

Pei Chun Public School  
Continual Assessment – 2007  
Science  
Primary 4

Name : \_\_\_\_\_ ( )

Date : 24 August 2007

Class : Pri. 4 ( )

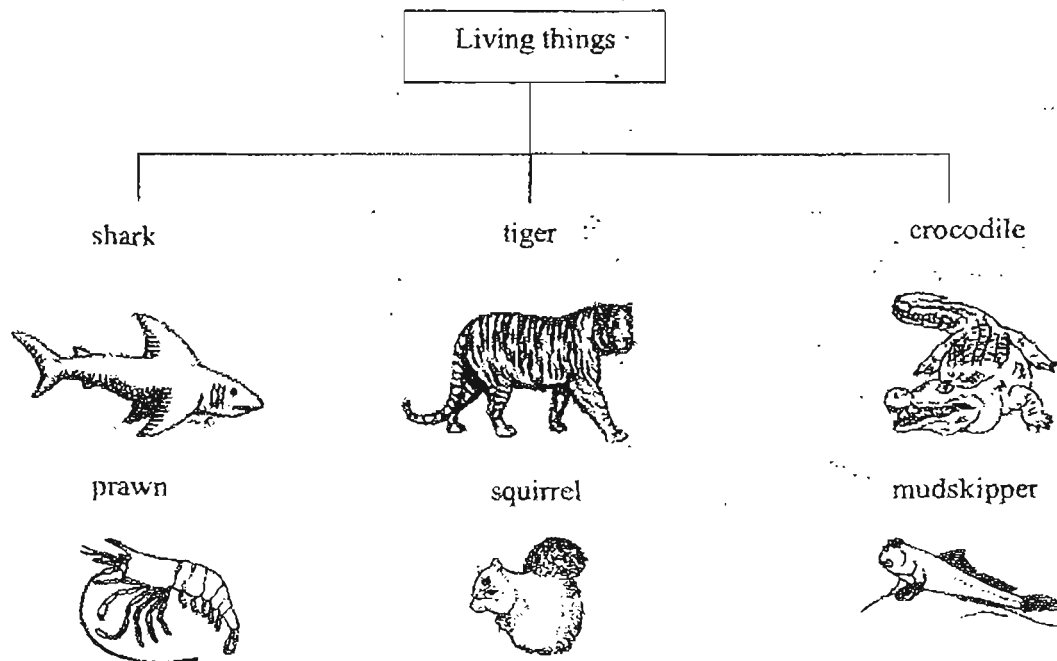
Science Teacher : \_\_\_\_\_

Time : 1 hr 20 min

**Section A (25 × 2 marks)**

For questions 1 to 25, choose the most suitable answer and shade its number (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1. Some living things have been classified as shown below.



The living things are classified according to \_\_\_\_\_.

- (1) their body covering
- (2) the way they move
- (3) where they live
- (4) what they eat

( )

2. Max conducted a series of tests on materials E, F, G and H. His results are shown below.

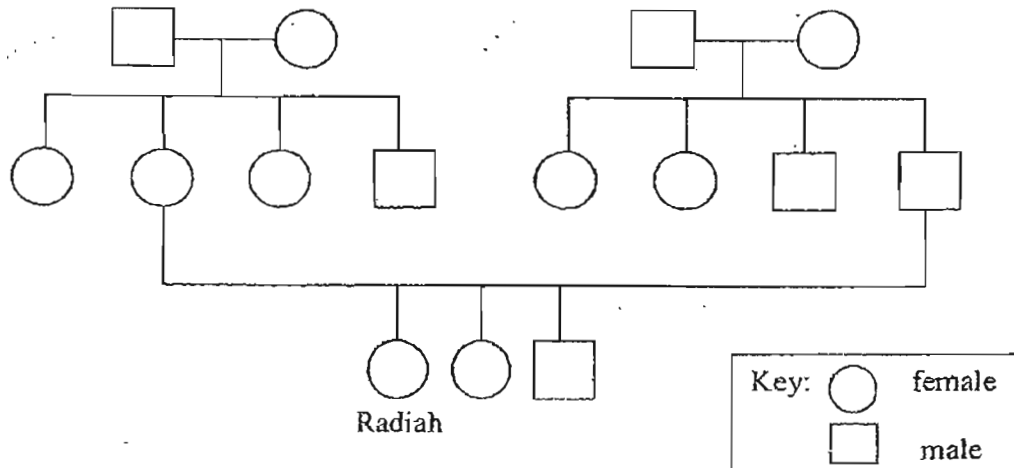
	E	F	G	H
Breakable	✓	×	×	×
Flexible	×	✓	×	✓
Stretchable	×	✓	×	✓
Waterproof	✓	✓	✓	×

Which material is the most suitable to be made into a long-lasting bookshelf?

- (1) E
- (2) F
- (3) G
- (4) H

( )

3. Study Radiah's family tree below.

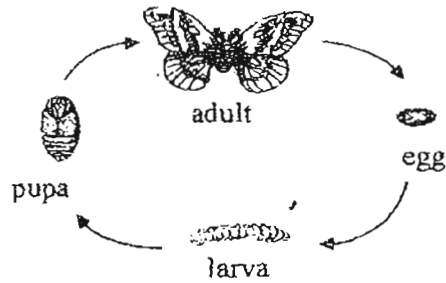


Which of the statements below is definitely true?

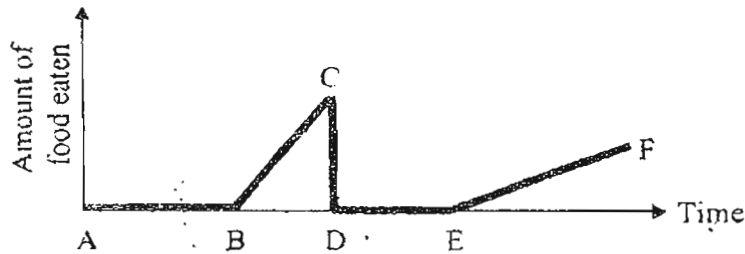
- (1) Radiah has two siblings.
- (2) Radiah has three uncles.
- (3) Radiah's mother has one sister.
- (4) Radiah's father is the youngest son.

( )

4. The diagram below shows the stages in the life cycle of a butterfly.



The graph below shows the amount of food eaten by the butterfly at the 4 different stages of its life cycle.



The line 'BC' shows the \_\_\_\_\_ stage of the butterfly.

- (1) egg
- (2) larva
- (3) pupa
- (4) adult

5. Four identical dishes, A, B, C and D, each contained the same amount of cotton wool. Five beans were placed on the cotton wool in each of the dishes for 5 days. The containers were placed in different places.

Dish	Air	Water	Sunlight	Temperature
A	Yes	Yes	Yes	30°C
B	No	Yes	Yes	29°C
C	Yes	No	No	33°C
D	Yes	Yes	No	29°C

Based on the information in the table above, which dish(es) will have seedlings in 5 days' time?

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

6. A, B, C and D represent Shanti's sense organs. The table below shows how the sense organs tell her about her surroundings.

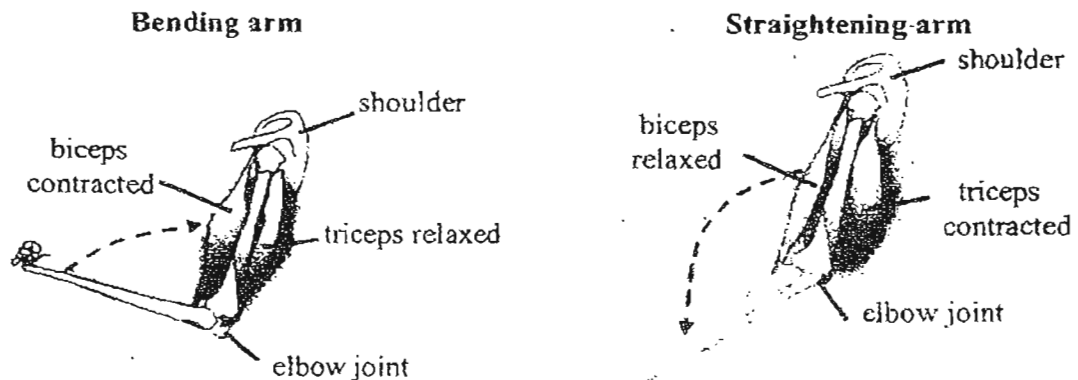
Sense Organ	Information
A	Tells her that the rock is rough.
B	Tells her that there is thunder.
C	Tells her that the ball is blue.
D	Tells her the scent of her perfume.

Based on the information given, what do A, B, C and D represent?

	A	B	C	D
(1)	eyes	ears	nose	skin
(2)	eyes	ears	skin	nose
(3)	skin	eyes	nose	ears
(4)	skin	ears	eyes	nose

( )

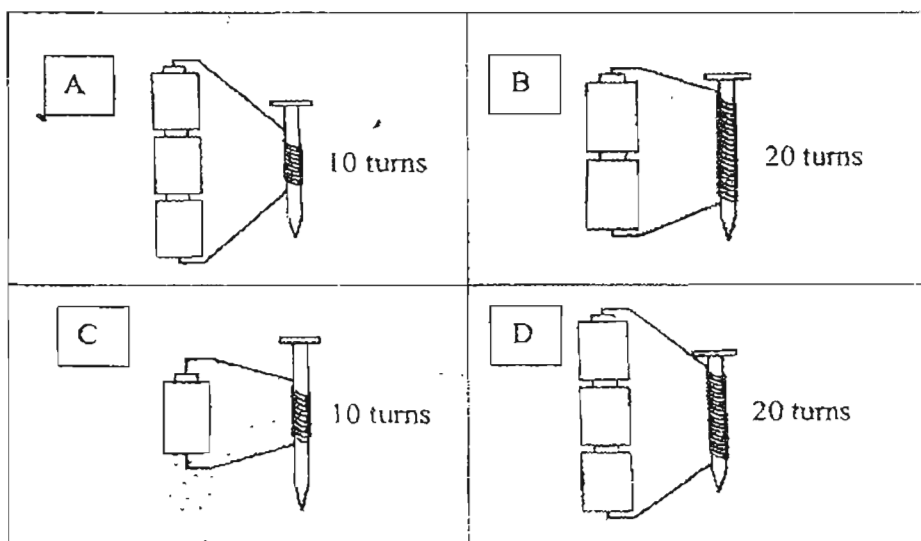
7. When muscles contract, they shorten. When muscles relax, they lengthen. Muscles move bones. The arrows show the directions in which the bones move.



According to the diagrams, to straighten the arm, \_\_\_\_\_

- (1) the biceps lengthen and the triceps lengthen
  - (2) the biceps lengthen and the triceps shorten
  - (3) the biceps shorten and the triceps lengthen
  - (4) the biceps shorten and the triceps shorten
- ( )

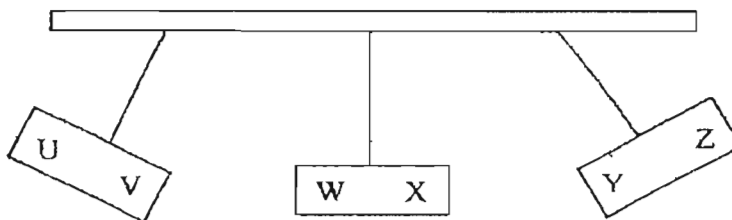
8. An iron nail becomes an electromagnet when it is placed in a coil of wire joined to batteries. Samuel wants to find out whether the number of turns of the coil affects the strength of the electromagnet.



Which two arrangements in the above diagrams should he set up to conduct a fair test?

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

9. The diagram below shows 3 magnets that repel one another when placed on a table.



Which of the following correctly shows the possible poles of U, W and Z?

	U	W	Z
A	North	North	South
B	North	South	South
C	South	South	North
D	South	North	North

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

10. Sying has a piece of plasticine which is 160g and has a volume of  $40\text{cm}^3$ . She moulded the whole piece of plasticine into 3 parts: head, body and tail. She measured and recorded the masses and volumes of the 3 parts before putting them together to form a duck.



Which of the following shows the correct results?

(1)

Shape of plasticine	Mass (g)	Volume ( $\text{cm}^3$ )
head	50	11
body	60	22
tail	50	15

(2)

Shape of plasticine	Mass (g)	Volume ( $\text{cm}^3$ )
head	48	12
body	70	18
tail	40	10

(3)

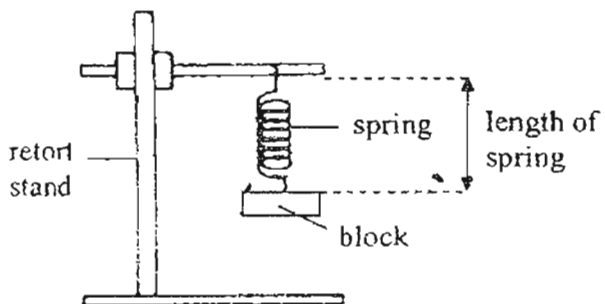
Shape of plasticine	Mass (g)	Volume ( $\text{cm}^3$ )
head	40	10
body	80	20
tail	40	5

(4)

Shape of plasticine	Mass (g)	Volume ( $\text{cm}^3$ )
head	48	12
body	88	22
tail	24	6

( )

11. 5 blocks, P, Q, R, S and T, of different masses are attached to a spring one at a time as shown below.



The length of the spring is measured and recorded in the table below.

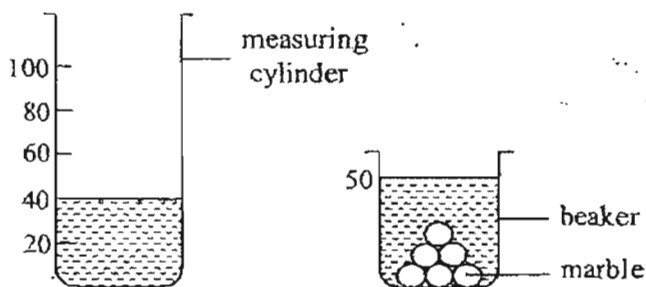
Block	Length (cm)
P	18
Q	24
R	5
S	29
T	11

Arrange the blocks in decreasing order of mass.

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

( )

12. Weiliang set up an experiment as shown below.

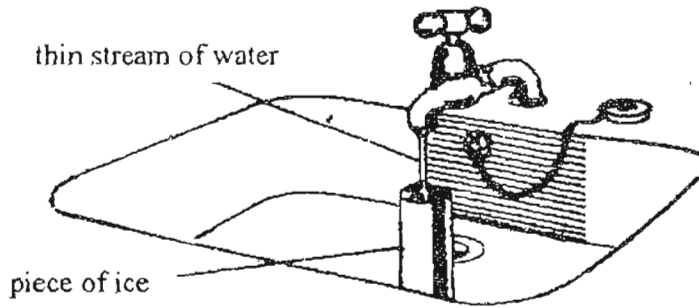


Which of the following would he observe if he transfers two of the marbles from the beaker into the measuring cylinder?

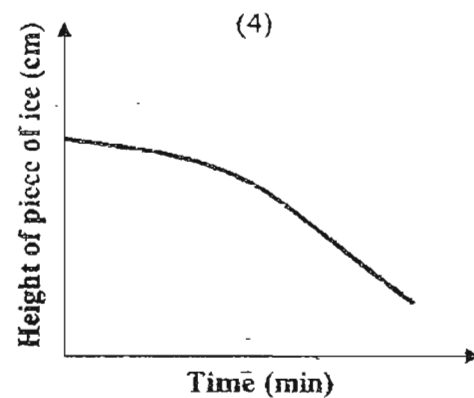
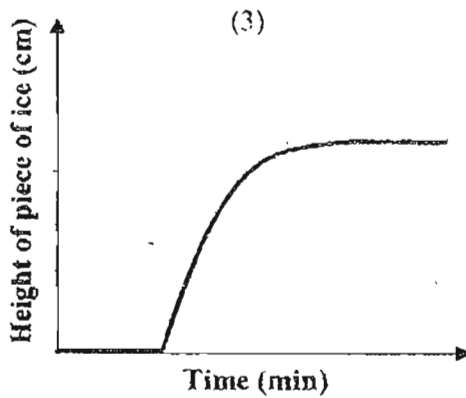
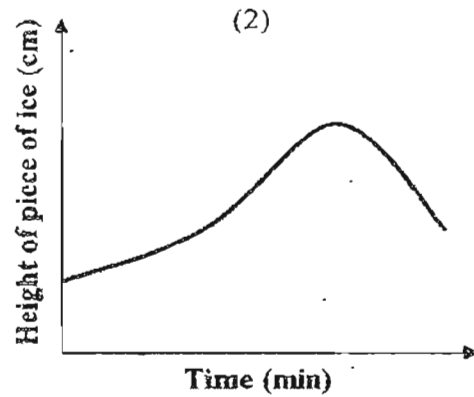
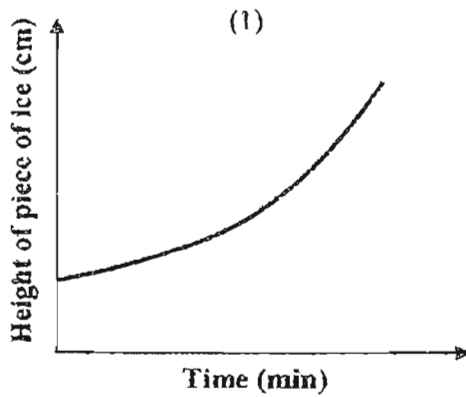
	Water level in the measuring cylinder	Water level in the beaker
(1)	Nothing happens	Rises
(2)	Rises	Nothing happens
(3)	Rises	Falls
(4)	Falls	Falls

( )

13. Aliya wanted to investigate the way a piece of ice is worn away by warm running water. She placed a long piece of ice in a sink and let a thin stream of water run slowly over it.



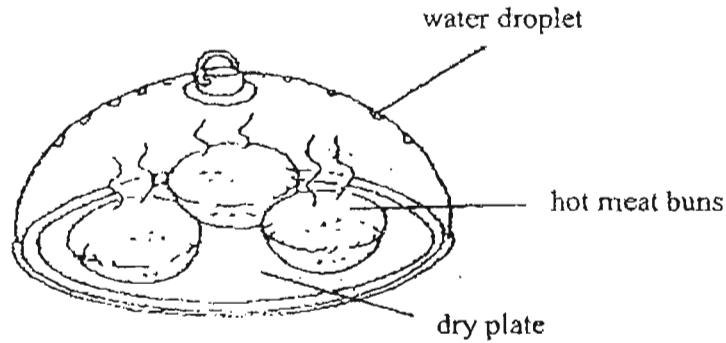
Aliya measured the height of the piece of ice and plotted her results in a graph. Which of the following graphs shows the correct change in the height of the piece of ice?



( )



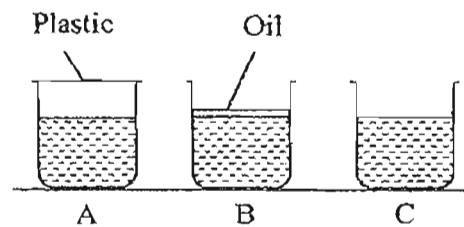
14. Mum placed some hot meat buns on a dry plate and covered it with a plastic cover. After a few minutes, she saw tiny water droplets on the plastic cover.



Where do you think the water droplets came from?

- (1) Warm water vapour from the meat buns rose up to the plastic cover and condensed on the inside of the plastic cover.
- (2) Warm water from the plate rose up to the plastic cover and condensed on the inside of the plastic cover.
- (3) Warm water vapour from the air inside the plastic cover condensed on the outside of the plastic cover.
- (4) Warm water vapour from the air outside the plastic cover condensed on the inside of the plastic cover. ( )

15. Arthur placed an equal amount of water into 3 identical beakers. He put a plastic cover over beaker A, poured a layer of oil into beaker B and left the water in beaker C exposed. He then placed all the 3 beakers side by side in the school field.

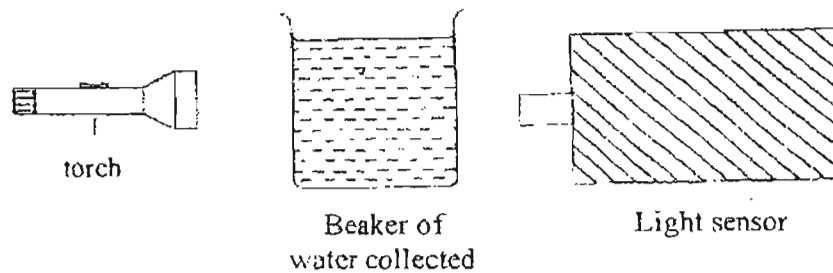


Which of the following shows what happened several hours later?

- (1)
- (2)
- (3)
- (4)

( )

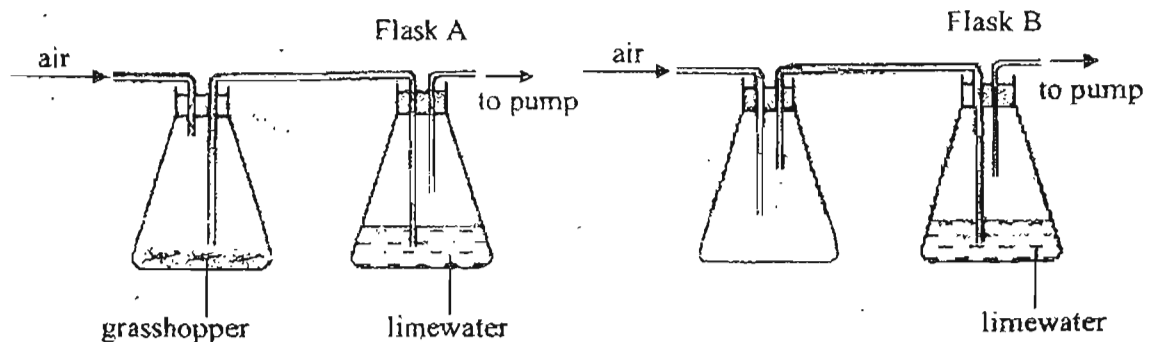
16. One way of checking whether water is polluted is to see how clear it is. In general, the clearer the water, the less polluted it is. With this in mind, a group of P4 pupils collected four beakers of water from four different places, A, B, C and D. Using the set-up below, they measured and recorded the amount of light that passed through the four beakers of water.



The table below shows the data collected. From the data, which place has water that is the most polluted?

	Place	Amount of light received by the sensor (units)
(1)	A	1.2
(2)	B	4.0
(3)	C	7.8
(4)	D	5.5

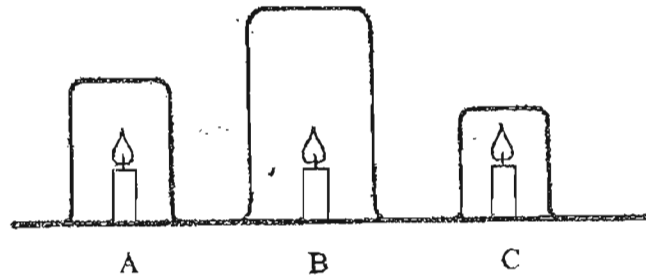
17. Meiling prepared the setup below.



Meiling observed that the limewater in Flask A turned more chalky than the limewater in Flask B. Which of the following is the most likely reason for Meiling's observation?

- (1) Flask A does not have any carbon dioxide but Flask B does.
- (2) Flask A has carbon dioxide but Flask B does not.
- (3) Flask B has more carbon dioxide than Flask A.
- (4) Flask B has less carbon dioxide than Flask A.

18. Ranjit was given three gas jars of different sizes. He lighted three identical candles and inverted the 3 gas jars over them as shown below.

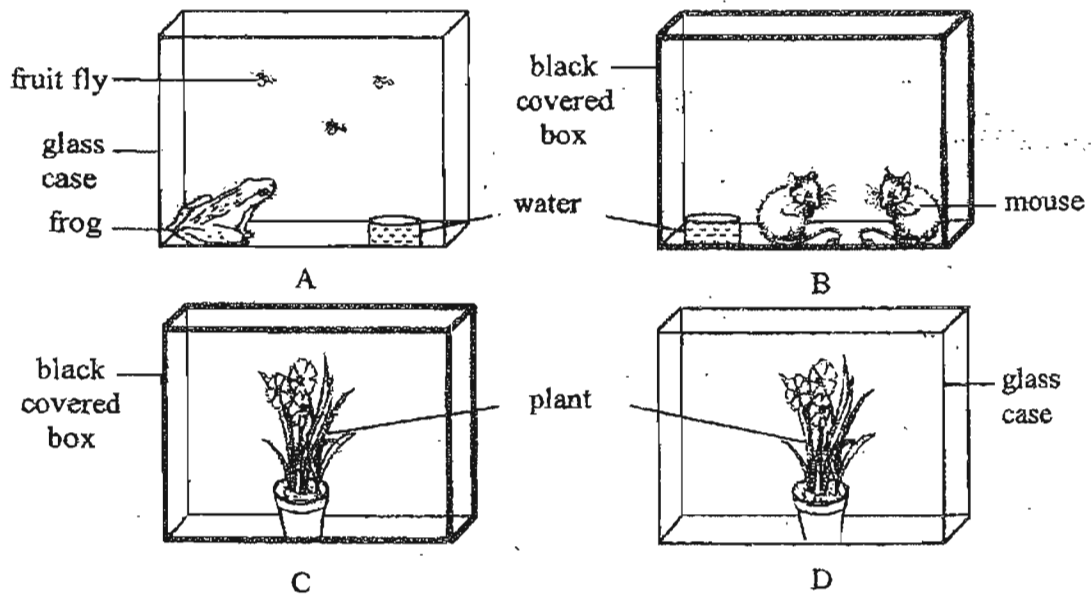


Which of the following shows the correct order in which the flames extinguish?

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

( )

19. A group of pupils prepared the set-ups below. The set-ups were placed side by side in an open field on a sunny day.

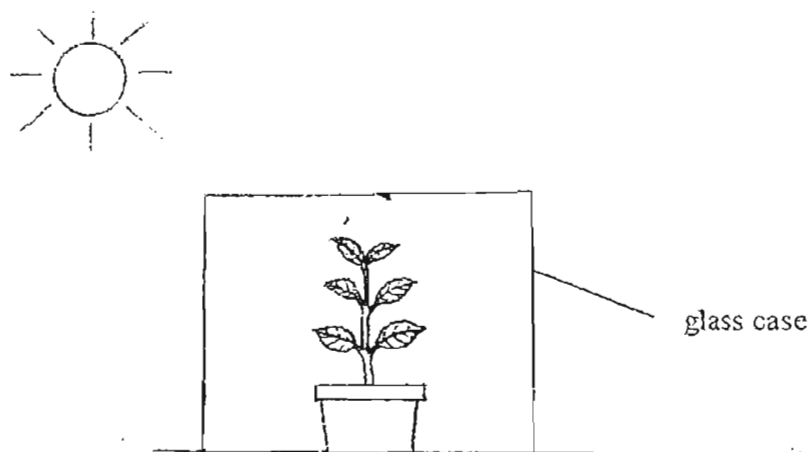


Which of the sealed set-ups above would contain the most amount of oxygen after 3 hours?

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

( )

20. A healthy plant is put in a glass case and left in a sunny place.

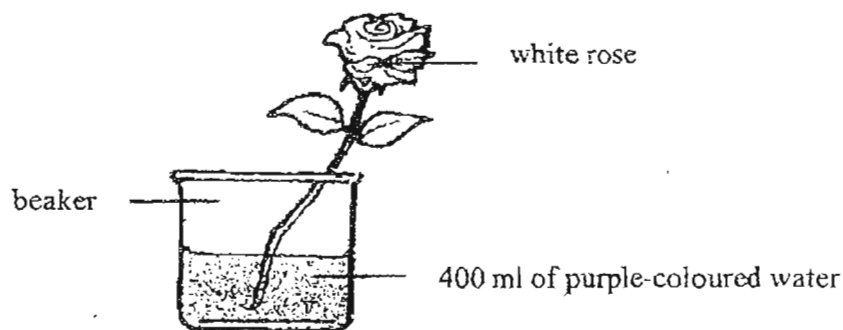


Which of the following most likely shows the change in the amount of gases present in the glass case after two hours?

	Carbon dioxide	Oxygen	Water vapour
(1)	decrease	increase	increase
(2)	decrease	decrease	increase
(3)	increase	increase	decrease
(4)	increase	decrease	increase

( )

21. Fionne sets up an experiment as shown below.



What will she observe after two days?

	Colour of petals	Amount of water left in the beaker (ml)
(1)	white	350
(2)	purple	400
(3)	purple	350
(4)	white	400

( )

22. Mrs Lee asked the following question:  
Why does your heart beat faster when you exercise?  
3 pupils gave the following answers.

Ariel : To pump blood more quickly to all parts of our body.

Kumar : To supply more digested food and oxygen to all parts of our body.

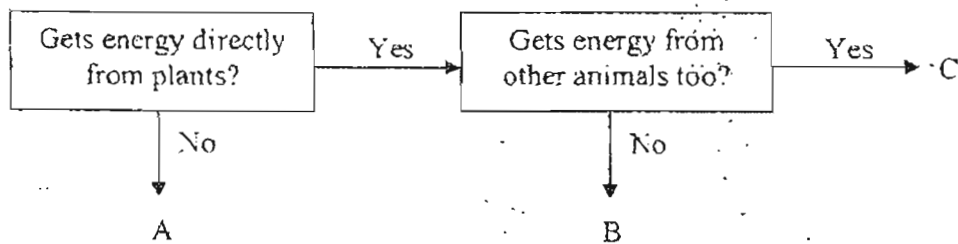
Nabil : To get rid of carbon dioxide produced by our body more quickly.

Who answered the above question correctly?

- (1) Ariel only  
(2) Ariel and Kumar only  
(3) Kumar and Nabil only  
(4) All of them

( )

23. Study the flow chart below. A, B and C represent 3 different animals.

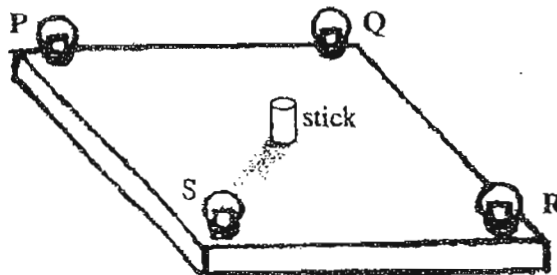


What could A, B and C most likely be?

	A	B	C
(1)	tiger	elephant	mouse
(2)	polar bear	goat	cow
(3)	lizard	rhinoceros	lion
(4)	fox	frog	chicken

( )

24. A stick is placed in the middle of a board in a dark room.



Which of the bulbs have to be switched on so that the shadow of the stick shown in the diagram is formed?

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

( )

25. Razak wrote the word 'CAT' on a card. He held the card in front of a mirror.

What Razak wrote:

CAT

What Razak saw in the mirror:

TAC

He held another card with the word 'FEED' in front of a mirror. What would Razak see in the mirror?

FEED

(1) FEED

(2) DEEF

(3) DEEF

(4) FEED

( )

For Questions 26 to 30, please refer to Booklet K.

(End of Section A)

**Pei Chun Public School**  
**Continual Assessment – 2007**  
**Science**  
**Primary 4**

Name : \_\_\_\_\_ ( )

Date : 24 August 2007

Class : Pri. 4 ( )

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

Science Teacher : \_\_\_\_\_

Time : 1 hr 20 min

Marks for Section A	<b>60</b>
Marks for Section B	<b>20</b>
Marks for Booklet K (exclude Section A Qns. 26 to 30)	<b>10</b>
Marks for Practical Test	<b>10</b>
Total Marks	<b>100</b>

**Section B (20 marks)**

For questions 31 to 39, write your answers in the spaces provided.

31. The table below shows the boiling points and freezing points of four substances, A, B, C and D.

Substance	Boiling point (°C)	Freezing point (°C)
A	75	20
B	80	20
C	120	90
D	310	90

- a) Which substance(s) is/are gas at 85°C ? ( 1 m )

\_\_\_\_\_

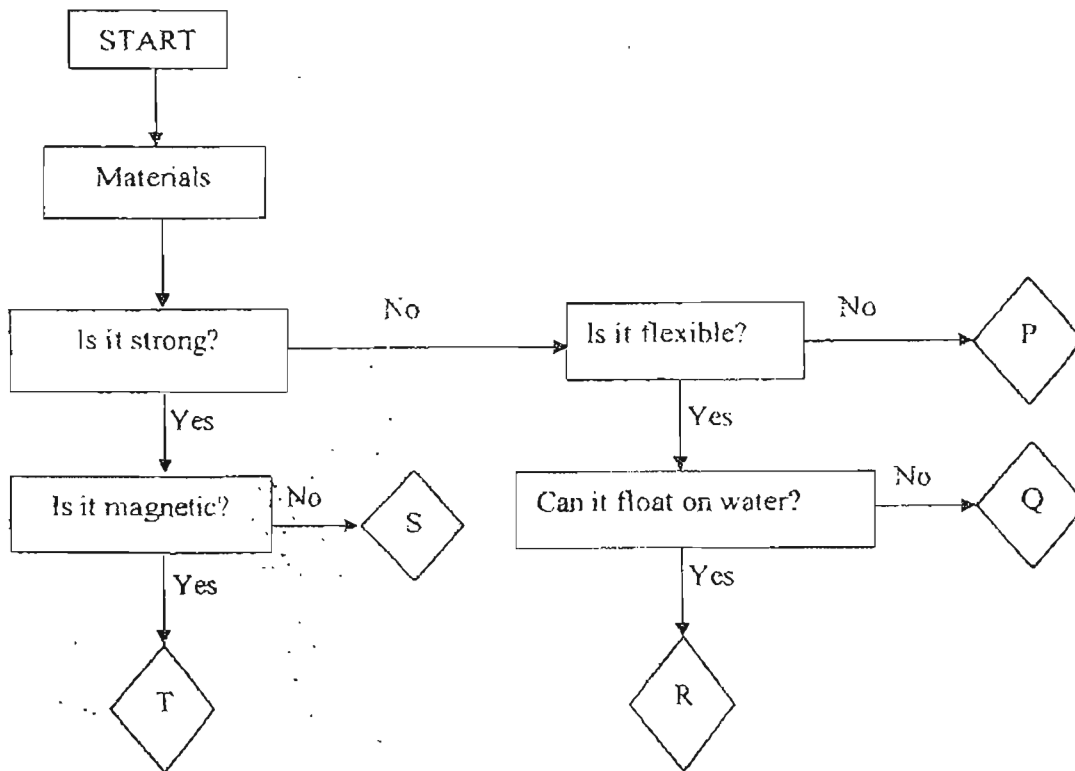
- b) Which substance(s) is/are solid at 30°C ? ( 1 m )

\_\_\_\_\_

SCORE

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32. Study the flowchart below.



a) State two similarities between material R and Q. ( 1 m )

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b) If materials T and S were mixed together, explain how these two materials could be separated. ( 1 m )

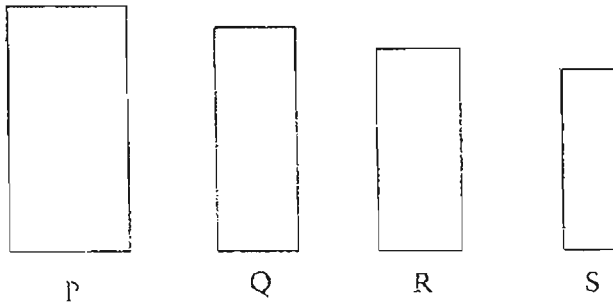
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SCORE  
70



33. Kevin took 4 magnets and dipped the ends of the magnets into a box of staples.



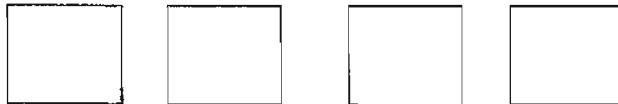
Then he counted the number of staples picked up by each magnet. He recorded his results in the table below.

Magnet	Number of staples picked up by the magnet
P	26
Q	24
R	30
S	22

- a) Based on the results above, decide which of the following conclusion(s) is/are correct by ticking (✓) the appropriate columns. (1 m)

i)	The wider the magnet, the stronger the magnetic force it exerts.	
ii)	The strength of the magnetic force depends on the length of the magnet.	
iii)	The strength of the magnetic force does not depend on the size of the magnet.	
iv)	The thinner the magnet, the weaker the magnetic force it exerts.	

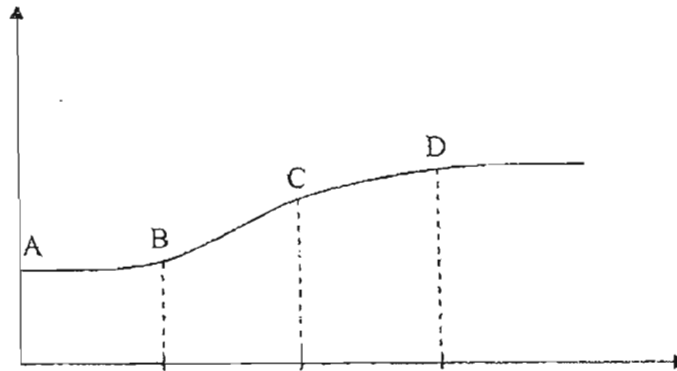
- b) Arrange the four magnets from the strongest to the weakest. (1 m)



SCORE

7
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34. Clement started recording his pulse rate while he was resting at home at 10 a.m. Then he went for a swim. The graph below shows Clement's pulse rate from 10 a.m. onwards.



- a) From the graph, which part shows that he was resting? (1 m)

\_\_\_\_\_

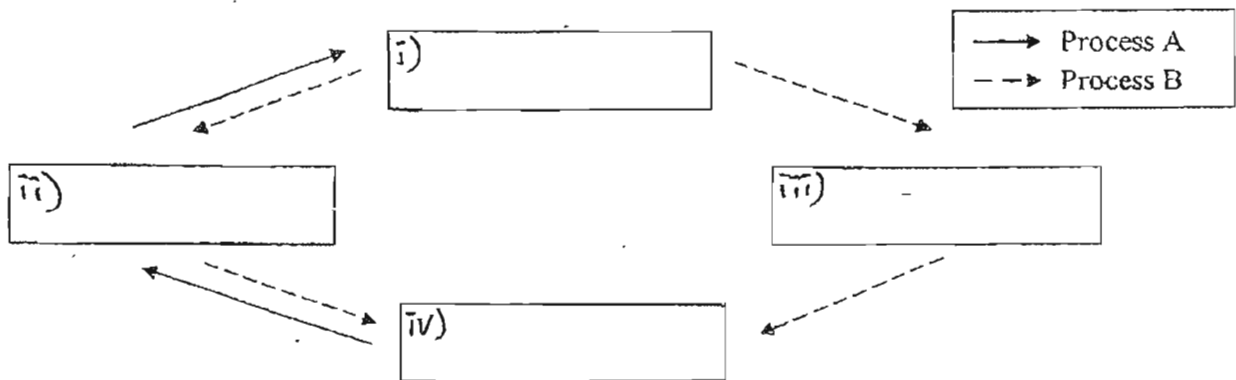
- b) Explain why his pulse rate increased when he was swimming. (2 m)

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

35. The diagram below shows how plants and animals exchange gases between themselves and their environment.

- a) Complete the diagram with the following words: (2 m)

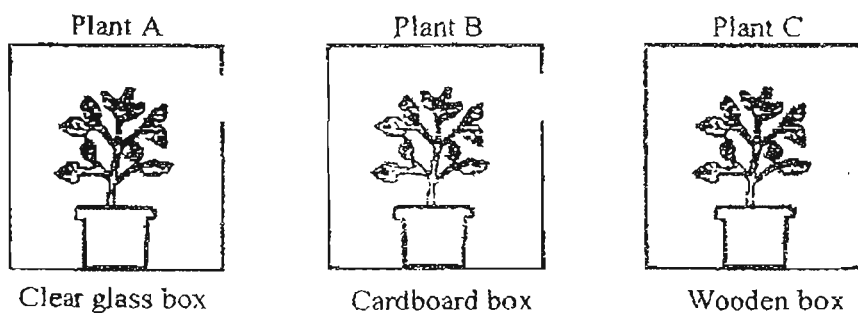
~~plants~~      ~~carbon dioxide~~      ~~animals~~      ~~oxygen~~



- b) Name the processes A and B. (1 m)

A: \_\_\_\_\_ B: \_\_\_\_\_ SCORE 72

36. A teacher set up 3 boxes as shown below. The boxes were placed side by side near an open window.

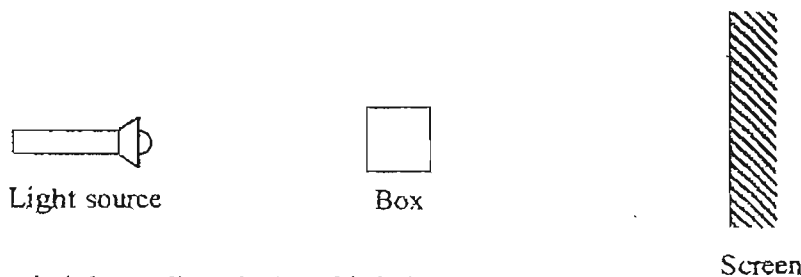


Some pupils made the following statements based on the set-ups shown above. Put (T) for a correct statement and (F) for a wrong statement.

( 2 m )

- a) Plant A will most likely grow healthily. ( )
- b) Plants B and C will grow towards the openings in the boxes after a few days. ( )
- c) The experiment shows that plants need air, water and sunlight. ( )
- d) The above set-ups can be used to show how a plant responds to sunlight. ( )

37. Xuimei set up the experiment below to measure the length of the shadow when the distance between the light source and the box changes.



She recorded the readings in the table below.

<b>Distance between the light source and the box (cm)</b>	20	30	40	50
<b>Length of the shadow (cm)</b>	15	13	11	9

What pattern do you notice about the distance between the light source and the box and the length of the shadow?

( 2 m )

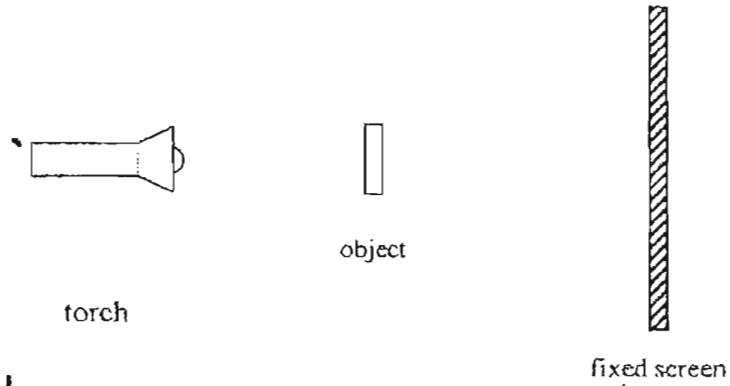
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SCORE

38. Rahmat shone a torch on an object as sh



Write down two things that he can do to make the shadow smaller.

a) \_\_\_\_\_ (1 m)

\_\_\_\_\_

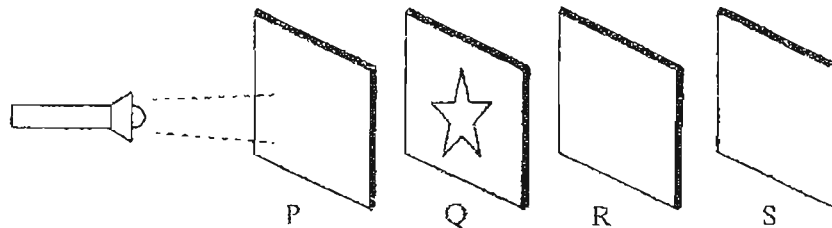
b) \_\_\_\_\_ (1 m)

\_\_\_\_\_

SCORE  
74

39. Cards P, Q, R and S are made of different materials. They are arranged in a straight line. There is a star-shaped cut-out on Q. When Caleb shines a torch on P, a bright star is seen on R. Tick (✓) the correct box to show whether the materials, P, Q, R and S allow light to pass through.

(2 m)



Cards	Does not allow light to pass through	Allows most of the light to pass through	Not possible to tell
P			
Q			
R			
S			

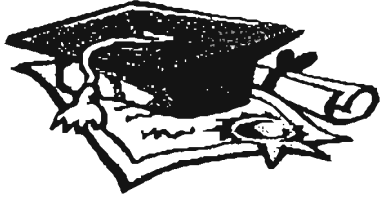
For Questions 40 to 44, please refer to Booklet K.

End of Paper

Set by : Ms Norhidayah Bte Ahmad  
 Vetted by : P4 Science Committee teachers

SCORE

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# ANSWER SHEET

PEI CHUN PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007  
CONTINUAL ASSESSMENT (2)

- 1. 3
  - 2. 3
  - 3. 1
  - 4. 2
  - 5. 2
  - 6. 4
  - 7. 2
  - 8. 2
  - 9. 3
  - 10. 4
  - 11. 1
  - 12. 3
  - 13. 4
  - 14. 1
  - 15. 1
  - 16. 1
  - 17. 4
  - 18. 1
  - 19. 4
  - 20. 1
  - 21. 1
  - 22. 1
  - 23. 1
  - 24. 2
  - 25. 1
- 32) a) Substance A and substance B.  
b) Substance C and substance D.
- 32) a) Q and R are not strong and are flexible.  
b) Using a magnet, attract Material T and pull it away from Material S.
- 33) a) i) L, P, Q, S, R, T, U, V, W, X, Y, Z  
b) R, P, Q, S, T, U, V, W, X, Y, Z
- 34) a) A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z  
b) When he exercises, his body needs more energy. Thus, his heart needs to pump more blood containing oxygen and digested food to the rest of the body quickly to produce energy causing his pulse rate to quicker.
- 35) a) i) oxygen in plants  
ii) animals carbon dioxide  
b) A: photosynthesis  
B: respiration
- 36) a) T, U, V, W, X, Y, Z  
b) T, U, V, W, X, Y, Z
- 37) The further away the light source the smaller and sharper is the shadow.

38) a) Move the torch further backwards away from the fixed screen and the object.

b) Move the object closer to the fixed screen.

39) a) allows most of the light to pass through

Q: b) not allow light to pass through

c) does not allow light to pass through

S: not possible to tell

