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Red Swastika School
Primary 6 Science 2024
Class Test 2

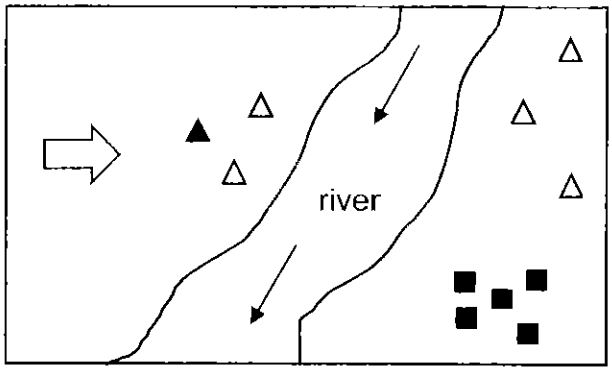
Name: _____ ( ) Parent's Signature: _____

Class: _____ Date: _____

Total time for Sections A and B: 45 minutes

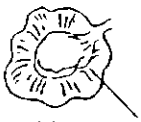
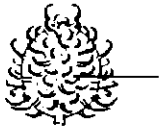
Section A: Multiple – Choice Questions (9 x 2 = 18 marks)
Choose the most suitable answer and shade its number in the OAS provided.

1. The diagram below shows the location of parent plants, A and B, and their young.



Key:	
↙	: water direction
⇨	: wind direction
▲	: parent plant A
■	: parent plant B
△	: young of plant A
■	: young of plant B

Which of the following best represents the method of dispersal of plants A and B?

	Plant A	Plant B
(1)	 wing-like structure	 dry pods
(2)	 fibrous husk	
(3)	 hooks	
(4)		

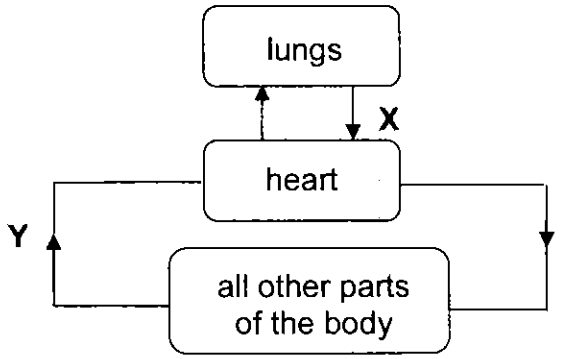
2. The table below shows the freezing and boiling points of substances, A, B and C.

Substance	Freezing point (°C)	Boiling point (°C)
A	40	55
B	35	80
C	70	110

Which of the substance(s) is/ are likely to be liquid at 60°C?

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

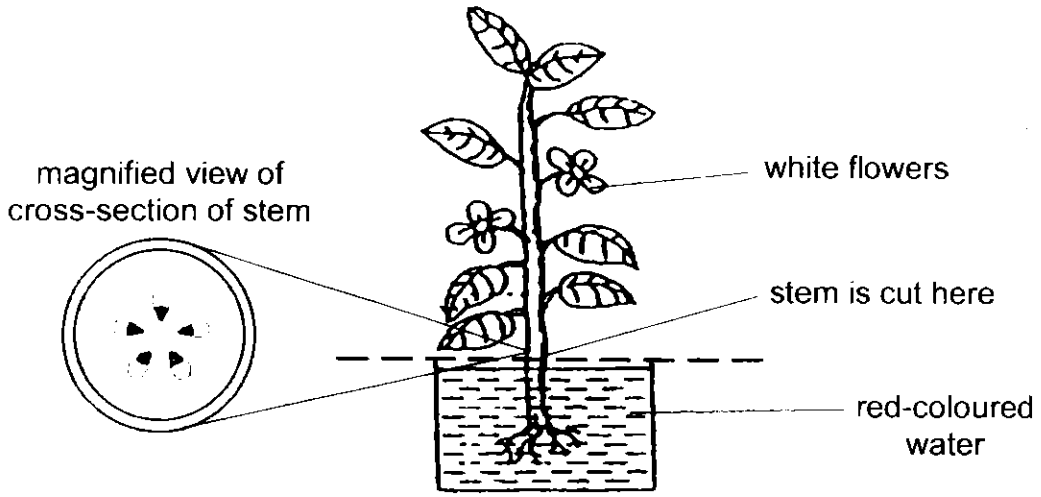
3. The diagram below shows the movement of blood in the human circulatory system.



Which of the following is true about the blood in X and Y?

	X	Y
(1)	High in carbon dioxide	Low in oxygen
(2)	Low in carbon dioxide	High in oxygen
(3)	High in oxygen	High in carbon dioxide
(4)	Low in oxygen	Low in carbon dioxide

4. Samantha set up the experiment as shown below. She placed a plant with white flowers into a beaker of red-coloured water. After a few days, she cut a cross-section of the stem as shown below and made her observations.



What would Samantha observe about the plant with white flowers?

(1) Only the flowers turned red.
(2) The water-carrying tubes and white flowers turned red.
(3) The food-carrying tubes and the white flowers turned red.
(4) The water-carrying tubes and the food-carrying tubes turned red.

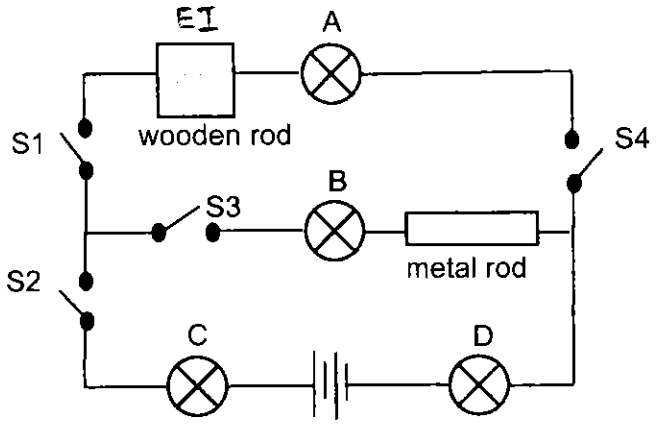
5. Dan observed three different cells, X, Y and Z, under a microscope and recorded his observations in the table below.

	cells		
	X	**Y**	**Z**
cell membrane	✓	✓	✓
nucleus	✓	✓	✓
chloroplast	✓		
cell wall	✓		✓

He then made the following statements about cells X, Y and Z.
A: Only X is able to make food.
B: X and Z are both plant cells.
C: Y and Z both have fixed shapes.

Which of the statement(s) is/ are correct?
(1) A only
(2) C only
(3) A and B only
(4) B and C only

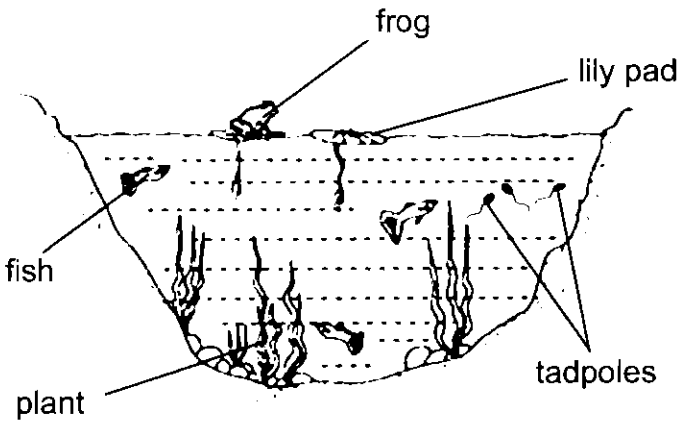
6. The diagram below shows an electric circuit.



Which of the following observations is correct?

(1) When all the switches are closed, all the bulbs will light up.
(2) When S2 and S3 are closed, only bulbs C and D will light up.
(3) When S1, S3 and S4 are closed, none of the bulbs will light up.
(4) When S1, S2 and S4 are closed, bulbs A, C and D will light up.

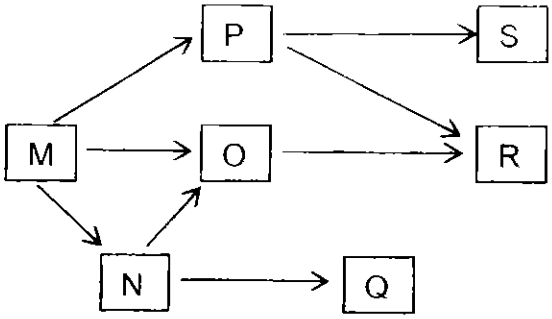
7. The diagram below shows a pond habitat.



Which of the following statements is correct?

(1) There are 3 organisms.
(2) There are 6 populations of fish.
(3) There is 1 population of producer.
(4) There are 2 populations of consumers.

8. Study the food web below.

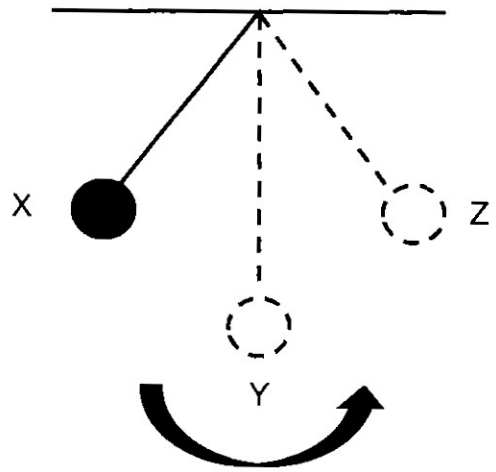


Which of the following statements are true?

A: M is a producer.
B: O is a plant-and-animal eater.
C: R preys on O and N.
D: When P decreases, the population of S will decrease.

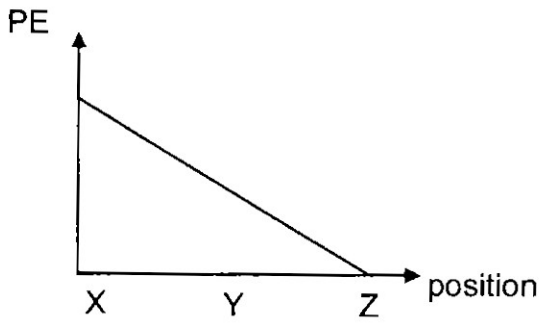
(1) A and B
(2) C and D
(3) A, B and D
(4) A, C and D

9. The diagram below shows a pendulum in motion.

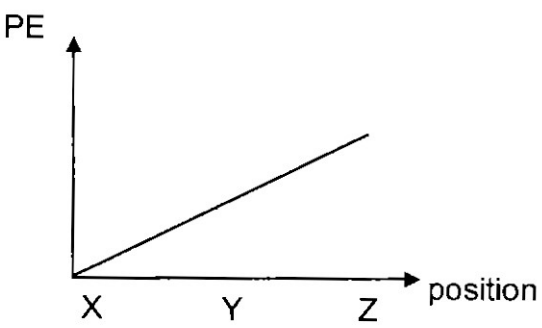


Which of the following graphs shows the correct change in the potential energy (PE) in the ball as it swings from X to Z?

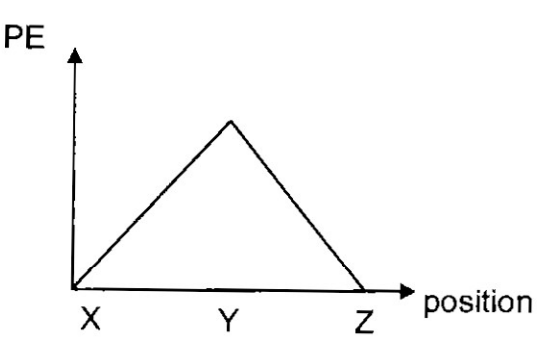
(1)



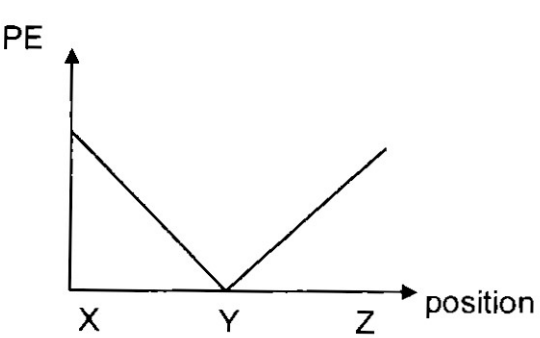
(2)



(3)



(4)



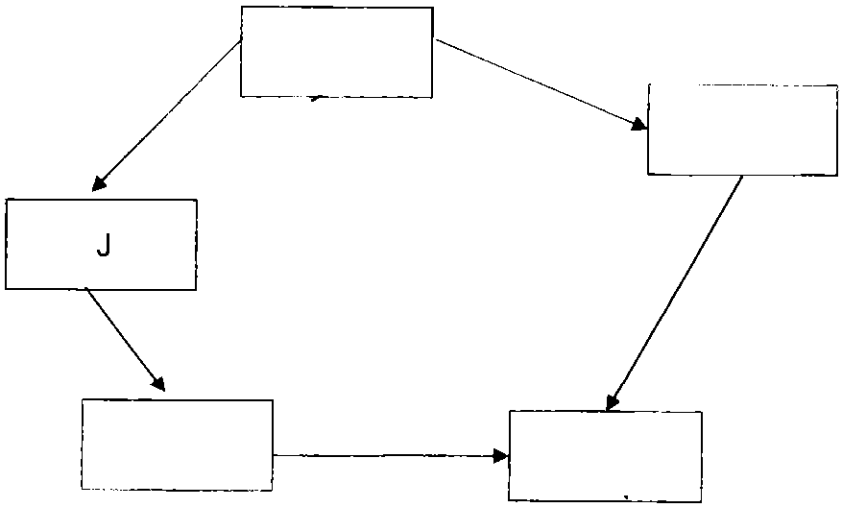
Section B: Open-Ended Questions (12 marks)

Answer all the questions in the space provided.

10. Joe observed five living organisms J, K, L, M and N and made the following observations:

- J and L are both plant-eaters.
- When there is not enough light, M will not be able to produce oxygen.
- When the population of L increases, the population of K will increase but the population of N will decrease.

(a) Organism J is shown in the food web below. Fill in the blanks with the correct living organisms K, L, M and N to complete the food web. (2m)

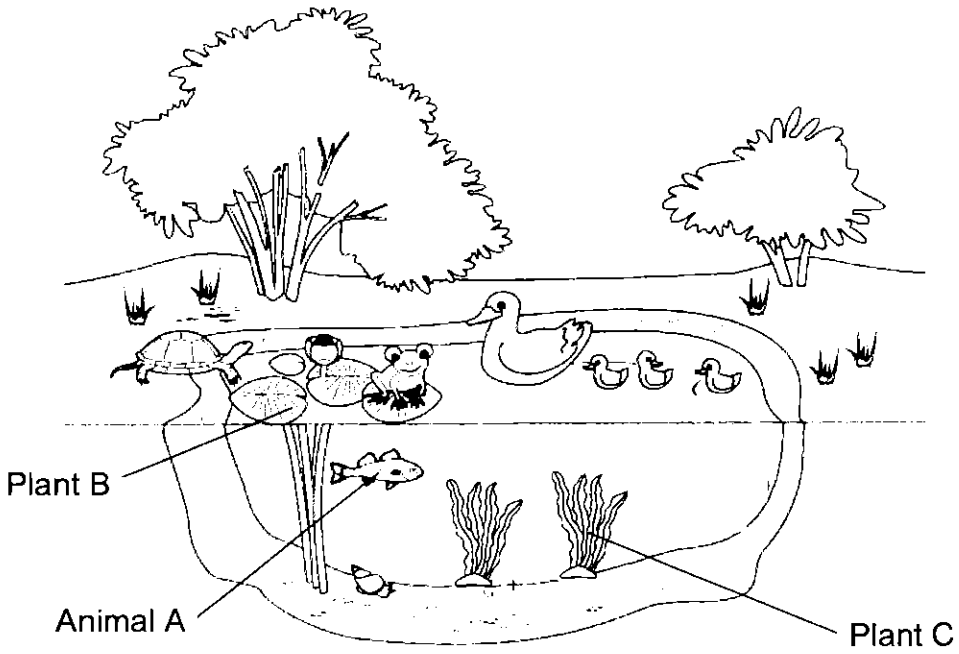


(b) Which organism in the above food web is both a prey and a predator? (1m)

_____

3

10. Joe then observed the living organisms in his school pond as shown below.



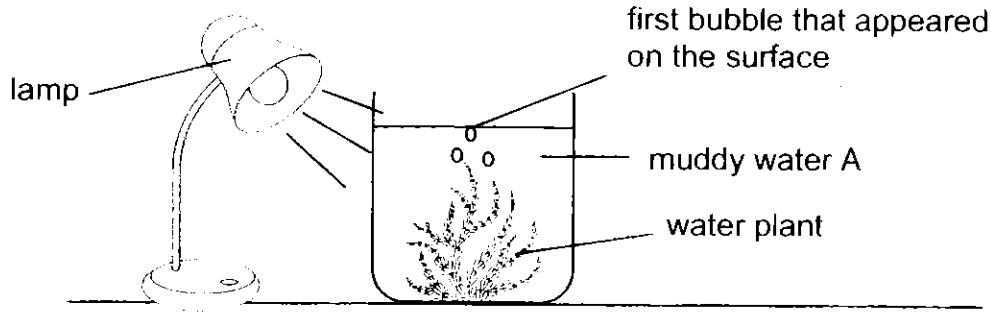
(c) After a few months, Joe noticed that the surface of the school pond was completely covered with plant B. How would this affect the population of Animal A? Explain your answer. (2m)

_____

_____

2

11 Ali placed some water plants into a beaker of muddy water A as shown below. He switched on the torch and measured the amount of time taken for the first bubble to appear on the surface of the water.



Ali repeated the experiment with two other types of muddy water, B and C. The table below shows the conditions of the muddy water.

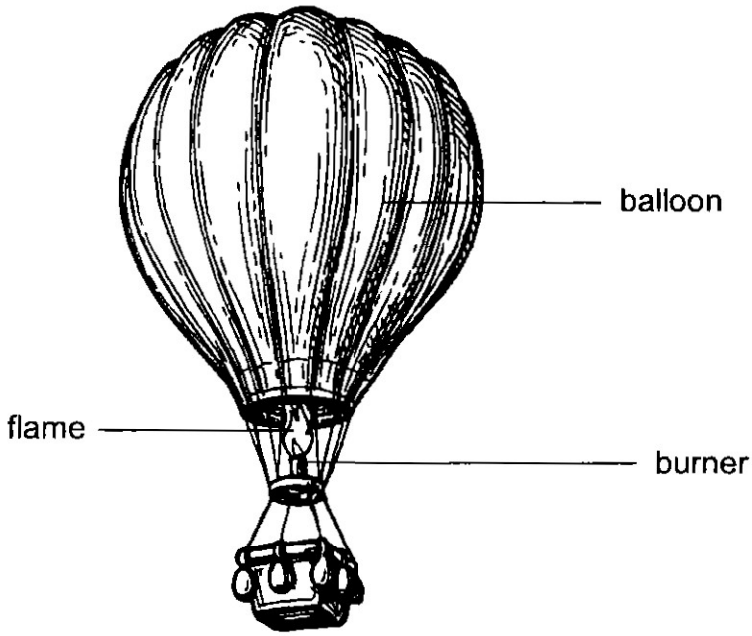
least muddy ⟶		**most muddy**
C	A	B

(a) In which water, A, B or C, will the first bubble take the shortest time to appear on the surface of the water? Explain your answer. (2m)

(b) Without changing the apparatus, what can Ali do to shorten the amount of time for bubbles to first appear on the surface of the water? (1m)

3

12. The diagram below shows how a burner placed below a balloon causes the hot air balloon to rise into the sky.



(a) Complete the energy conversion that takes place in the hot air balloon when the burner is lit. (1m)

Heat	→		→	
energy of the lit burner		energy of the hot air in the balloon		energy of the moving air in the balloon

(b) Using the burner, what can be done to make the hot air balloon rise up higher in the sky? (1m)

_____

(c) Explain your answer for part (b), using energy conversion. (2m)

_____

_____

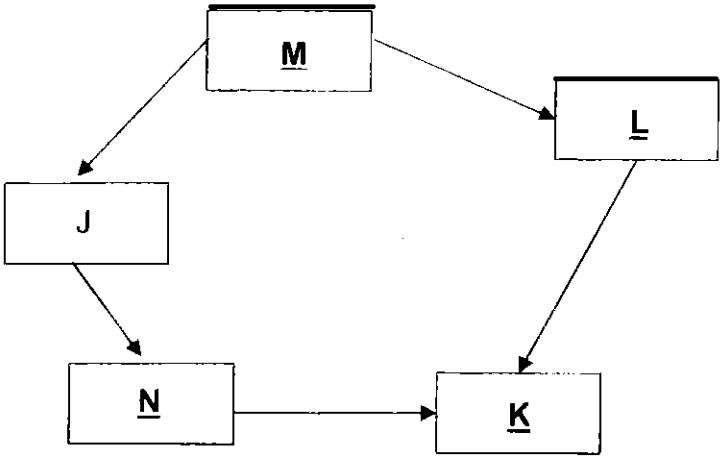
_____

End of paper
Please check your answers

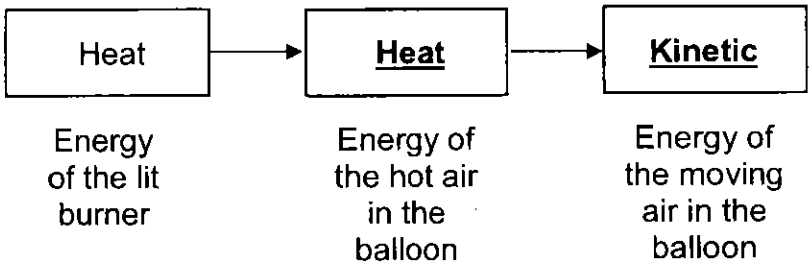
4

RED SWASTIKA SCHOOL
P6 SCIENCE WA2
Corrections Template

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

10(a)	
10(b)	N
10(c)	The population of animal A will decrease. When plant B covered the surface of the pond, no sunlight can pass through the water to reach plant C. As such, C cannot photosynthesise and no oxygen will be given out. Animal A will have lesser disolved oxygen and will eventually die.
11(a)	C, as it is the least muddy and allows most light to pass through. The water plant's rate of photosynthesis will be highest and produce oxygen the faster.
11(b)	Move the lamp nearer to the beaker.

Name:_____( ) Class: _____

12(a)	
12(b)	The hot air balloon can rise up higher by increasing the flame of the burner.
12(c)	When the temperature of the flame increases, the air in the hot air balloon gains more heat energy which will convert to more kinetic energy of the moving air in the balloon. More kinetic energy of the air will convert to more kinetic energy of the hot air balloon, causing it to rise higher in the sky.