RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

SCIENCE
2018 SEMESTRAL EXAMINATION 1
PRIMARY 4

Name : _____ ( )

Class : Primary 4/ _____

Date : 7 May 2018

BOOKLET A

Total time for Booklets A & B: 1h 30 min

Booklet A: 24 questions (48 marks)

Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   a. Page 1 to Page 16
   b. Questions 1 to 24

For Questions 1 to 24, choose the most suitable answer and shade its number in the Optical Answer Sheet provided.

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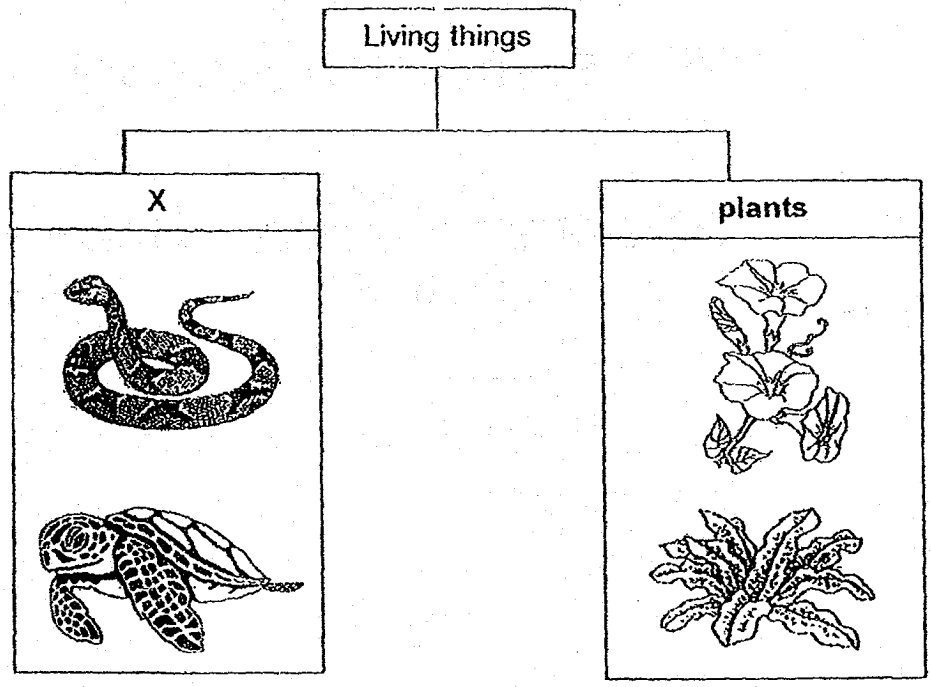
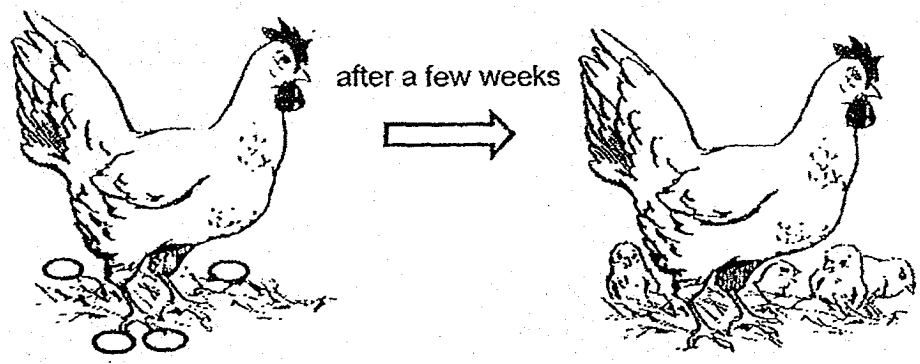
1. Study the classification table shown.



Which one of the following is the most suitable heading for group X?

(1) birds
(2) insects
(3) reptiles
(4) amphibians

2. Study the following organism.



What characteristic of living things does it show?

(1) Living things can die.
(2) Living things can reproduce.
(3) Living things can respond to changes.
(4) Living things need air, food and water to survive.

3. Benny recorded some information in the table shown.

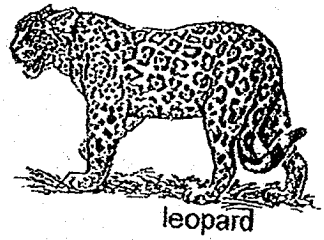
Animal	Characteristics	Example
fish	has scales and breathes through gills	seal
bird	has feathers and a beak	parrot
insect	has six legs and three body parts	beetle
mammal	has hair and produces milk	elephant

Which one of the following has been grouped wrongly?

(1) seal
(2) parrot
(3) beetle
(4) elephant

4. The diagrams show some animals.

rabbit



leopard

zebra

bat

Based on the animals shown above, which of the following is/are true about all the animals?

A : They live on land.
B : They have hair as their outer covering.
C : They respond to changes around them.

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

5. Aminah recorded her observations on the development of plant X.

Day	Development
1	seed planted
3	root appeared
7	shoot appeared
10	leaf appeared

When would the seedling be able to start making food?

(1) day 1
(2) day 3
(3) day 7
(4) day 10

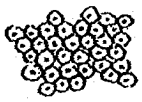
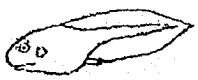
6. The table shows the characteristics of the life cycles of four animals.

Animal	P	Q	R	S
Young looks like the adult	✓	X	✓	X
Has four stages in its life cycle	✓	✓	X	X
Moults during one of the stages	X	✓	✓	✓

Which animal most likely represents a butterfly?

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

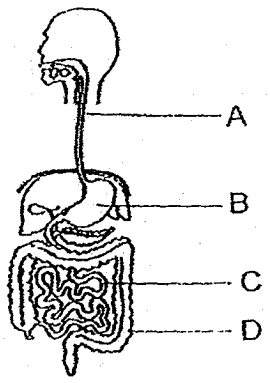
7. The diagrams show the different stages in the life cycle of a frog. The stages are not arranged in order.

A	
B	
C	
D	

Which of the following shows the correct order of the life cycle of a frog?

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

8. The diagram shows the human digestive system.



At which parts, A, B, C or D, are digestive juices not added?

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

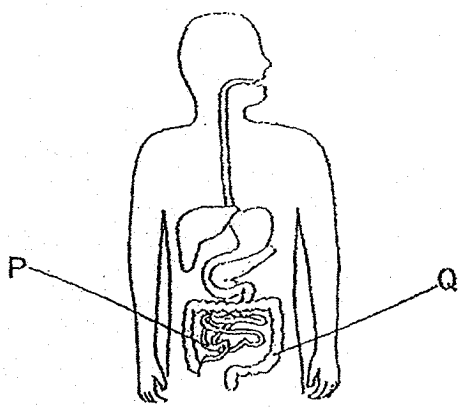
9. Study the classification table of the organ systems in a human body.

Respiratory system	Circulatory system	Skeletal system	Muscular system
nose windpipe	lungs heart	skull rib	muscles

Which organ is placed in the wrong group?

(1) heart
(2) skull
(3) lungs
(4) muscles

10. The diagram shows a human digestive system.

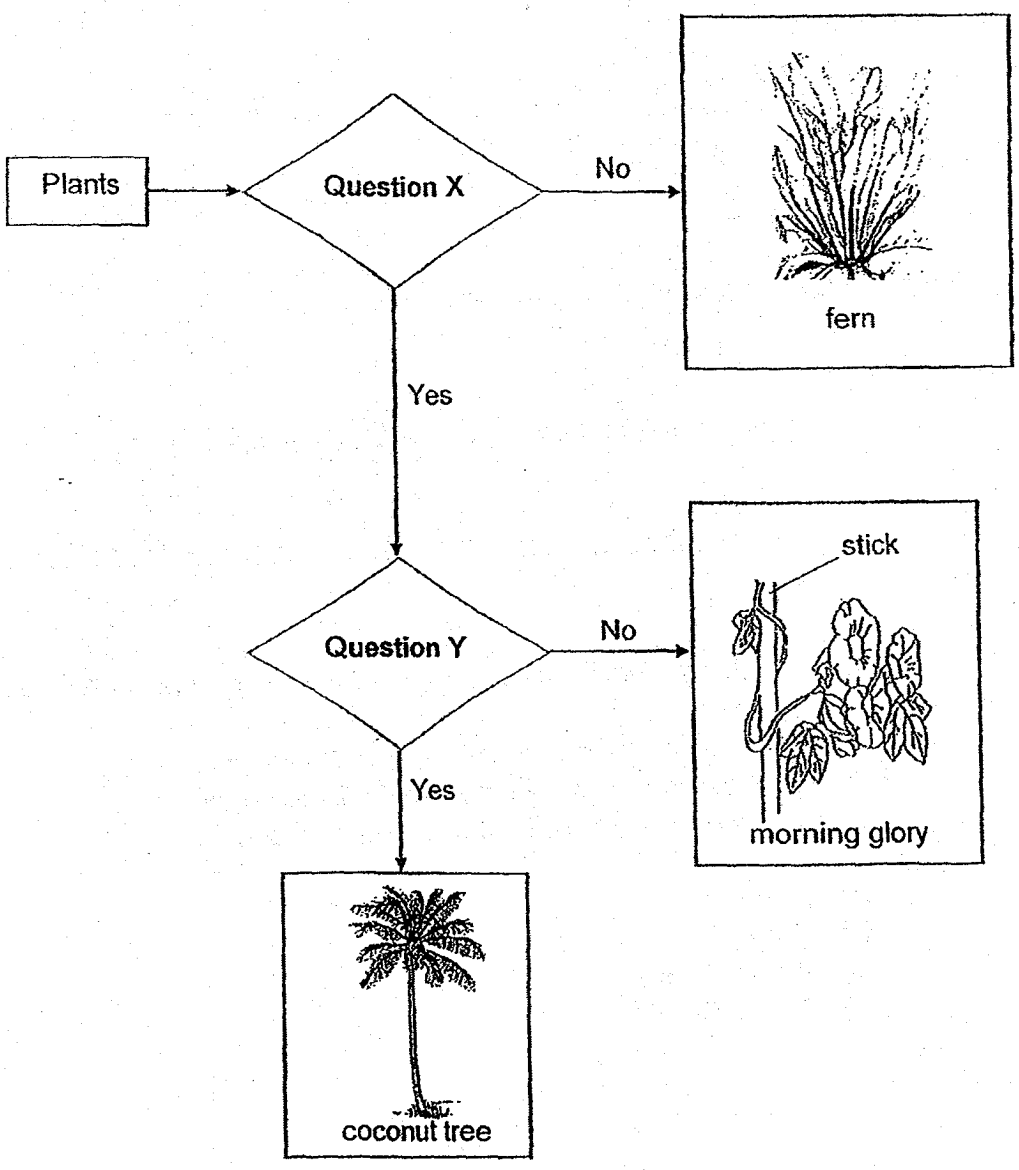


Compare organ P and Q, which two comparisons are correct?

A : Digestion is completed in organ P.
B : Digestion is completed in organ Q.
C : Organ P absorbs digested food while Organ Q absorbs water.
D : Organ Q absorbs digested food while Organ P absorbs water.

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

11. Study the flow chart below carefully.



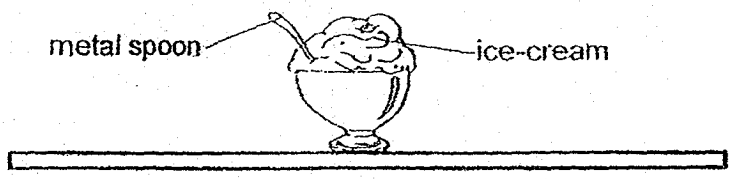
Based on the flow chart, which one of the following correctly states what question X and question Y might be?

	Question X	Question Y
(1)	Does it have a weak stem?	Does it have flowers?
(2)	Does it have a strong stem?	Does it have flowers?
(3)	Does it have flowers?	Does it have a weak stem?
(4)	Does it have flowers?	Does it have a strong stem?

12. Which one of the following is not an example of a matter?

(1) air
(2) jelly
(3) oxygen
(4) shadow

13. A bowl of ice-cream is put on the kitchen table.

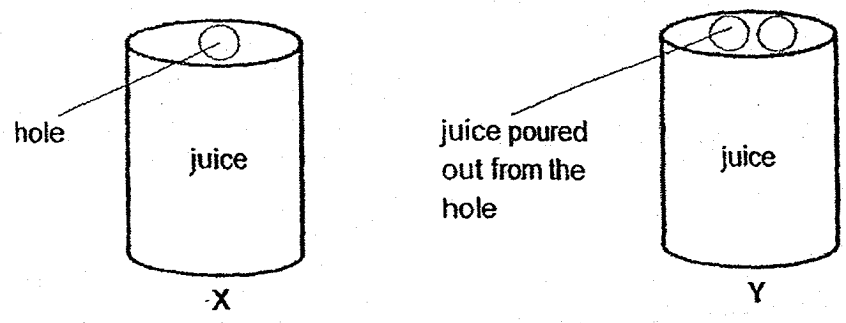


Which of the following correctly shows the heat changes of the ice-cream?

A: The ice-cream loses heat to the surroundings.
B: The ice-cream gains heat from the metal spoon.
C: The ice-cream loses heat to the metal spoon.

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

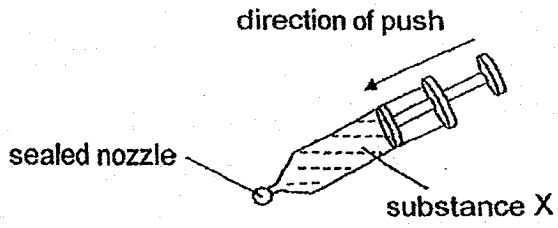
14. There were two cans of juice, X and Y. Zach poked one hole in can X while David poked two holes in can Y as shown. Next, both of them poured out the juice from the hole of each can.



What would be the immediate observation as the juice was poured out?

(1) Juice from X flowed out slower than Y.
(2) Juice from Y flowed out slower than X.
(3) Juice from X and Y flowed out at the same rate.
(4) Juice from Y flowed out but juice from X would not flow out.

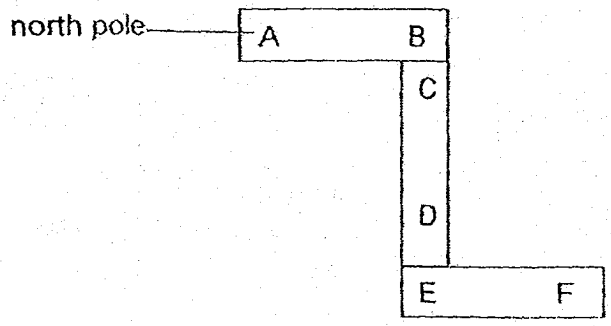
15. The syringe below contains 200cm^3 of substance X and its nozzle is sealed tightly. Melody is not able to push the plunger inwards no matter how hard she tried.



Which of the following is correct about substance X?

	Substance X	Reason
(1)	liquid	has no definite volume
(2)	liquid	has a definite volume
(3)	gas	cannot be compressed
(4)	gas	can be compressed

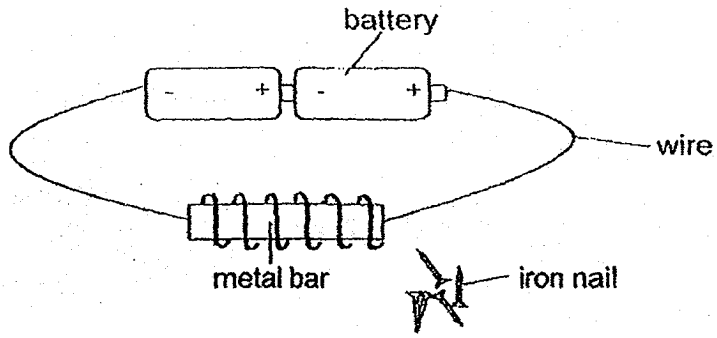
16. Study the three magnets as shown carefully.



Which of the following correctly identifies poles C and F?

	C	F
(1)	north pole	north pole
(2)	south pole	north pole
(3)	north pole	south pole
(4)	south pole	south pole

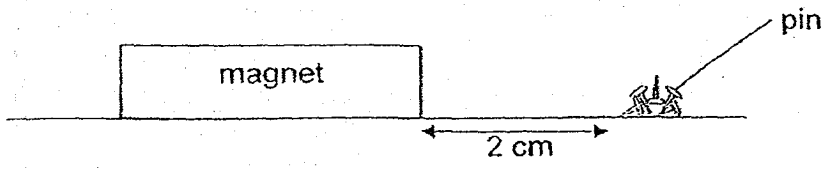
17. Sally used a wire, metal bar and some batteries to set up an electromagnet as shown.



Which of the following should be done to increase the magnetic strength of the electromagnet?

(1) Decrease the number of batteries in the set-up.
(2) Increase the numbers of iron nails in the set-up.
(3) Increase the number of coils around the metal bar.
(4) Decrease the number of coils around the metal bar.

18. Caleb wanted to test the magnetic strength of four magnets, W, X, Y and Z. He placed each magnet near some iron pins and recorded his observation.



Magnet	Distance between the magnet and the pins (cm)	Number of pins attracted to the magnet
W	2	6
X	2	5
Y	2	1
Z	2	3

Which one of the following statements is most likely to be correct?

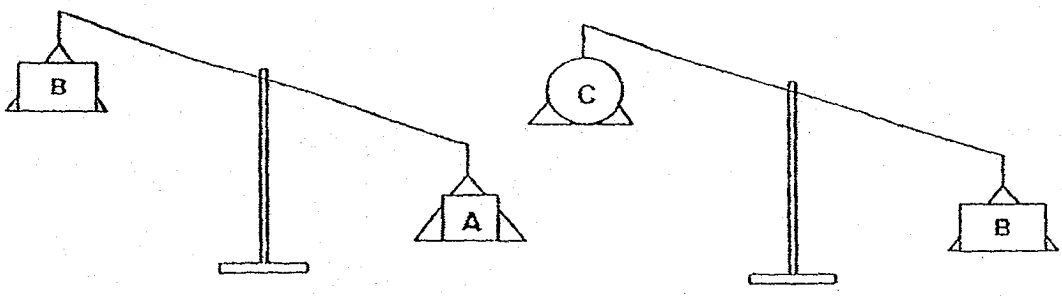
(1) Magnet W has the least magnetism.
(2) Magnet Y has the greatest magnetism.
(3) The magnetism for magnet Z is less than magnet Y.
(4) The magnetism for magnet X is greater than magnet Z.

19. Which of the following item(s) produce(s) heat?

A: the sun
B: an ice cube
C: a candle flame

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

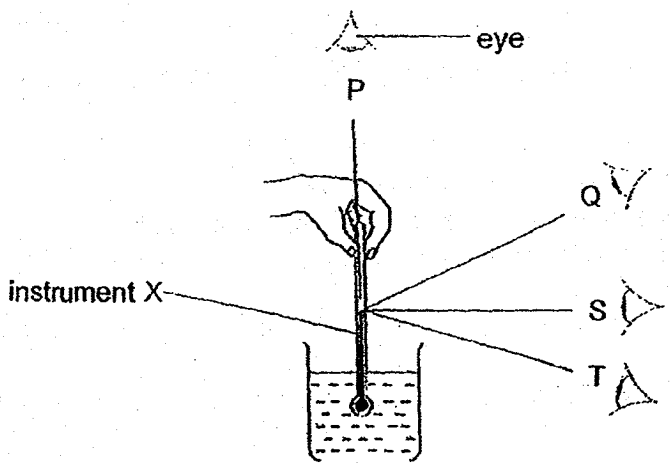
20. Betty is comparing the mass of three objects A, B and C using the balance beam as seen below.



Which of the following statements is true about their masses?

(1) Object A is the heaviest.
(2) Object B is the heaviest.
(3) Object B is lighter than object C.
(4) Object A is lighter than object C.

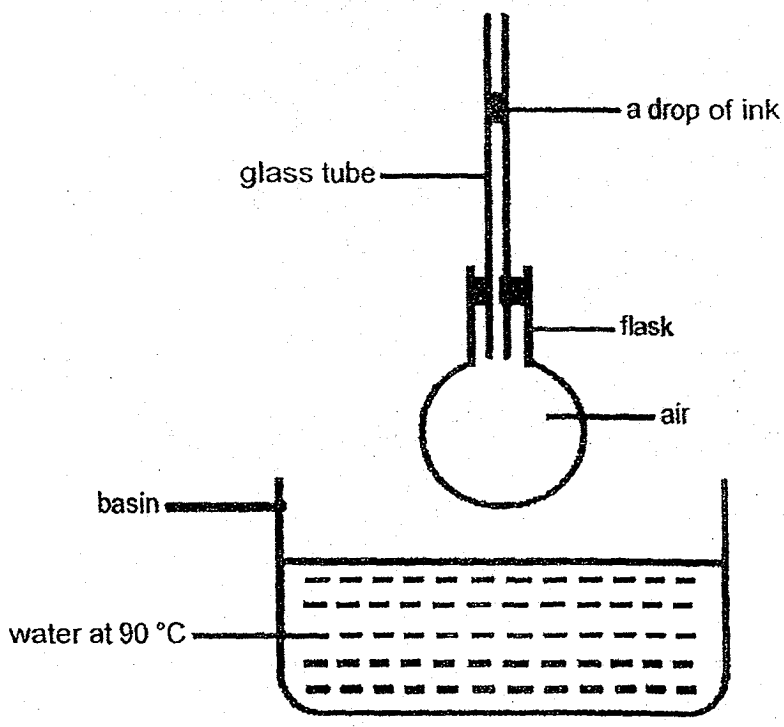
21. Ahmad used instrument X to find out the temperature of hot water in the beaker.



At which point, P, Q, S or T, should he place his eye to have an accurate reading of the temperature?

(1) P
(2) Q
(3) S
(4) T

22. Minah set up the experiment as shown.

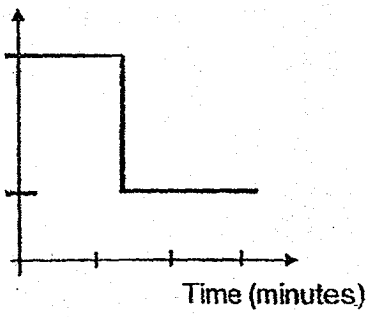


The flask is placed into the water. Which of the following correctly explains what will happen?

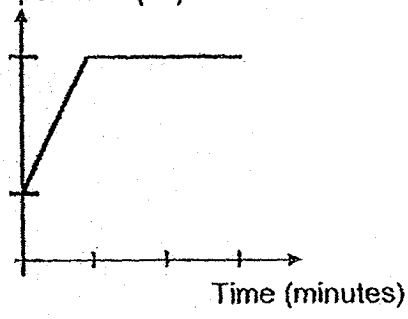
	ink drop	reason
(1)	moves up	water in the basin expands
(2)	moves up	air in the flask expands
(3)	moves down	water in the basin contracts
(4)	moves down	air in the flask contracts

23. Mrs Tan left a cup of hot tea on the table for 30 minutes. Which graph correctly shows the temperature of the hot tea over the period of 30 minutes?

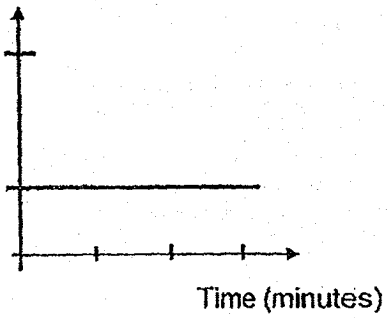
(1) Temperature (°C)



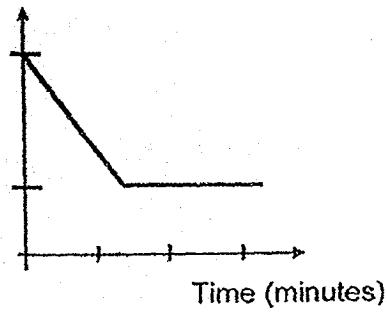
(2) Temperature (°C)



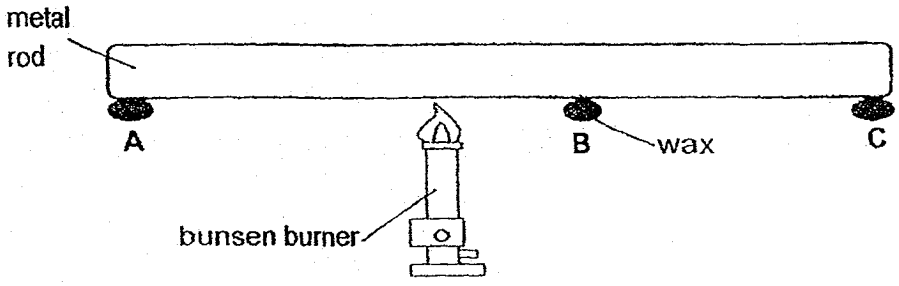
(3) Temperature (°C)



(4) Temperature (°C)



24. Su Ling placed three equal amount of wax, A, B and C, at three different parts of a metal rod as shown.



Which of the following about the wax is correct?

	first to melt	last to melt
(1)	B	A
(2)	C	B
(3)	A	C
(4)	B	C

End of Booklet A

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SCIENCE
2018 SEMESTRAL EXAMINATION 1
PRIMARY 4

Name : _____ ( )

Class : Primary 4/ _____

Date : 7 May 2018

BOOKLET B

10 Questions
32 Marks

In this booklet, you should have the following:
a. Page 17 to Page 28
b. Questions 25 to 34

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		48
BOOKLET B		32
TOTAL		80

Parent's Signature : _____

Answer all the questions in the space provided.

25. Study the table below carefully. A tick (√) in each box indicates the characteristics which the living things have.

Characteristic of living things	Living things			
	W	X	Y	Z
Lives in water to survive	√		√	√
Produces milk for their young			√	
Has a beak and feathers		√		
Has leaves, stem and roots	√			
Can move around freely		√	√	√

The diagram below shows organism A.

Organism A

a) Based on the table, under which group of living things, W, X, Y or Z, would you place organism A? (1m)

_____

b) Based on the table, state one reason why organism A cannot be classified in the same group as organism W? (1m)

_____

_____

c) State one similar characteristic of living things, X, Y and Z. (1m)

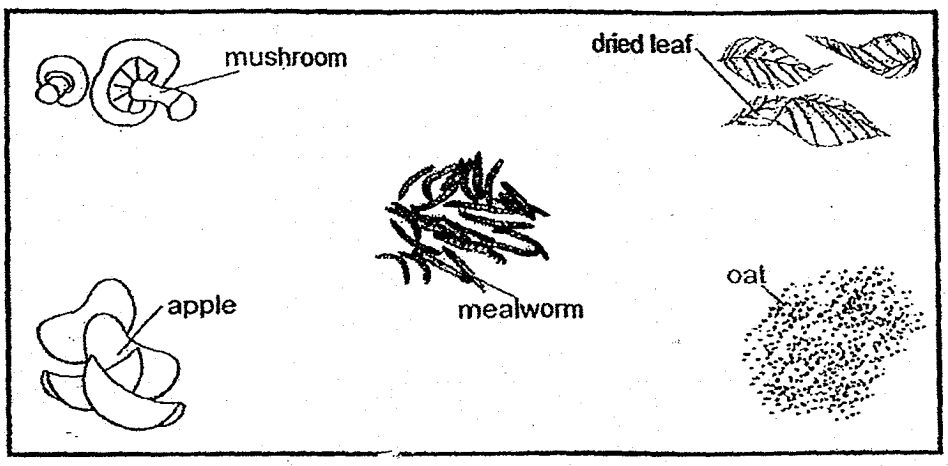
_____

d) Based on the table, which characteristic can be used to identify a living thing as a mammal? (1m)

_____

4

26. Sofia carried out an experiment with some mealworms in the Science room. She placed the mealworms in the centre of a tray. Then, she placed different types of food at four corners of the tray as shown in the diagram.



After some time, she counted the number of mealworms found at each corner. The table below showed the results.

Type of Food	mushroom	dried leaf	apple	oat
Number of mealworms	2	1	4	13

a) Based on the table, which type of food did the mealworms like the least? (1m)

_____

b) Sofia also observed some insect skin on the tray. However, there were no dead mealworms or other insects found on the tray.

Suggest a reason why insect skin was found on the tray. (1m)

_____

_____

2

26c) The mealworm will turn into a beetle eventually. Draw the life cycle of the mealworm beetle in the box below. Use only words and arrows. (1m)

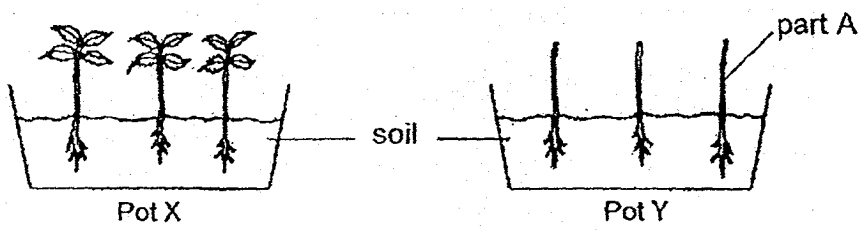
Life cycle of a mealworm beetle

d) At which stage of the life cycle of the mealworm beetle does reproduction take place? (1m)

_____

2

27. Leon grew two pots of seedlings, X and Y, from seeds of the same kind of plant. When the plants of both pots were of the same height, he cut away the leaves of the plants in pot Y. He left both plants at the window and watered them daily.



a) Leon observed that the plants in pot Y died first. Explain why it was so. (2m)

_____

_____

_____

b) What is the function of part A of the plant? (1m)

_____

3

28. Ramesh wrote some notes on two cards about the digestive system.

Card A	Card B
Food moves down this tube into the stomach.	Food is chewed into smaller pieces in this part of the system.

a) Name the part of the digestive system that Ramesh wrote about on card A and card B. (1m)

Card A:_____

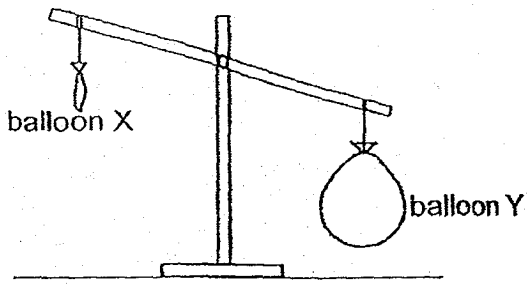
Card B:_____

b) Study the statements shown. Write 'True' or 'False' in the spaces provided. (1m)

Statement	True or False
Digested food passes through the walls of the stomach into the blood.	
Saliva contains digestive juices to stop digestion.	

2

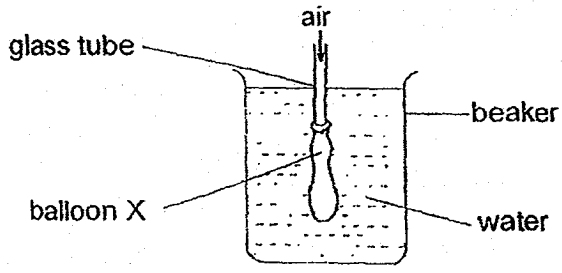
29. May Ling set up the following experiment using two balloons, X and Y, as shown.



a) Which balloon, X or Y, has less mass? (1m)

_____

Next, Mei Ling placed the deflated balloon X into a beaker filled with water as shown below. She blew some air into the balloon through the glass tube and the balloon inflated.



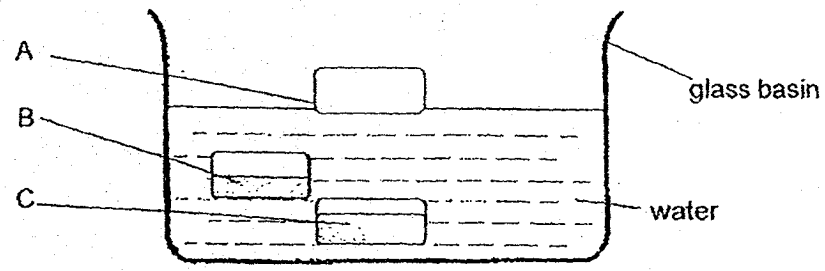
b) She observed that the water in the beaker overflowed. Explain why (2m)

_____

_____

3

30. Sam filled three similar containers, A, B and C, with different amounts of water. He placed them in the same glass basin as shown.



He recorded the amount of water in each container in the table shown below.

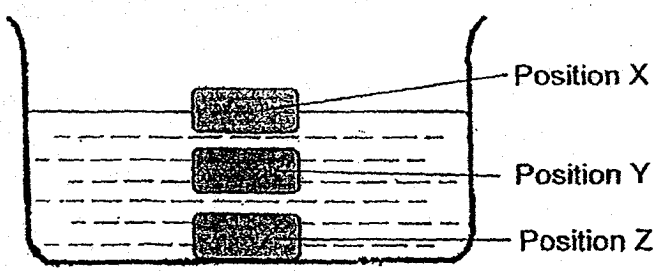
Container	Amount of water in the container (ml)
A	0
B	30
C	50

a) What is the relationship between the amount of water in the container and the depth of the container in the glass basin? (1m)

_____

_____

Sam filled another similar container, D, fully with water and placed it in the glass basin as shown.

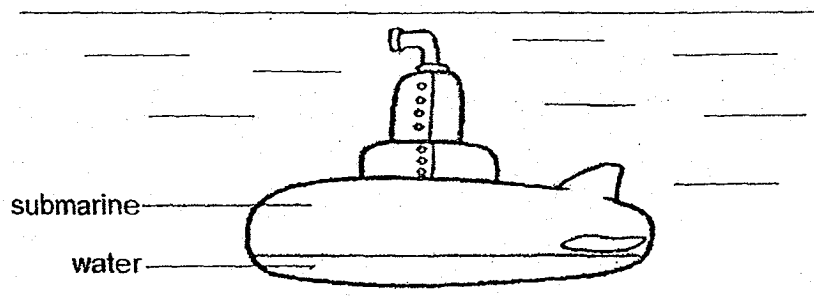


b) Predict at which position, X, Y or Z, will container D be found? (1m)

_____

2

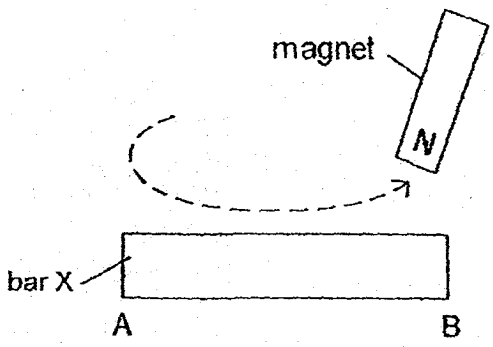
30. A submarine is a type of boat that can travel underwater in the sea by controlling the amount of water inside the submarine.



c) Based on Sam's experiment, what could be done to the water in the submarine to help the submarine rise to the surface of the sea? (1m)

1

31. Krishnan magnetised bar X using a bar magnet as shown. He then used bar X to attract some pins.



a) What was the method that Krishnan used to make a temporary magnet? (1m)

_____

b) Give an example of a material that bar X should be made of in order for his experiment to work. (1m)

_____

c) Identify what was pole A of bar X. (1m)

_____

_____

Next, Krishnan tested the magnetic strength of bar X by counting the number of pins attracted to bar X. He recorded his results in the table below.

Number of strokes	Number of pins attracted
10	2
15	3
20	6
25	8

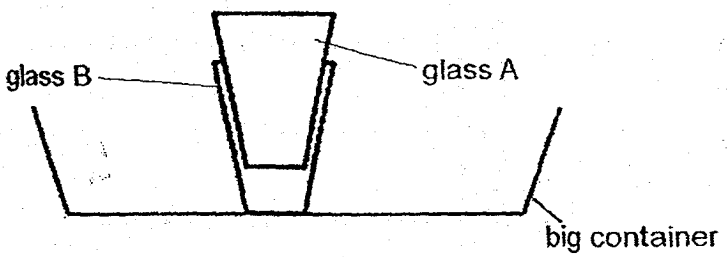
d) Based on the results shown, what could Krishnan conclude from his experiment about the magnetic strength of the magnet? (1m)

_____

_____

4

32. Mrs Lee had problem separating the two glasses, A and B, as they were stuck together.



Items available:

1) ice

2) hot water

a) Using one of the items listed in the box, suggest a way to separate glasses, A and B, quickly. (1m)

_____

_____

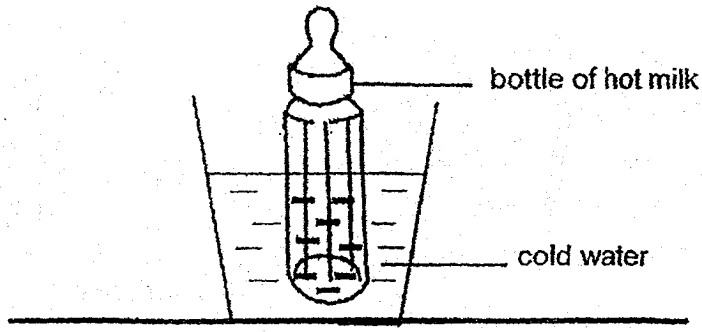
b) Explain your answer in part (a). (1m)

_____

_____

2

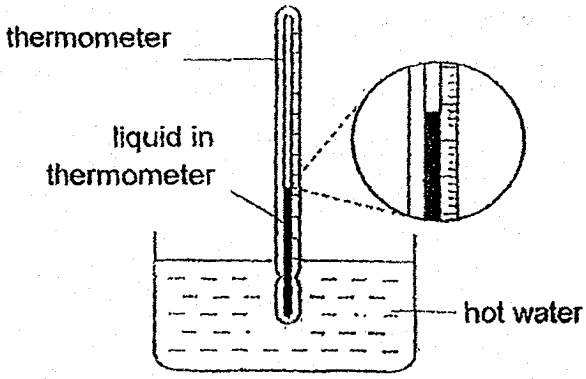
33. Robin carried out an experiment as shown. He placed a bottle of hot milk into a glass of cold water.



a) What would happen to the temperature of the hot milk and cold water? Put a tick (✓) in the correct boxes. (1m)

	Increase	Remain the same	Decrease
Temperature of milk			
Temperature of cold water			

Robin conducted another experiment. He dipped a thermometer into a glass of hot water as shown. He noticed that the liquid in the thermometer rose.



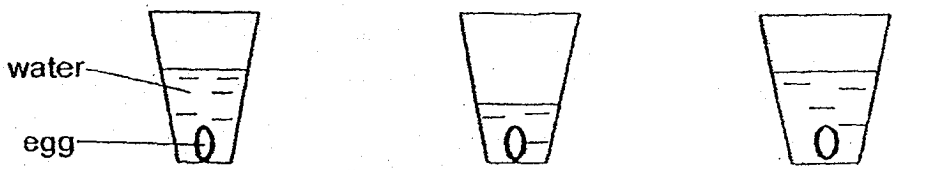
b) Explain why the liquid in the thermometer rose. (1m)

_____

_____

2

34. Jamal wanted to conduct an experiment to see if the amount of water affected the amount of heat in the water. He had three set-ups, X, Y, and Z, as shown.



Set-up X
water at 40 °C

Set-up Y
water at 90 °C

Set-up Z
water at 90 °C

a) Which two set-ups should he use to carry out a fair experiment? (1m)

_____

b) Put a tick (√) in the correct box(es) for each of the following variables in order for him to have a fair test. (2m)

Variables	Variable to keep the same	Variable to change
Material of cup		
Type of egg		
Amount of water		
Location to place the cups		

c) Based on the experiment, which set-up, X, Y or Z, had the egg that was the most cooked? Explain why. (2m)

_____

_____

_____

End of Booklet B

5

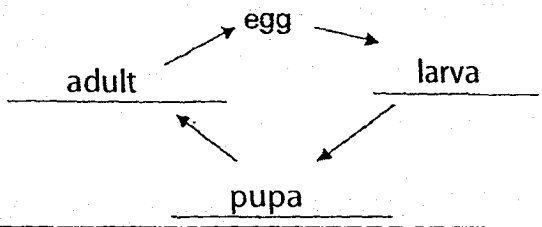
RED SWASTIKA SCHOOL
P4 SCIENCE SA1 2018
Answer Key Corrections Template

Booklet A: Multiple Choice Questions (MCQ) (48 marks)

1. (3)	6. (2)	11. (4)	16. (3)	21. (3)
2. (2)	7. (2)	12. (4)	17. (3)	22. (2)
3. (1)	8. (4)	13. (2)	18. (4)	23. (4)
4. (4)	9. (3)	14. (1)	19. (3)	24. (4)
5. (4)	10. (2)	15. (2)	20. (1)	

Booklet B: Open-ended Questions (32 marks)

Qn.	Answer
25a)	Z
b)	W has leaves, stem and roots but Organism A does not. or W is a plant but A is a fish. *Remark*: MUST show comparison
c)	X, Y and Z can move around freely.
d)	Produces milk for their young.
26a)	Dried leaf
b)	The mealworm moulted.

c)	
d)	Adult stage
27a)	Plants from Pot Y does not have leaves and cannot trap sunlight to make food for the plants to survive.
b)	Stem/Part A transports water and food to all parts of the plant.
28a)	Card A: gullet Card B: mouth
b)	False False
29a)	Balloon X
b)	The balloon inflated and occupied more space in the beaker. As there was not enough space, the water was displaced of the beaker. or The air that Mei Ling blew has volume and occupied the space in the balloon. As there was not enough space in the beaker, the water in the beaker was being pushed out by the air in the balloon.

30a)	The greater the amount of water in the container, the deeper the container will sink into the glass basin. or As the amount of water in the container increases, the depth of the container in the water increases.
b)	Position Z
c)	Redense/Remove the water in the submarine.
31a)	Stroke Method
b)	Steel / Iron / Nickel/ Cobalt
c)	North pole
d)	The more the number of strokes on the magnet, the stronger the magnetic strength /magnetism of the magnet. The magnetic strength of the magnet increases as the number of strokes increases.
32a)	Method 1: Pour hot water into the big container. OR Method 2: Put ice into Glass A.
b)	Method 1: Glass B would gain heat from the hot water and expand . Method 2: Glass A would lose heat to the ice and contract .

33a)

	Increase	Remain the same	Decrease
Temperature of milk			✓
Temperature of cold water	✓		

b) The liquid in the thermometer gained heat from the hot water and expanded. Hence, the temperature rises.

34a) Set-ups Y and Z

b)

Variables	Variable to keep the same	Variable to change
Material of cup	✓	
Type of egg	✓	
Amount of water		✓
Location to place the water	✓	

c) Set-up Z. It has the most amount of water at the highest temperature. Hence, the water had the most amount of heat.