C only
- (3) B and C only
- (4) A, B and C

30. The diagram below shows a simplified version of the water cycle. A, B, C and D represent the processes that take place in the cycle.



Which process involves heat gain or heat loss by water/water vapour?

	Heat gain	Heat loss
(1)	A	B
(2)	B	C
(3)	C	D
(4)	D	A



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 2 – 2014
PRIMARY 4**

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
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Name: _____ () **Class:** P 4 _____

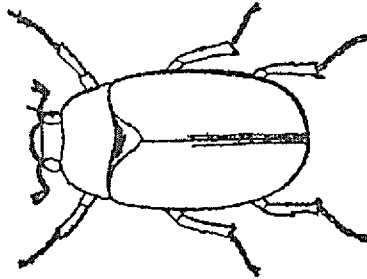
Date : 29 October 2014

Parent's Signature: _____

Section B: (40 marks)

Write your answers to questions 31 to 44. The number of marks available is shown in brackets [] at the end of each question or part question.

31. Look at the diagram below and tick (✓) the correct box(es).



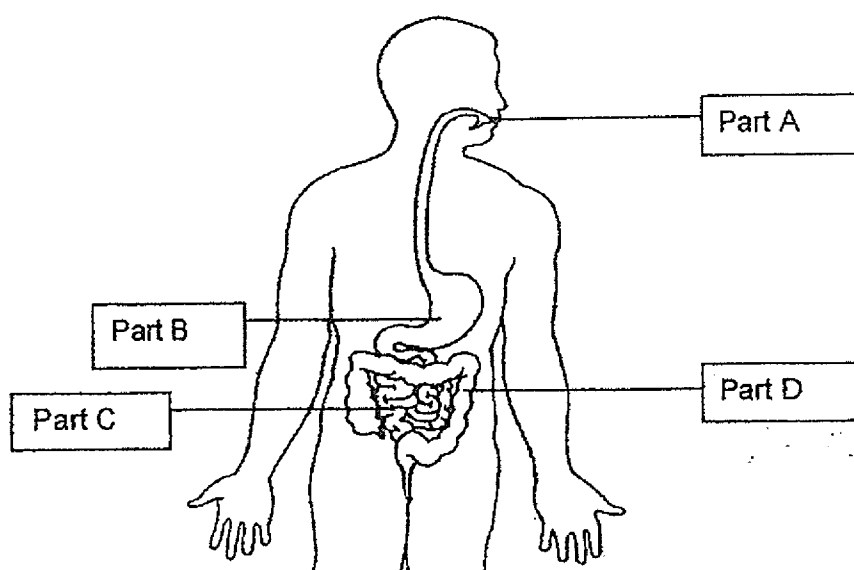
It is an insect because it _____.

[2]

- ☐ can crawl
- ☐ has six legs
- ☐ has eyes
- ☐ has three body parts

Score	2
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32. The diagram below shows the human digestive system.

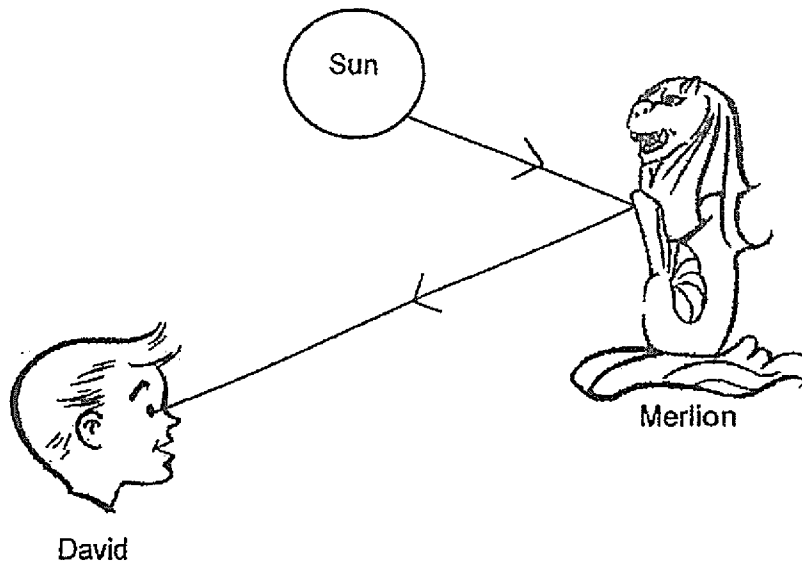


Identify the part where

- a) digestion first takes place : Part _____ [1]
- b) digestion is completed : Part _____ [1]

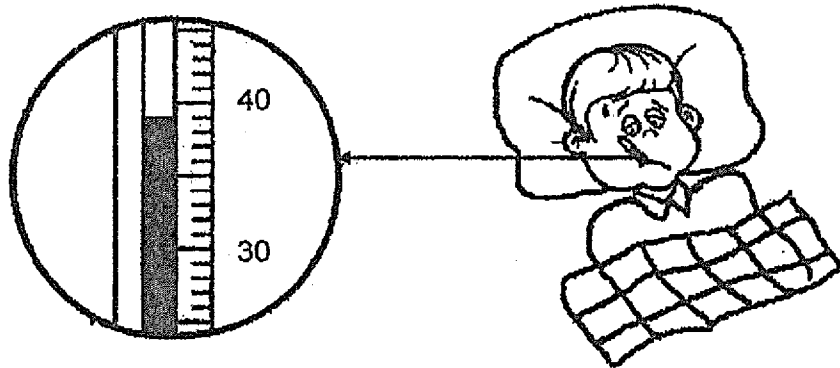
Score	2
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33. The diagram below shows how David sees the statue of the Merlion.



The sun gives off _____ and the statue of the Merlion _____ the light into David's eyes. [2]

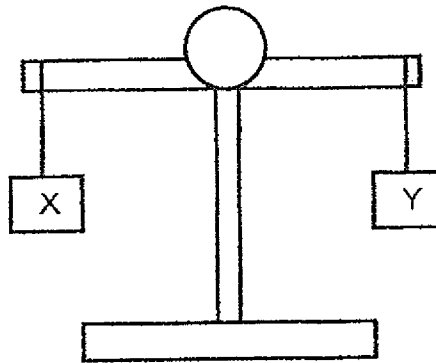
34. Roy had a fever. He used an instrument to measure his temperature.



- a) What is the instrument called? [1]

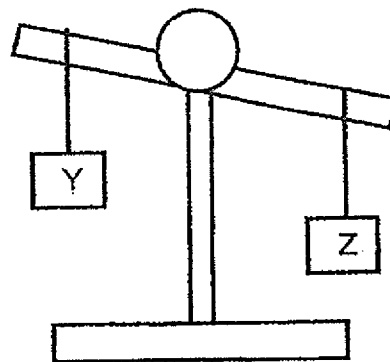
- b) What is Roy's temperature? [1]

35. Study the diagrams below and tick (✓) the correct box for part (a) and (b).



a) Block X _____ block Y. [1]

- ☐ is lighter than
☐ has the same mass as
☐ is heavier than

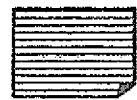


b) Block Y _____ block Z. [1]

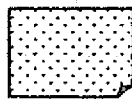
- ☐ is lighter than
☐ has the same mass as
☐ is heavier than

Score	2
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36. Eric conducted an experiment to investigate a property of material using 3 different sheets of materials, A, B and C.



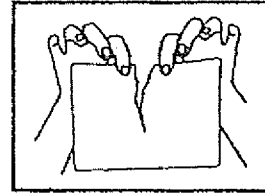
Material A



Material B



Material C



He placed sheets of the same material together to tear them. Then he recorded the maximum number of sheets of the same material that he can tear together at one go in the table below.

	A	B	C
Maximum number of sheets of material that Eric can tear together at one go when placed together	8	2	25

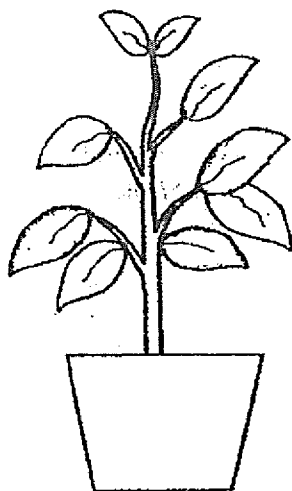
- a) What property of material was Eric investigating? [1]

- b) State two variables that must be kept the same in order to ensure a fair test. [2]

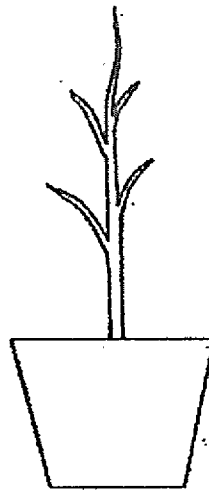
- c) Which material should Eric choose to make a paper bag to carry heavy books? Explain your answer. [1]

Score	4
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37. Jack has two similar potted plants in his garden. He removed all the leaves from plant B but continues to water both plants daily.



Plant A



Plant B

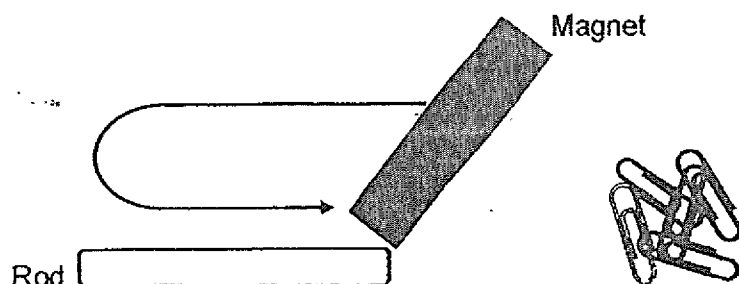
- a) What will most likely happen to plant A and plant B after a week? [1]

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

- c) Jack wanted to remove plant A from the pot and plant it in the ground. He had difficulties pulling out the plant so he cut the roots of the plant. After a week, the plant wilted and died even though Jack watered it daily. Explain why the plant died. [1]

Score	3
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38. Max used a piece of bar magnet to magnetise a piece of rod in order to pick up some paper clips. He stroked the rod with the magnet from one end to the other end and repeated this step by increasing the number of strokes. He observed the number of paper clips picked up by the rod as the number of strokes increased and recorded his observations in the table below.



Number of strokes	Number of paperclips picked up
6	2
10	5
20	8

- a) What relationship could Max observe between the number of strokes and the number of paperclips picked up by the rod? [2]

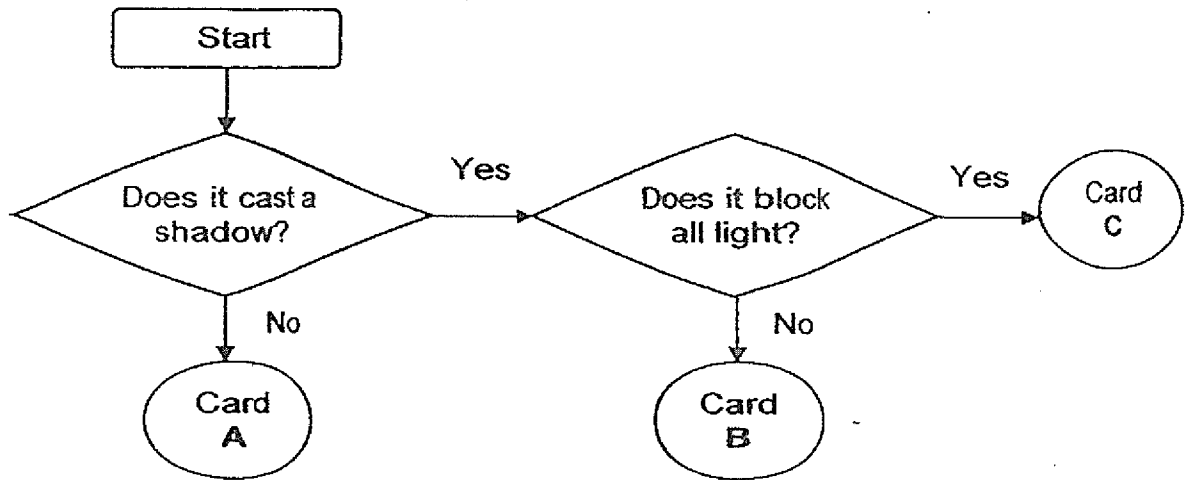
- b) His friend, Rex, used the same method to magnetise a different piece of rod but the rod was not able to pick up any paper clips. Name the type of material that each rod is likely to be made of. [2]

Max's rod: _____

Rex's rod: _____

Score	4
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39. Study the flow chart below and answer the questions that follow.



- a) Based on the flow chart above, which card is made of opaque material?

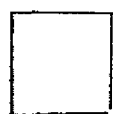
[1]

- b) Arrange the cards (A, B and C) in the boxes below so that a **dark shadow** of the pencil will be cast on the second card when the torch is lighted.

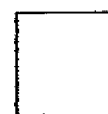
[2]



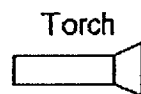
First



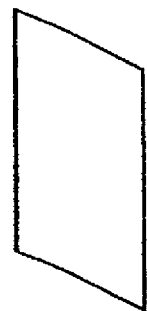
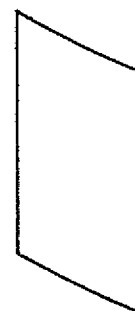
Second



Third

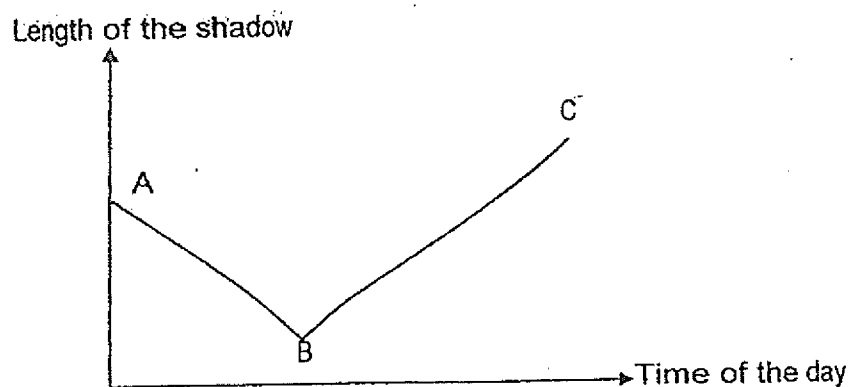


First card



Score	3
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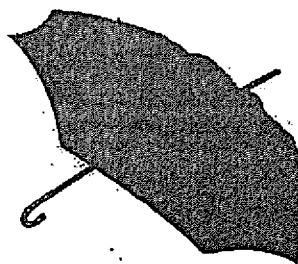
40. Study the line graph below and answer the questions that follow.



a) Which part of the graph, A, B or C, represents noon time-(12 pm)? [1]

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

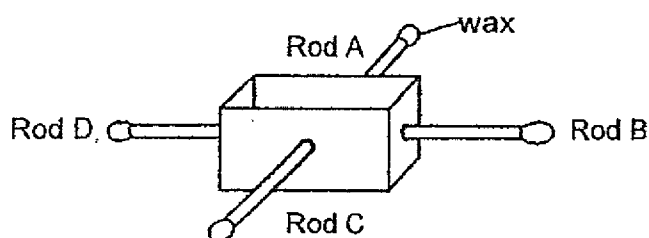
c) Tom is walking along the pavement and holding a big black umbrella to shield himself from the glaring sun.



Will he be able to see a shadow of the umbrella on the pavement?
Explain your answer. [1]

Score	3
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41. Mr. Chong conducted an experiment with his class as shown in the diagram below. He inserted four rods of different materials into a trough. Then he coated the ends of each rod with wax. After that he poured hot water into the trough.



He recorded the time taken for the wax on each of the rods to melt in the table below.

Time taken for the wax to melt (minutes)	15	6	12	10

- a) Based on Mr Chong's experiment, identify the variables in his experiment.

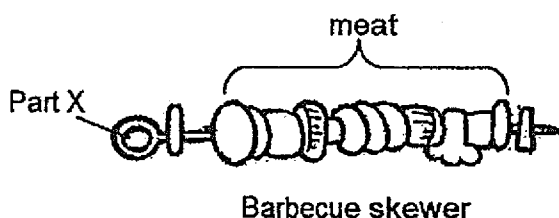
[3]

Put a tick (✓) in the correct boxes below.

Variables	Independent variable	Dependent Variable	Constant variable
Material of rod			
Amount of wax			
Time taken for the wax to melt			

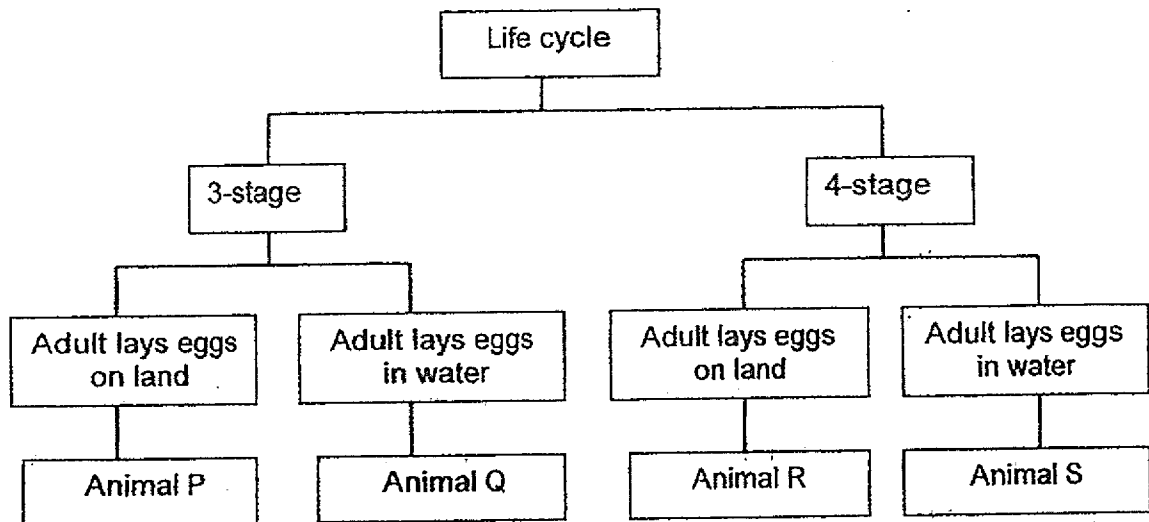
- b) Which rod (A, B, C or D) would Mr Chong choose to make part X of the barbecue skewer so that his hand will not be scalded easily when he holds part X to cook the meat? Explain your answer.

[1]



Score	4
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42. Study the classification table below and answer the questions that follow.



- a) Based on the classification chart above, how would you describe Animal Q? [1]

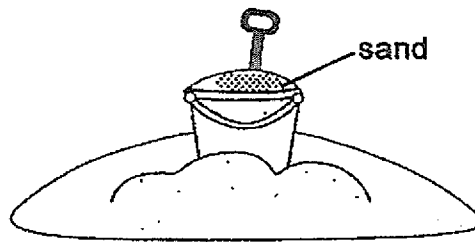
- b) Match the animals below with the animals described in the classification chart. [2]

i) Duck: _____

ii) Moth: _____

Score	3
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43. Sandy and her friends were at a beach building a sandcastle. She filled a bucket with sand to the brim. Then she poured some seawater into the bucket to wet the sand and noticed that the seawater did not spill out of the bucket even though the bucket was filled with sand.



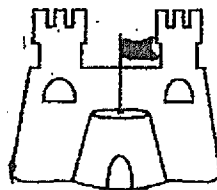
- a) Explain why the seawater did not spill out of the bucket.

[1]

- b) Sandy used another bucket to collect seashells to decorate the sandcastle. She could only put 50 seashells into the bucket. Explain why she could not put more than 50 seashells into the bucket.

[1]

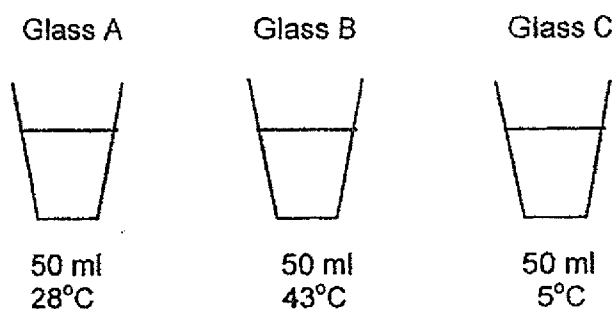
After an hour, they built a small sandcastle as shown in the diagram below. Sandy commented that the sand is not a solid because it takes the shape of the bucket and can also change its shape to make a sandcastle.



- c) Is Sandy correct? Explain your answer.

[1]

44. Irene set up an experiment to observe condensation taking place in a room with a constant temperature of 28°C . She filled three identical glasses with the same amount of water but at different temperature as shown below.



- (a) Which glass(es) would she be able to observe water droplets forming on the outer surface of the glass? [1]

- (b) Explain how the water droplets were formed in part (a) [2]

End of paper

Score	3
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EXAM PAPER 2014**SCHOOL : NAN HUA PRIMARY SCHOOL****PRIMARY : P4****SUBJECT : SCIENCE****TERM : SA2****BOOKLET A**

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

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

BOOKLET B**31. Has six legs****Has three body parts****32. A & C****33. Light****Reflects****34. a) Thermometer****b) 39°C****35. a) has the same mass as****b) is lighter than****36. a) He wanted to find out the strength of the material.****b) The thickness of the materials and the length of the materials.****c) Material B is the strongest material so that the paper bag will not tear easily.**

37. a) Plant A will be alive while plant B will be dead.
b) Plant A has leaves to make food for the plant but plant B does not.
c) The roots help the plant absorb water. After Jack cut the roots, the plant can't absorb any water.
38. a) The more the number of strokes, the more the number of paper clips picked up.
b) Iron
Wood
39. a) Card C
b) A C B
40. a) B
b) The shadow is shortest at noon.
c) Yes. The umbrella is black, thus it is opaque and casts a shadow on the pavement.
41. a) Independent variable
Constant variable
Dependent variable
b) Rod A. It took the longest time for the wax to melt and it is the poorest conductor of heat.
42. a) Animal Q has a 3 stage life cycle and lays eggs in water.
b) i) Animal P
ii) Animal R
43. a) There were air spaces for sea water to occupy so it did not spill.
b) Seashells are solids and cannot be compressed.
c) No. Each grain of sand is a solid and has a definite shape.
44. a) Glass C
b) When the surrounding water vapour touches the cooler outer surface of glass, it will lose heat
and condense into tiny water droplets.