

Gifted Education Programme

Primary 4 Science

Test 1 2013

Answer ✓

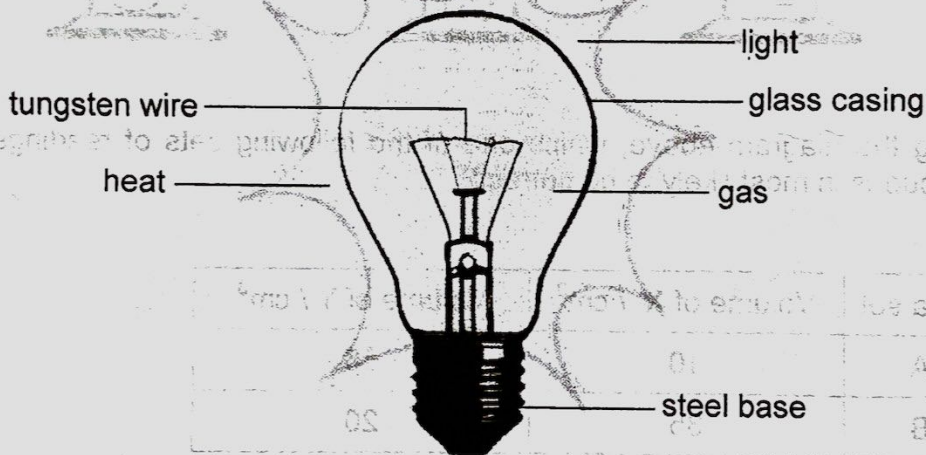
Name: [redacted] (10) Date: 14 May 2013

Class: 4 Faith

Part I (36 marks)

For each question from 1 to 18, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Write your responses (1, 2, 3 or 4) on the Answer Sheet.

1 Study the diagram of the light bulb below.



The labels parts of the bulb are classified in the table below.

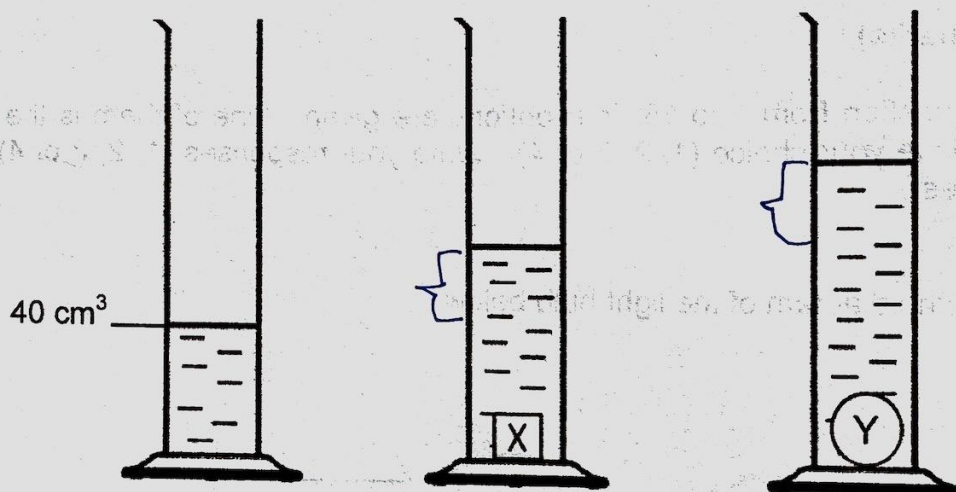
Group F	Group G
gas light heat	steel base glass casing tungsten wire

Which one of the following parts is wrongly classified?

- (1) Gas
- (2) Light
- (3) Steel base
- (4) Tungsten wire

- 2 Ralph was given two solid blocks X and Y. He wanted to compare the volumes of the two blocks using a measuring cylinder that contained 40 cm^3 of water as shown below.

He first added X into the measuring cylinder and recorded the volume. He then replaced X with Y and recorded the new volume.



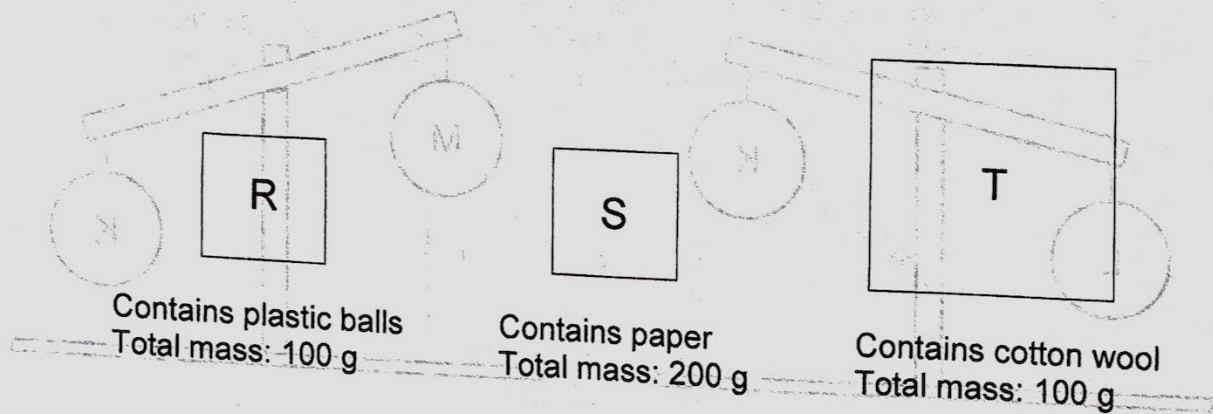
Using the diagram above, which one of the following sets of readings of the two cubes is most likely to be correct?

Data set	Volume of X / cm^3	Volume of Y / cm^3
A	10	55
B	35	20
C	30	45
D	25	25

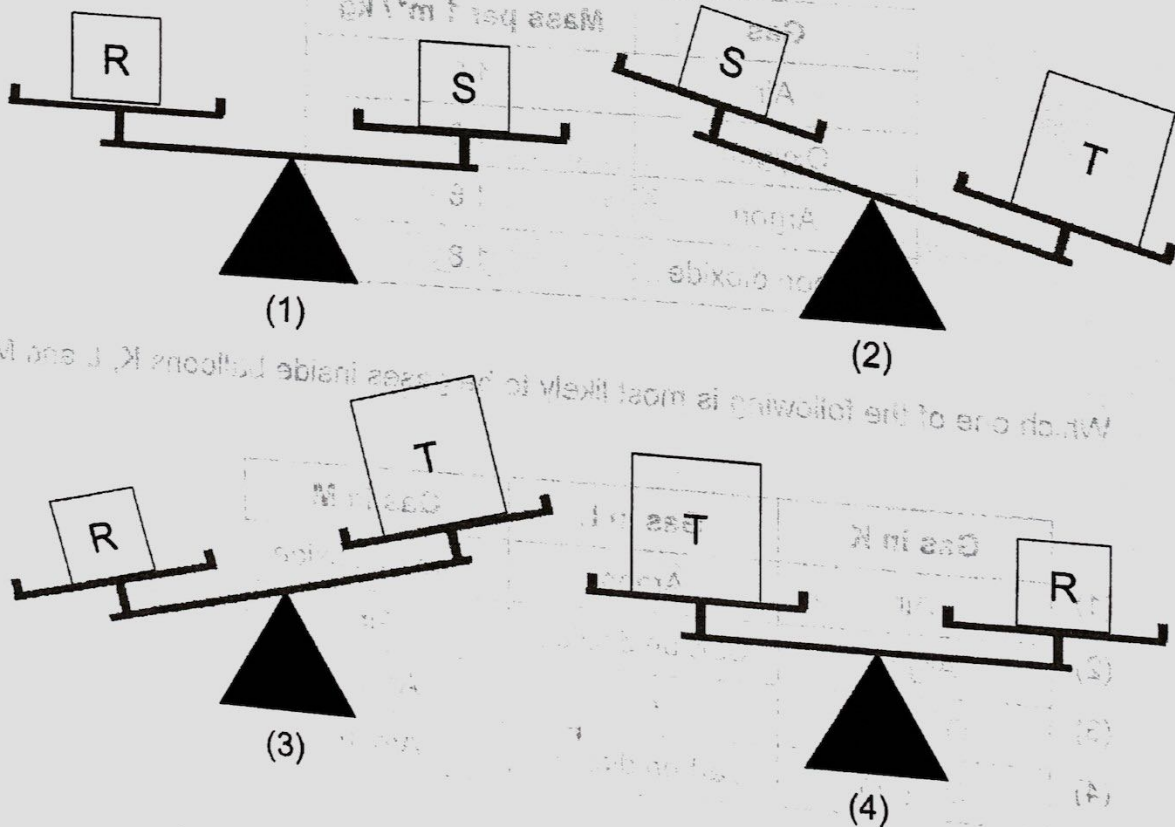
- (1) Data set A
(2) Data set B
(3) Data set C
(4) Data set D

3

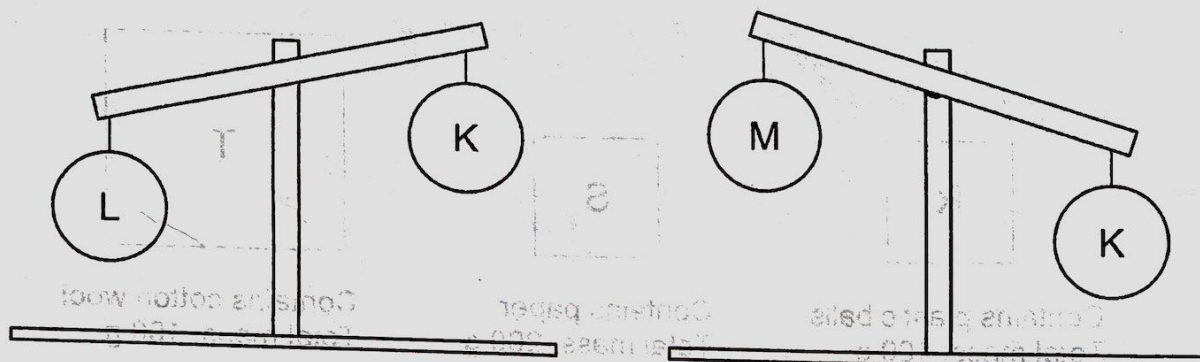
- 3 Samuel was given three boxes R, S and T that contained plastic balls, paper and cotton wool respectively. He was also given a lever balance to compare the boxes.



Which one of the following diagrams best describes how the lever balance will look like?



- 4 Jean filled three identical balloons K, L and M, with equal volumes of various gases. She hung the balloons on lever balances as shown in the diagram below.



She was given a table with the masses of various gases as shown below. She was also told that the gases inside balloons K, L and M are one of the gases found in the list given.

Gas	Mass per 1 m ³ / kg
Air	1.2
Oxygen	1.3
Argon	1.6
Carbon dioxide	1.8

Which one of the following is most likely to be gases inside balloons K, L and M?

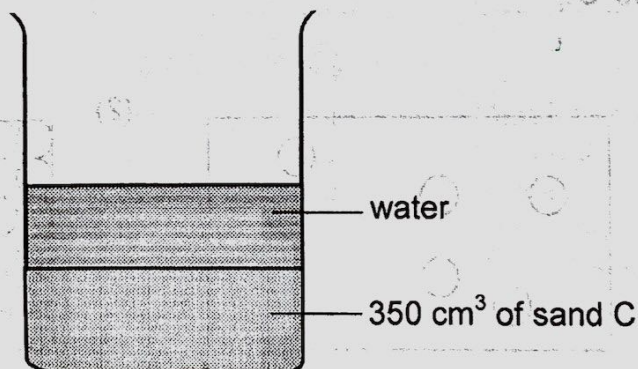
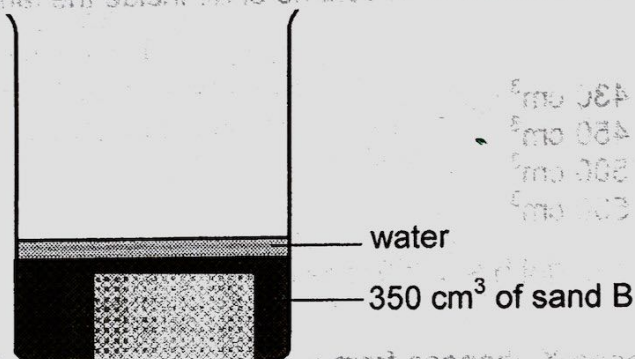
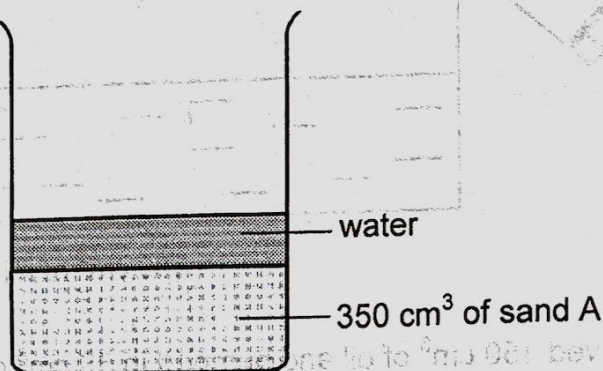
	Gas in K	Gas in L	Gas in M
(1)	Air	Argon	Carbon dioxide
(2)	Argon	Carbon dioxide	Air
(3)	Oxygen	Air	Argon
(4)	Oxygen	Carbon dioxide	Argon

2

5

Bruce set up the apparatus as shown below to find out the amount of air spaces present in three types of sands, A, B and C.

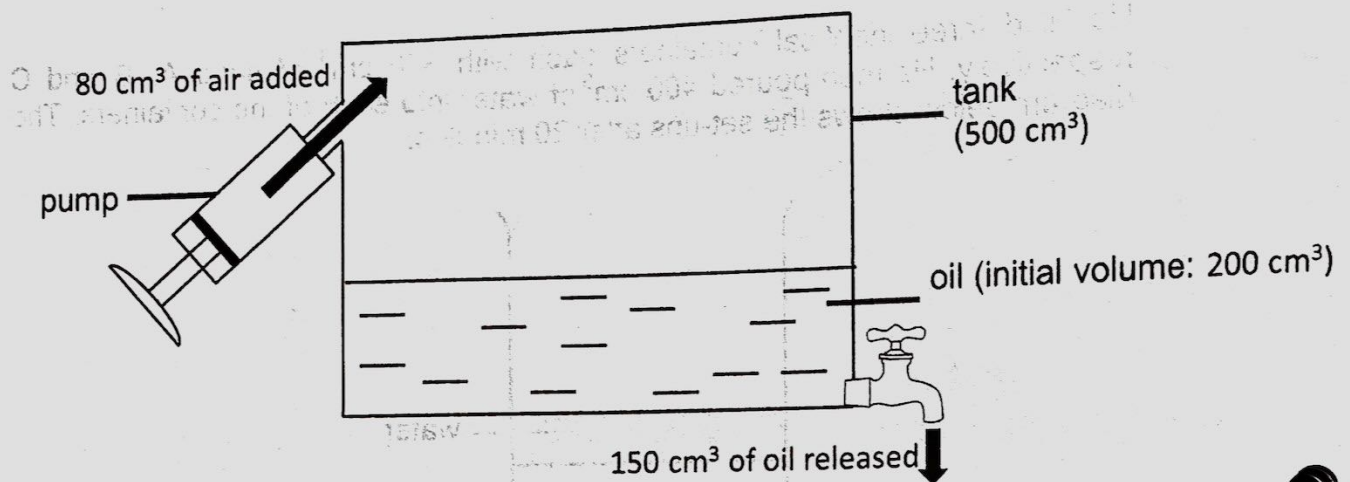
He filled three identical containers each with 350 cm^3 of sand A, B and C respectively. He then poured 400 cm^3 of water into each of the containers. The diagram below shows the set-ups after 20 minutes.



Which one of the following options correctly shows the amount of air space in sand A, B and C arranged in descending order?

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

- 6 Royston was given a 500 cm^3 tank, which was filled with 200 cm^3 of oil as shown below.



He removed 150 cm^3 of oil and pumped in 80 cm^3 of air at the same time.

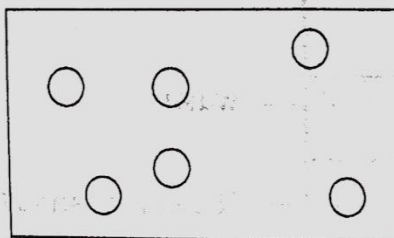
What would be the final volume of air inside the tank?

- (1) 430 cm^3
- (2) 450 cm^3
- (3) 500 cm^3
- (4) 530 cm^3

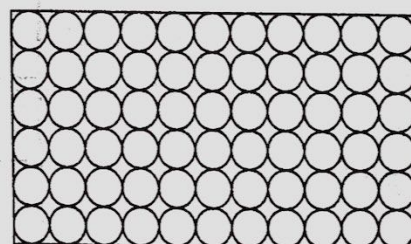
2

- 7 Substance X changes from a solid to a liquid at 7°C . It changes from a liquid to a gas at 111°C . Which one of the following diagrams best represents substance X at 150°C ?

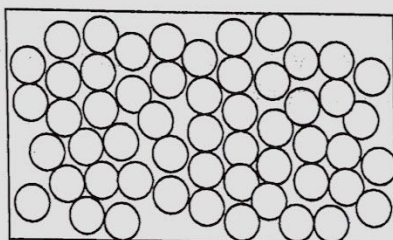
(1)



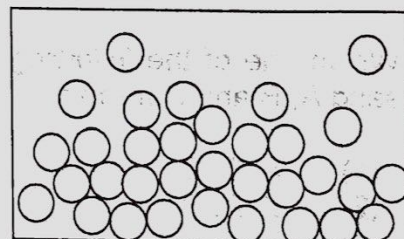
(2)



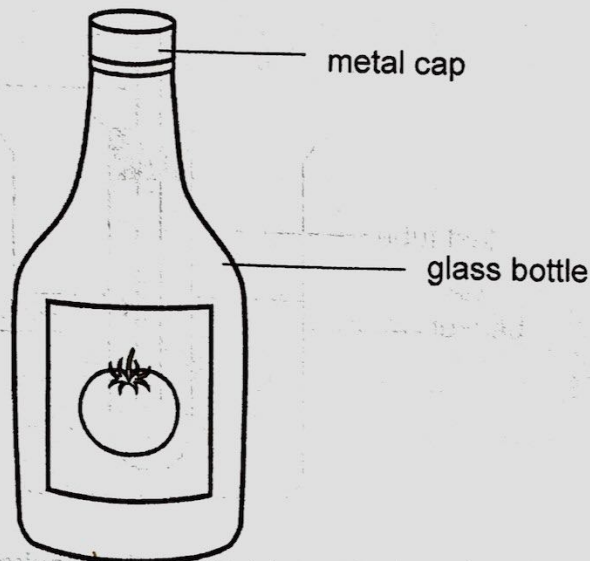
(3)



(4)

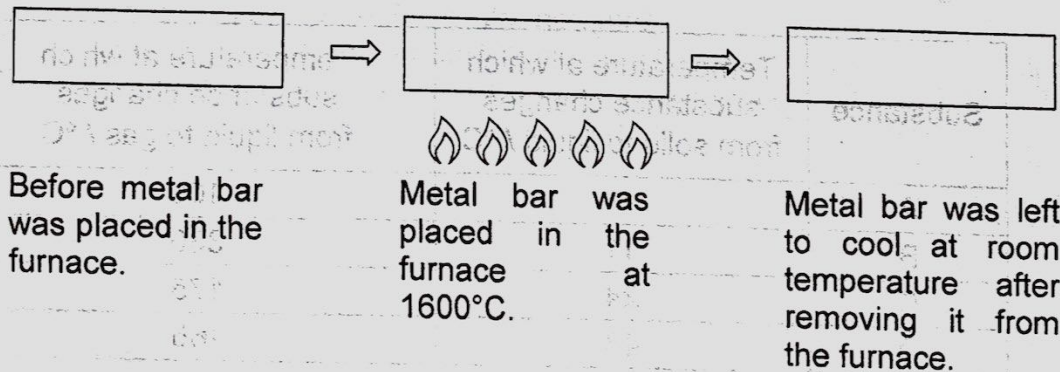


- 8 Jarina wanted to open a bottle of tomato ketchup but was unable to do so. Which one of the following actions could help her to open the bottle?



- (1) Put ice on the metal cap.
- (2) Immerse the glass bottle in hot water.
- (3) Pour hot water only on the metal cap.
- (4) Put the entire bottle in the refrigerator.

- 9 A piece of metal bar was placed in a furnace at 1600°C and left to cool at room temperature.

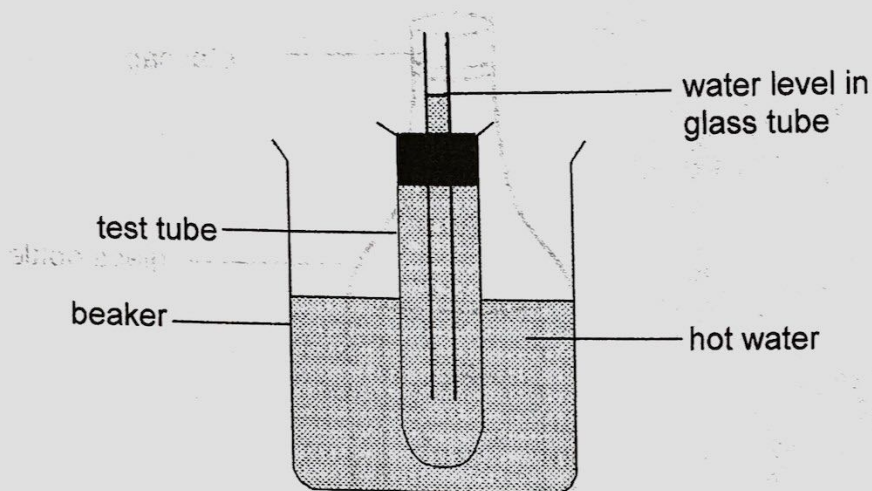


Which one of the following best describes the physical properties of the metal bar when it was heated at 1600°C in the furnace?

	Mass	Volume
(1)	Increased	Increased
(2)	Decreased	Decreased
(3)	Remains unchanged	Increased
(4)	Remains unchanged	Decreased

3

10 Lin Zhi conducted an experiment based on the set-up below.



When he placed the test tube in the beaker of hot water, which one of the following would he observe during the first two minutes?

- (1) The water level in the glass tube dropped.
- (2) The water level in the glass tube increased.
- (3) The water level in the glass tube remained unchanged.
- (4) The water level in the glass tube dropped and then increased.

11 The table below shows the temperatures at which substances A, B, C, and D change states.

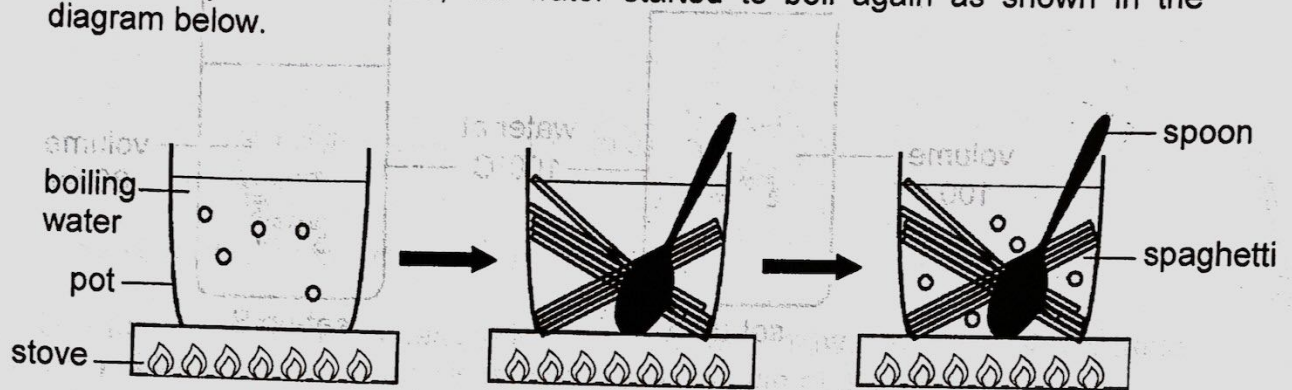
Substance	Temperature at which substance changes from solid to liquid / °C	Temperature at which substance changes from liquid to gas / °C
A	0	100
B	11	330
C	24	175
D	43	165

Which substance(s) is/are most likely to be in liquid state at 20°C?

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

For questions 12 and 13, refer to the diagram below.

When Marie put spaghetti into a pot of boiling water, the water stopped boiling immediately. After a while, the water started to boil again as shown in the diagram below.



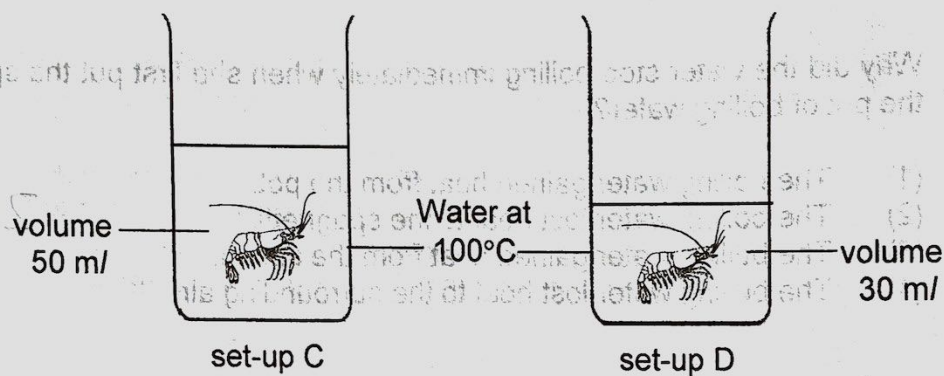
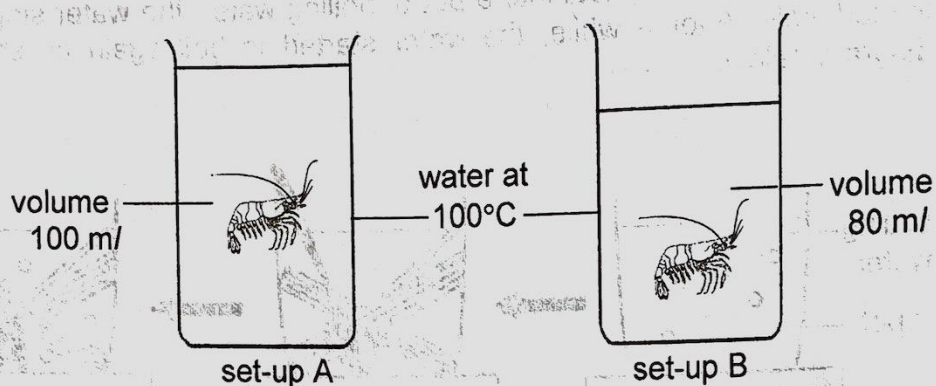
12 Why did the water stop boiling immediately when she first put the spaghetti into the pot of boiling water?

- (1) The boiling water gained heat from the pot.
- (2) The boiling water lost heat to the spaghetti.
- (3) The boiling water gained heat from the spoon.
- (4) The boiling water lost heat to the surrounding air.

13 After a while, why did the water start to boil again?

- (1) The water gained heat from the spoon.
- (2) The water gained heat from the spaghetti.
- (3) The water gained heat from the surrounding air.
- (4) The water gained heat from the flame at the stove.

- 14 A piece of prawn was dropped in each of the set-up at the same time as shown below.



Arrange in order, the length of time from the shortest to the longest to cook the piece of prawn.

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

2

- 15 The classification key shown below can be used to group organisms by their characteristics.

An example is shown as follows:

Organism-W

- has no legs (Go to 2)
- has a soft body with a large foot (Go to 3)
- has a shell (Snail)

Organism W is identified as a snail.

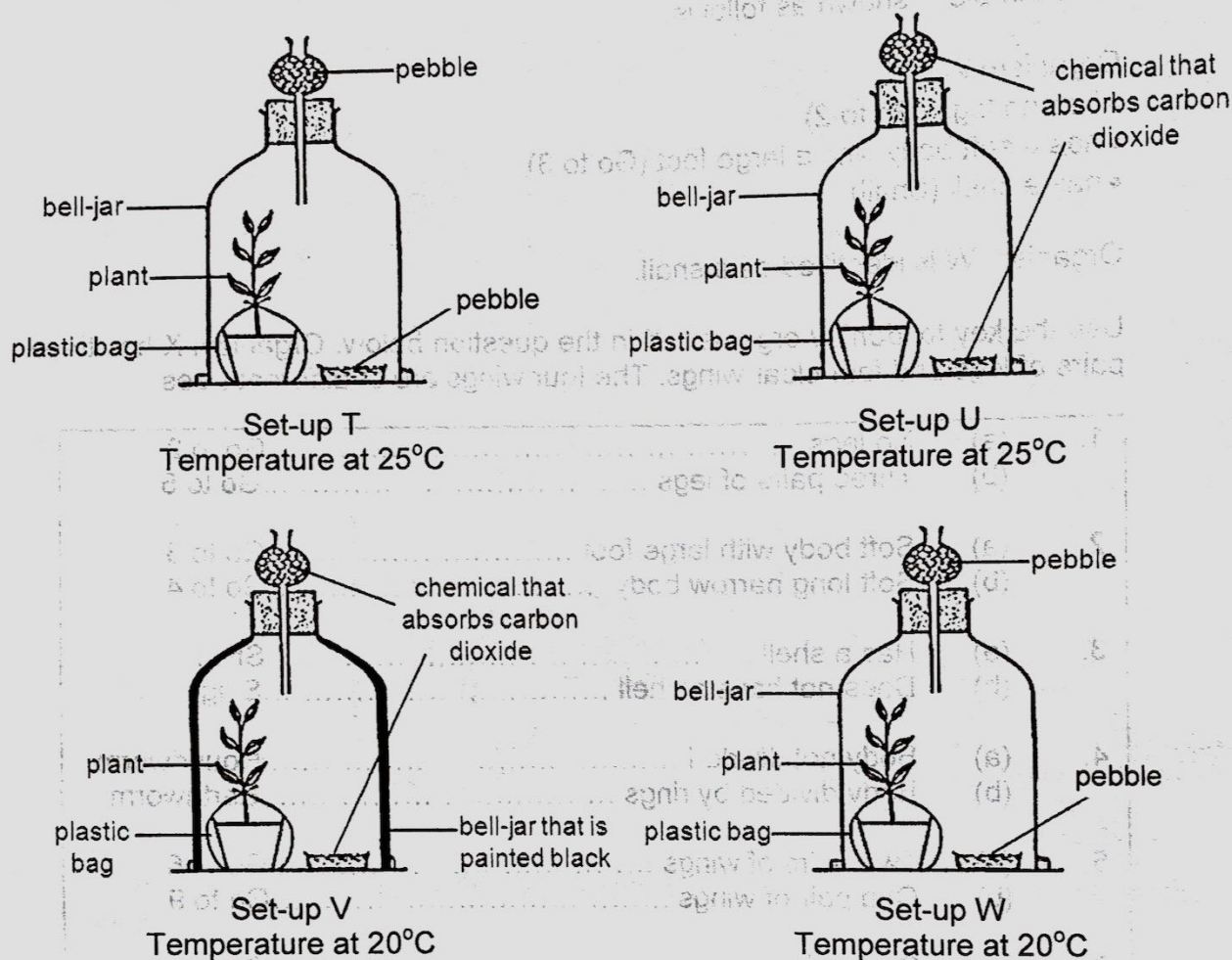
Use the key to identify organism X in the question below. Organism X has three pairs of legs and four clear wings. The four wings are of different sizes.

1.	(a)	No legs	Go to 2
	(b)	Three pairs of legs	Go to 5
2.	(a)	Soft body with large foot	Go to 3
	(b)	Soft long narrow body	Go to 4
3.	(a)	Has a shell	Snail
	(b)	Does not have a shell	Slug
4.	(a)	Body not divided	Roundworm
	(b)	Body divided by rings	Earthworm
5.	(a)	Two pairs of wings	Go to 6
	(b)	One pair of wings	Go to 9
6.	(a)	Scaly wings	Go to 7
	(b)	Transparent wings	Go to 8
7.	(a)	Antennae feather-like	Moth
	(b)	Antennae have club shaped ends	Butterfly
8.	(a)	Both pairs of wings same size	Damselfly
	(b)	Both pairs of wings are not of the same size	Mayfly
9.	(a)	Piercing mouth parts	Mosquito
	(b)	No piercing mouth parts	Housefly

Which one of the following is organism X most likely to be?

- (1) Mayfly
- (2) Housefly
- (3) Mosquito
- (4) Damselfly

- 16 The diagrams below show four set-ups which can be used to test the factors that affect plant growth. Four identical potted plants were used in the set-ups.



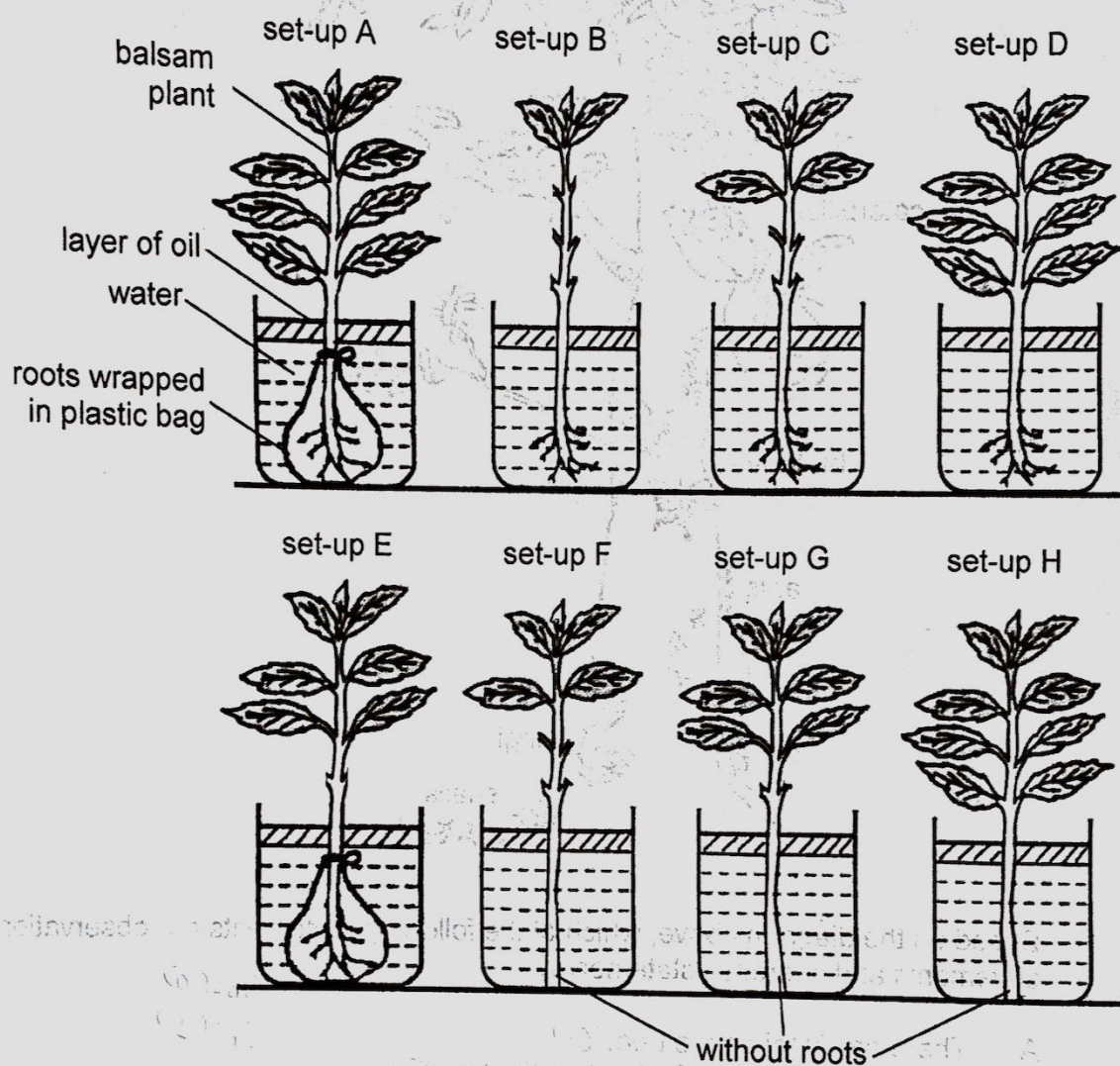
Which of the following set-ups can be used appropriately to test the aims of the following experiments?

Set-ups	Aim of experiment
A U and V	To find out if plants need sunlight to grow.
B V and W	To find out if plants need sunlight to grow.
C T and W	To find out if temperature affects plant growth.
D T and U	To find out if plants need carbon dioxide to grow.

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

4

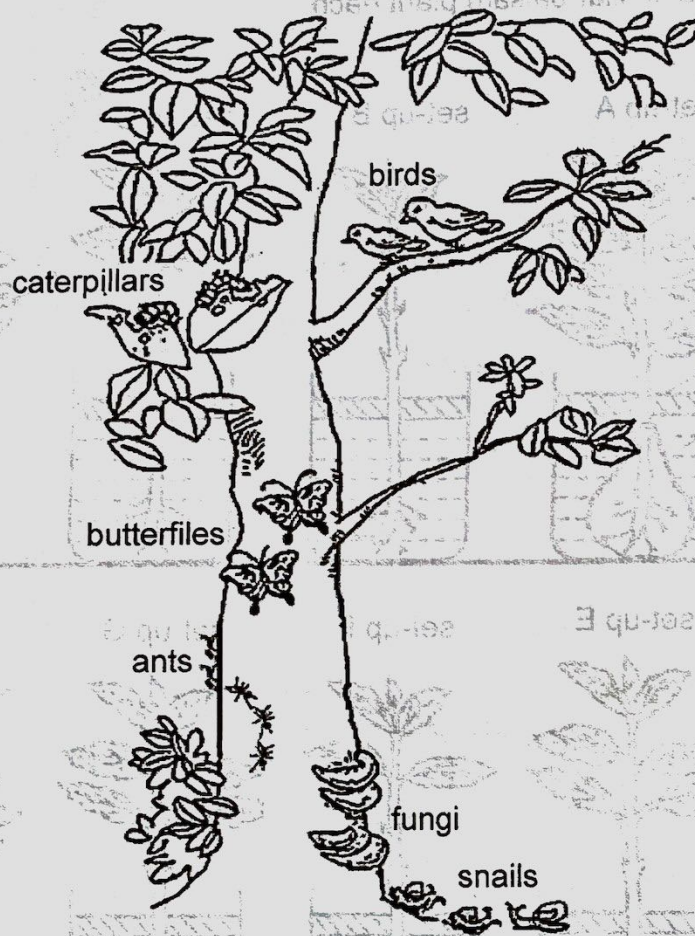
- 17 Yasmin wanted to find out how the number of leaves affect the amount of water taken in by the roots of the plant. The diagram below shows eight different set-ups, A to H with a similar balsam plant each.



Which of the following set-ups should she use to ensure a fair test?

Experimental set-ups	
(1)	B, C, D
(2)	B, C, H
(3)	C, G, D
(4)	F, E, A

18. The diagram below shows a single tree, with different living things living on it.



Based on the diagram above, which of the following statements are observation statements and inference statements?

- A There are fungi on the tree. (O)
 B The ants are looking for food on the tree. (I)
 C The caterpillars are feeding on the leaves. (O)
 D There are more insects on the tree than birds. (O)
 E The caterpillars are a source of food for the birds. (I)

Obs(O)
 Inf(I)

	Observation statements	Inference statements
(1)	A, C, E	B, D
(2)	A, D	B, C, E
(3)	B, C	A, D, E
(4)	C, D, E	A, B

Primary Four GEP Science

MCQ Answer Sheet

Name: [REDACTED]

Class : 4F4th

Paper: y2013GEP Part I



Date: 26 April 2016

Marks: 32/36

PARENT'S SIGNATURE:

Qn	Answer
1	1
2	3
3	4
4	2
5	4 2
6	2 ✓
7	1 ✓
8	3 ✓
9	3 3
10	4 2 4
11	2 ✓
12	4 2
13	4 ✓
14	2 ✓
15	1 ✓
16	4
17	1 .
18	2