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Red Swastika School
Primary 6 Science 2024
Class Test 1

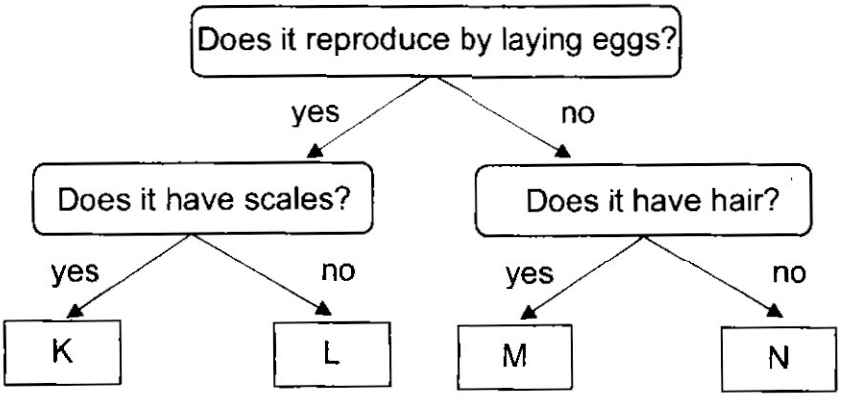
Name: _____( ) Parent's Signature: _____

Class: _____ Date: _____

Total time for sections A and B: 45 minutes

Section A: Multiple – Choice Questions (9 x 2 = 18 marks)
Choose the most suitable answer and shade its number in the OAS provided.

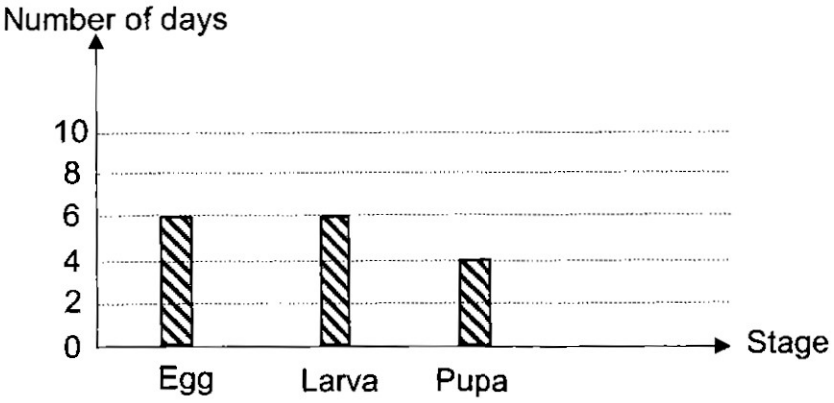
1. The diagram below shows how some living things are grouped.



Which of the following about organisms K, L, M, and N, are correct?

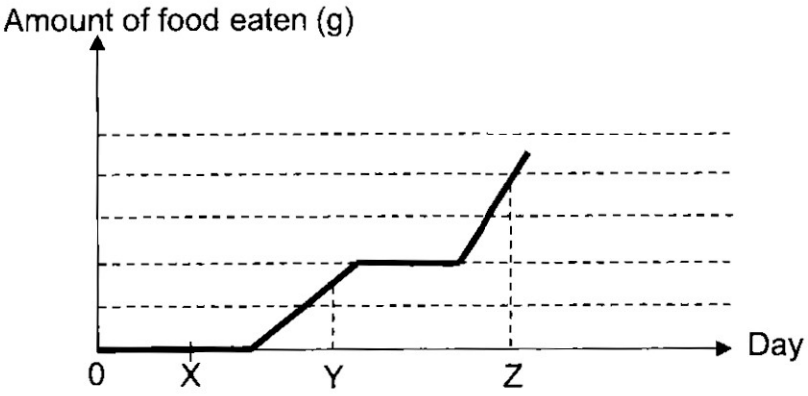
(1) K is a reptile.
(2) L is a fish.
(3) M is a bird.
(4) N is a mammal.

2. Graph 1 shows the number of days taken for each stage of the life cycle of animal P.



Graph 1

Graph 2 shows the amount of food eaten by animal P over a period of time. X, Y, Z show the number of days within the life cycle of animal P.



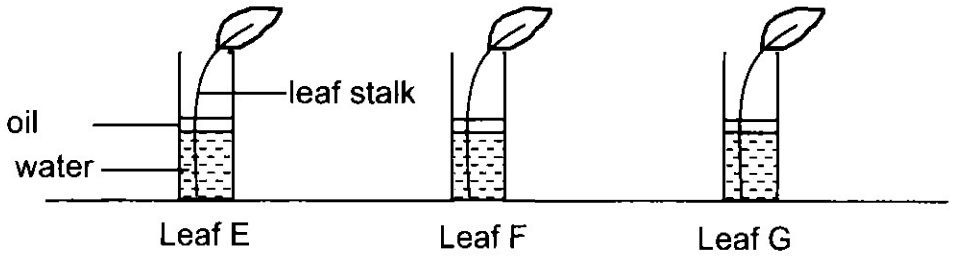
Graph 2

Which of the following shows the possible values of X, Y and Z in graph 2?

	X	Y	Z
(1)	4	13	15
(2)	4	10	18
(3)	6	10	15
(4)	6	13	18

3. Tiny openings are found on both the surfaces of leaves, with more tiny openings found on the lower surface. Leaves lose water through these tiny openings.

The diagram below shows three similar leaf stalks placed in a container containing 10 ml of water in the same room. A layer of oil on the surface of the water helps prevent evaporation.



Leaves E, F and G had different surfaces coated with oil. The table below shows the amount of water left in the container that the leaf stalk was placed in.

Leaf	Amount of water left (ml)
E	6
F	8
G	4

Which of the following correctly identifies the leaves and its surfaces which were coated with oil?

	Upper surface only	Lower surface only	Upper and lower surfaces
(1)	F	E	G
(2)	E	F	G
(3)	G	E	F
(4)	E	G	F

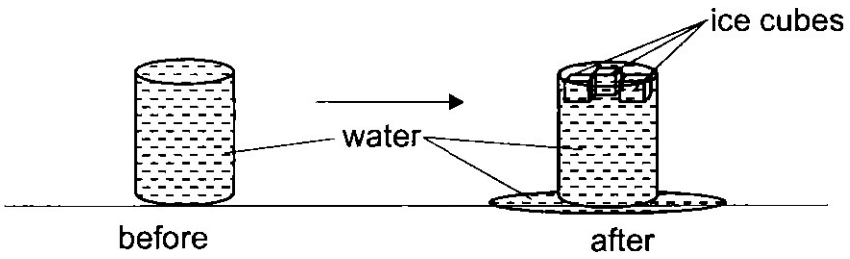
4. Candy investigated the amount of mass that the four different types of material can hold before breaking.

Material	Amount of mass the material can hold before breaking (kg)			
	2	4	6	8
P	√	√		
Q	√			
R	√	√	√	√
S	√	√	√	

Arrange the materials according to their strength, starting from the strongest to the weakest.

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

5. Ken fills a glass of water to the brim. After adding a few ice cubes into the glass of water, he observed that the water overflowed.

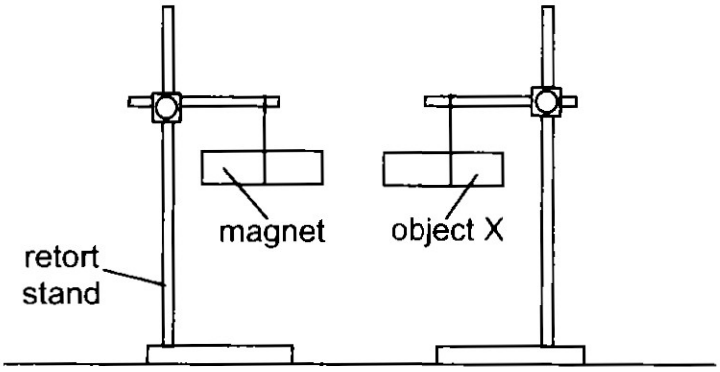


Which of the following best explain(s) Ken's observations?

A Ice occupies space.
B Water has no definite shape.
C Water has no definite volume.
D Water exists in three different states.

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

6. Pei Ling brought object X near a magnet as shown below. Object X was repelled from the magnet.

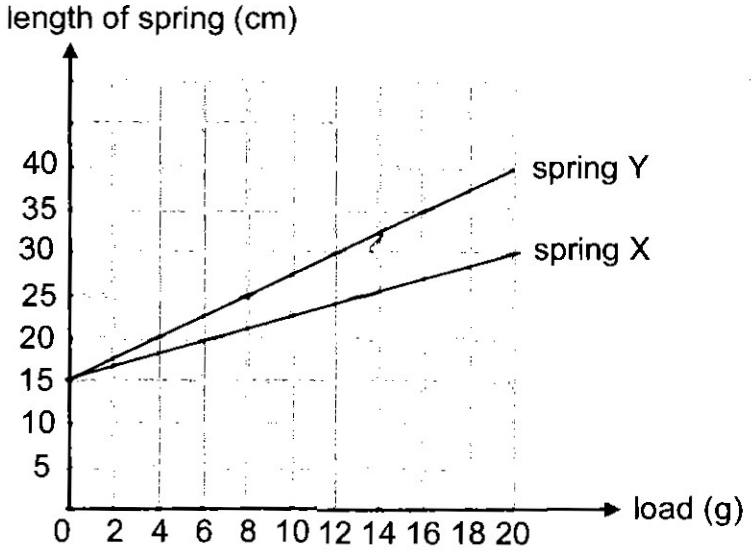


Which of the following can be concluded about object X?

A Object X is a magnet.
B Object X can attract an iron nail.
C Object X can be attracted to another magnet.

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

7. Lynette conducted an experiment on springs X and Y. She hung different loads, one at a time on the springs and measured the lengths of the springs. Her results are shown in the graph below.

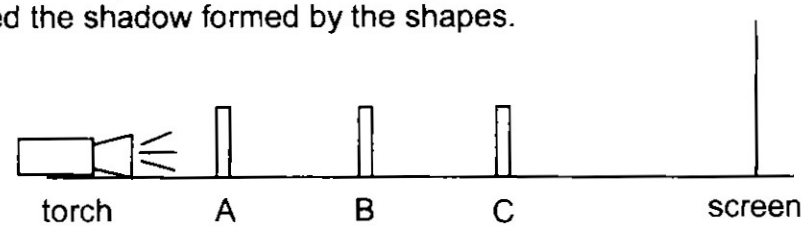


Which of the following statement(s) is / are correct?

A Spring X is stiffer than spring Y.
B Spring Y extends by 25 cm when a load of 8 g is hung on it.
C Spring X is shorter than spring Y when a load of 14 g is hung on each of them.

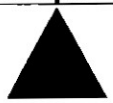
(1) A only
(2) B only
(3) A and C only
(4) B and C only

8. Jenny cut out three different shapes, A, B and C, of the same height from a piece of cardboard. She placed them in a straight line as shown in the setup below. She then observed the shadow formed by the shapes.

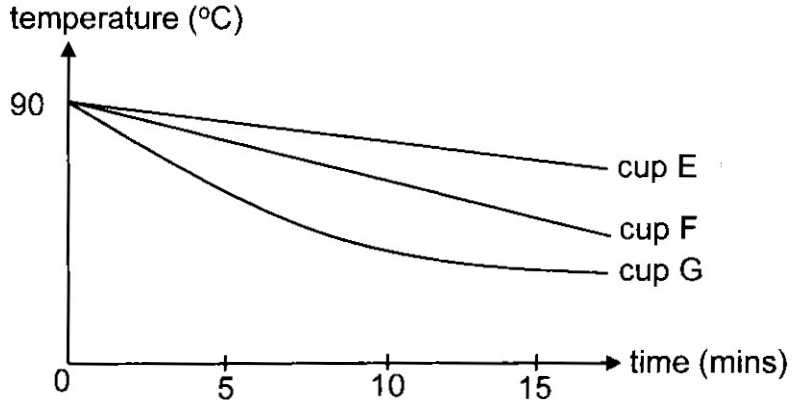


The shadow formed on the screen is shown below.

Which of the following shows the shapes of A, B, and C correctly?

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

9. Ethan poured an equal amount of hot water at 90 °C into three identical cups, E, F, G, made of different materials. He recorded the temperature of the water for 15 minutes in the graph below.



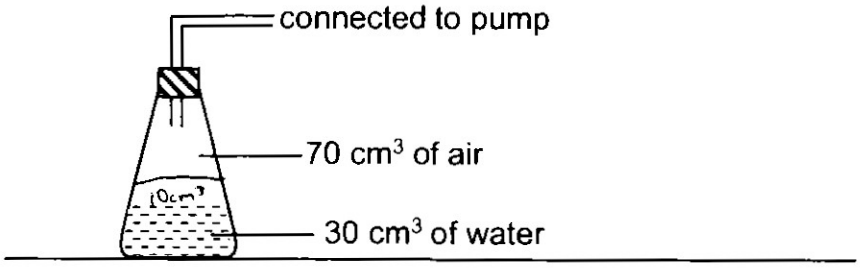
After 15 minutes, he poured the hot water out and waited for a few hours for the cups to return to room temperature. He then poured water at 5 °C into the three cups. He recorded the temperature of water after 30 minutes. The temperature of water in cup F was 15 °C after 30 minutes.

Which of the following correctly show the possible temperature of the water in cups E and G?

	Cup E	**Cup G**
(1)	20	12
(2)	20	18
(3)	12	20
(4)	12	14

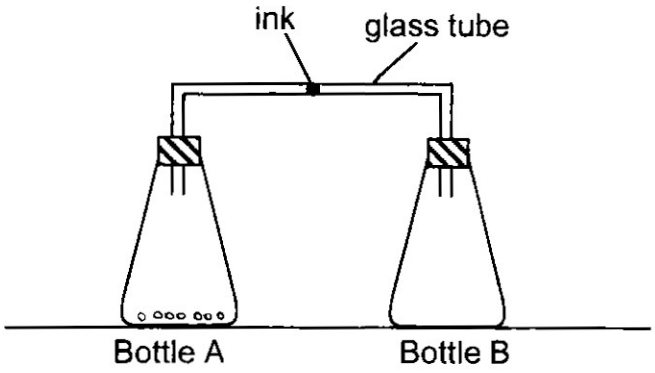
Section B: Open-Ended Questions (12 marks)
Answer all the questions in the space provided.

10. The diagram below shows an air-tight bottle connected to a pump. The volume of the bottle is 100 cm^3. The volume of water and air in the bottle is 30 cm^3 and 70 cm^3, respectively at first.

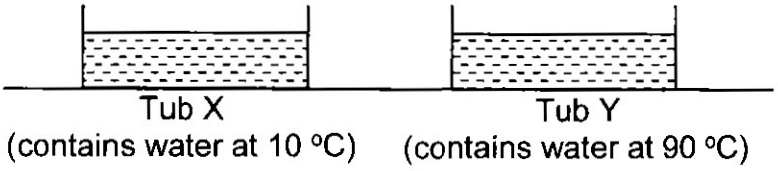


(a) Using the pump, 10 cm^3 of water and 20 cm^3 of air are added into the bottle. What is the final volume of air in the bottle? Explain your answer. (2m)

Katie connected **two empty bottles** using a glass tube. A drop of ink is placed in the middle of the glass tube as shown below.

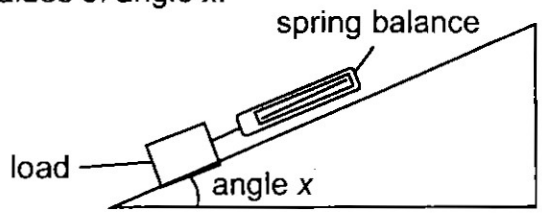


She has two tubs of water at different temperatures.



(b) Without disconnecting the apparatus above, suggest and explain how Katie can make use of the tubs of water to make the ink drop move towards bottle B. (2m)

11. Linus pulled a load up a slope using a spring balance. He repeated the experiment at different values of angle *x*.



His results are shown in the table below.

Angle *x* (°)	Pulling force (units)
15	3
30	5
45	8
60	12

(a) (i) What is a force? (1m)

_____

(ii) Name the two forces acting on the load as it is pulled up the slope. (1m)

_____

Ramps are designed for trolleys to be pushed up areas where there are steps. The diagrams below show two ramps, having different values of angle *x*.

Diagram 1

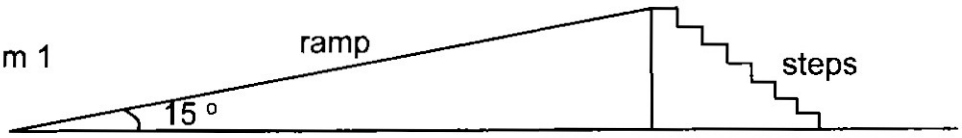
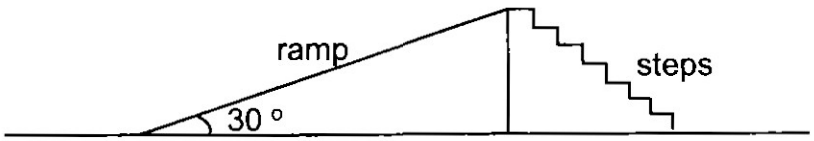


Diagram 2



(b) Using the information above, state one advantage and one disadvantage of designing a ramp with a value of 15 ° for angle *x*. (2m)

Advantage: _____

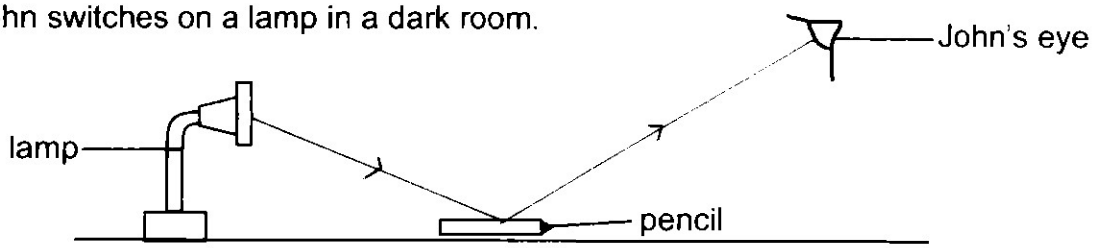
_____

Disadvantage: _____

_____

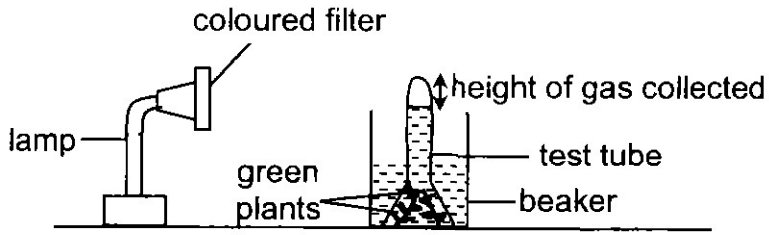
4

12. John switches on a lamp in a dark room.



(a) Describe how John's eye is able to see the pencil in the room when the lamp is switched on. (2m)

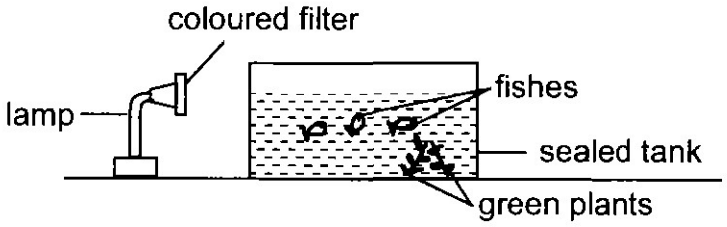
Mendy conducted an experiment using the setup shown below. She placed coloured filters in front of the lamp to achieve different coloured lights. She then recorded the height of gas collected in the test-tube.



Her results are shown in the table below.

Coloured filter	Distance of lamp from the plant (cm)	Height of gas collected (cm)
P	15	0.4
Q	15	1.5
R	15	2.1

Mendy has a sealed tank containing some water, green plants and fishes. As there is no air pump attached to the tank, she decided to shine light on her tank.



(b) Which coloured filter, P, Q, or R, is the most suitable for the fishes in the sealed tank to survive for the longest period of time? Explain your answer. (2m)

End of Paper

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Name: _____( ) Class: _____

RED SWASTIKA SCHOOL
P6 SCIENCE WA1
Corrections Template

1	(1)	6	(4)
2	(2)	7	(3)
3	(3)	8	(4)
4	(1)	9	(3)
5	(2)		

10(a)	Correct volume of air: 60CM3 The volume of water is 40 cm^3. Air can be compressed and will occupy the remaining space (of 60 cm^3) in the bottle.
10(b)	Method: Katie can put bottle A into the Tub Y / put bottle B into Tub X . Air in bottle A will gain heat from the hot water in Y and expand and push the link towards bottle B.
11(ai)	A force is a push or a pull.
11(aii)	1. Frictional force 2. Gravitational force
11(b)	Advantage: A smaller pulling force is required. Disadvantage: A longer distance is required.
12(a)	Light from the lamp shines on the pencil and is reflected into John's eye.
12(b)	R. The plant with filter R produces the higest amount of gas. The green plants have photosythesise the most, producing the most amount of oxygen for the fishes to take in the most dissolved oxygen to survive the longest.

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