3

AI TONG SCHOOL

PRIMARY FOUR SCIENCE

DURATION: hour minutes

DATE:

INSTRUCTIONS

Do not open the booklet until you are told to do so.
Follow all instructions.
Answer all questions.

Name : _____ ( )

Class : Primary 4 _____

Parent's Signature : _____

Date : _____

Practice Paper Term 4

Name: _____ ( ) Marks: _____/56

Class: _____

Section A: 56 marks
For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

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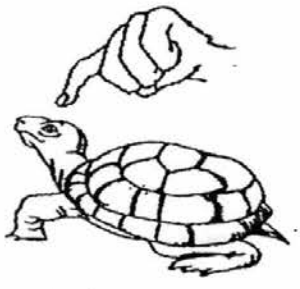
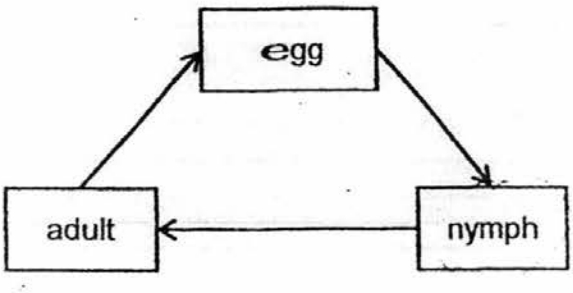
1. A tortoise hides itself in its shell when touched.



This shows that the tortoise is a living thing because it can _____.

(1) grow
(2) breathe
(3) respond
(4) reproduce

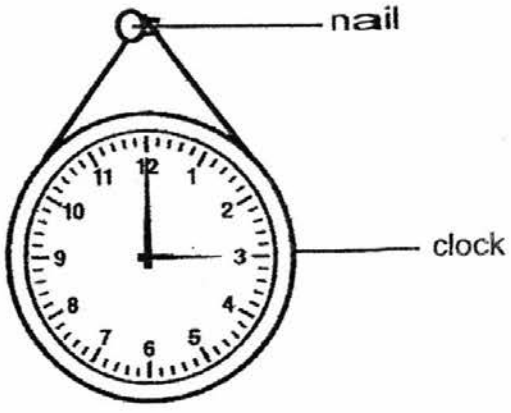
2. The diagram below shows the life cycle of an animal.



Which animal is likely to have the life cycle as shown above?

(1) Frog
(2) Beetle
(3) Butterfly
(4) Cockroach

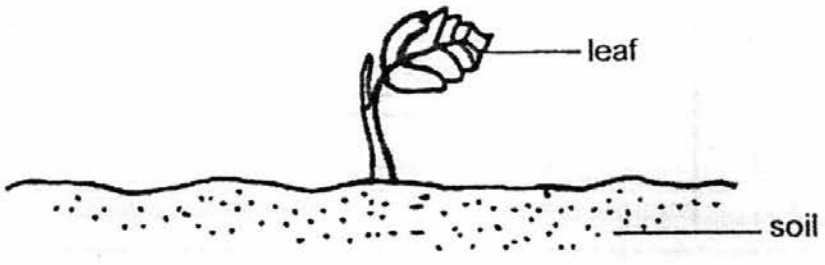
4. The diagram shows a clock hanging on a wall.



Iron is used to make nails because iron _____.

(1) is shiny
(2) is strong
(3) sinks in water
(4) conducts heat well

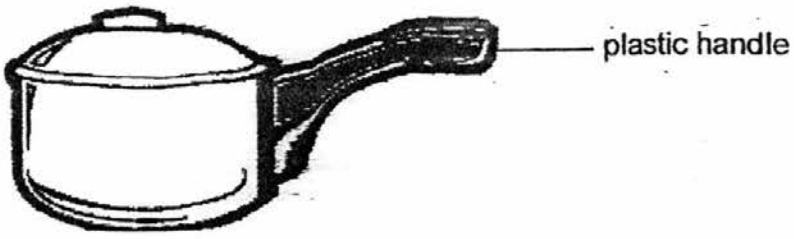
5. The diagram below shows a young plant.



The leaf helps the plant to _____.

(1) make food
(2) grow upright
(3) absorb water
(4) absorb nutrient

8. Harold boiled some water using the pot as shown below.



He is able to hold the pot of boiling water using the plastic handle.
This is because plastic is a _____.

(1) light material
(2) flexible material
(3) poor conductor of heat
(4) good conductor of heat

9. Which one of the following is a source of light?

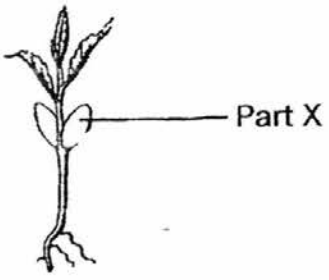
(1) A mirror

(2) The moon

(3) A candle flame

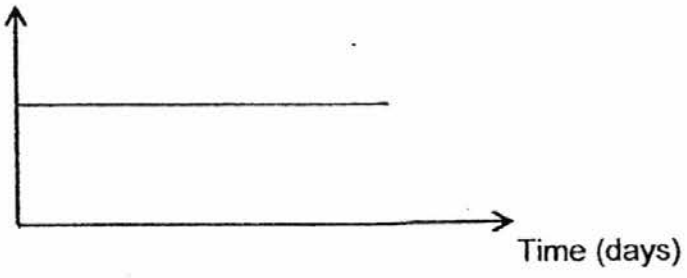
(4) A leaf

11. The diagram shows a seedling with Part X labelled.

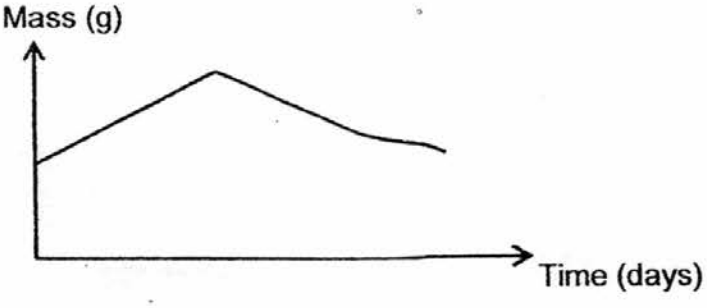


Which of the following graphs is correct about the mass of X over time?

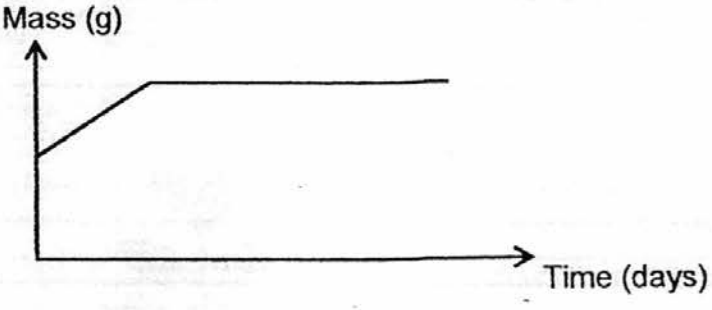
(1)



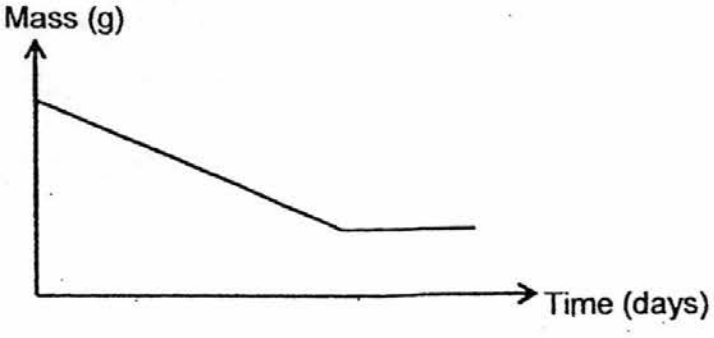
(2)



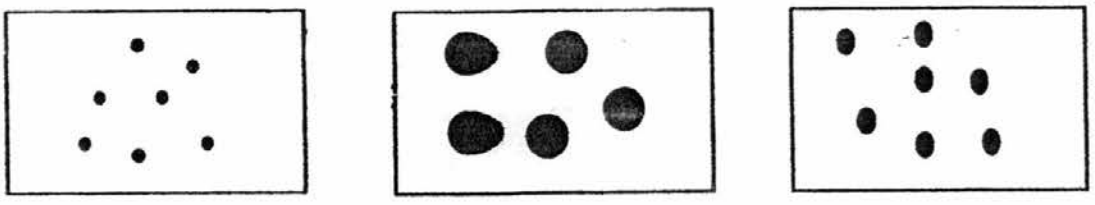
(3)



(4)



13. The diagram below shows three samples of Food X. Each sample shows Food X at a different stage of its digestion in the human body.



Sample A Sample B Sample C

Which part of the human digestive system were the samples most likely taken from?

	Sample A	Sample B	Sample C
(1)	Mouth	Stomach	Small intestine
(2)	Stomach	Small intestine	Mouth
(3)	Small intestine	Mouth	Stomach
(4)	Stomach	Mouth	Small intestine

14. Which of the following statements about saliva are true?

A Saliva is only released in the mouth.

B Saliva helps food to be absorbed in the stomach.

C Saliva helps to break down food into simpler substances.

D Saliva moistens and softens food so that food can be swallowed easily.

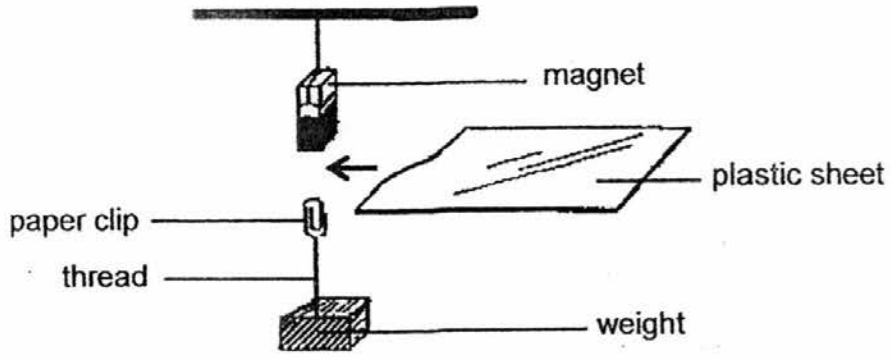
(1) A and B only

(2) C and D only

(3) A, C and D only

(4) B, C and D only

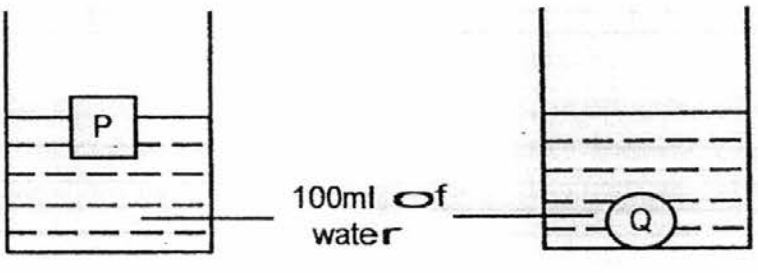
17. David set up an experiment as shown below. He observed that the magnet attracted the paper clip. He then placed a plastic sheet between the magnet and the paper clip. The paper clip remained where it was.



Which of the following is the reason why the paper clip did not drop?

(1) The paper clip was magnetised.
(2) Magnetic force could pass through the plastic sheet.
(3) There was no magnetic force pulling the paper clip down.
(4) The plastic sheet was magnetised and attracted the paper clip.

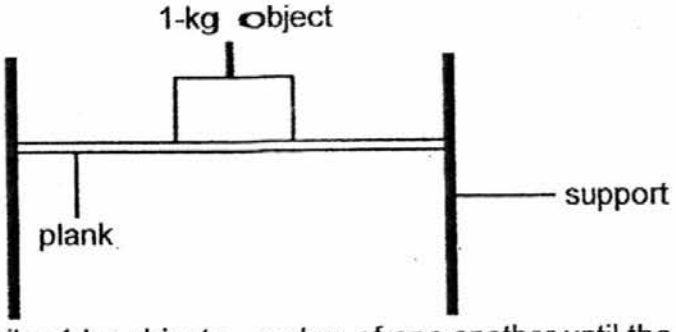
18. The diagrams below show Objects P and Q in two beakers of 100ml of water. The water level in both beakers are now at the same level.



Which of the following statements about Objects P and Q is correct?

(1) Both objects are of the same mass.
(2) Both objects are of the same volume.
(3) Object P is not made of the same material as Object Q.
(4) Object P is made of a magnetic material but Object Q is not.

20. John wanted to compare the strength of four different materials A, B, C and D. He fixed a plank made of material A onto the supports as shown in the diagram below. Then, he placed a 1-kg object on it.



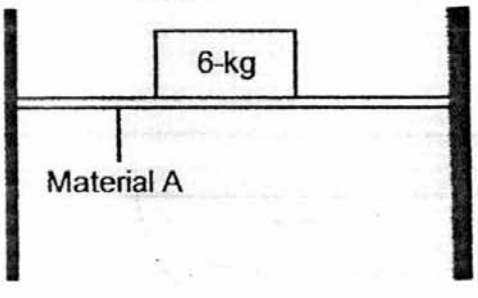
He kept adding similar 1-kg objects on top of one another until the plank broke. He then repeated the experiment with materials B, C and D of similar thickness.

The table below shows the number of 1-kg objects needed to break the planks made of the four materials.

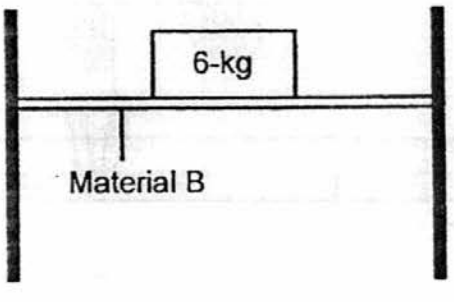
Material	Number of 1-kg objects
A	4
B	5
C	7
D	3

Based on John's experiment, which of the following is possible without the material breaking?

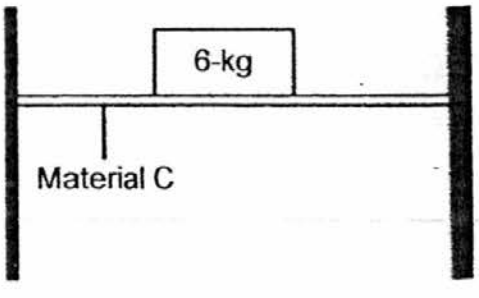
(1)



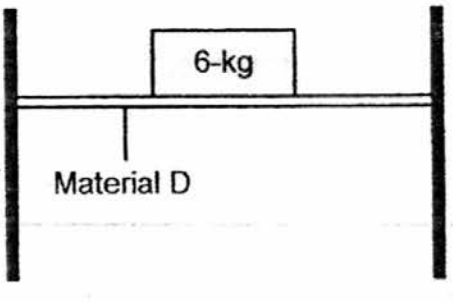
(2)



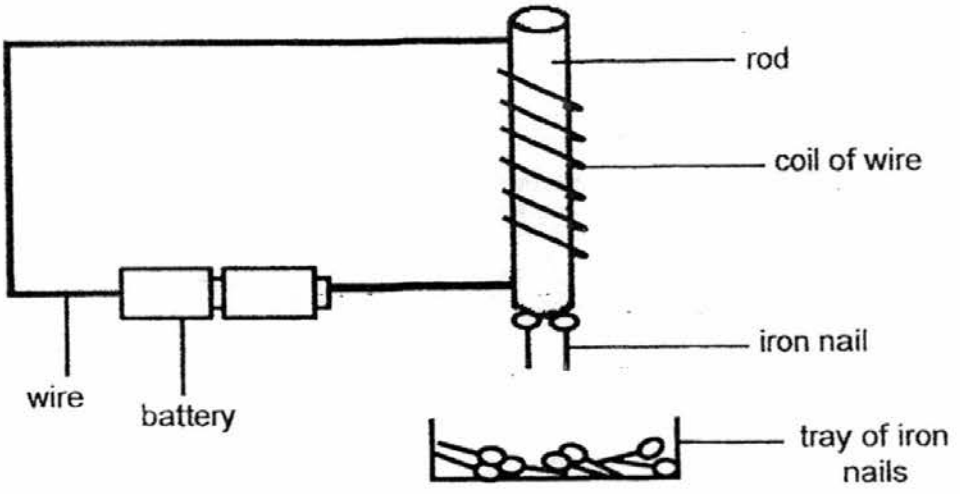
(3)



(4)



23. Fahan set up an experiment as shown in the diagram below.



Fahan wanted to find out if the length of the rod affects the number of iron nails attracted by the rod.

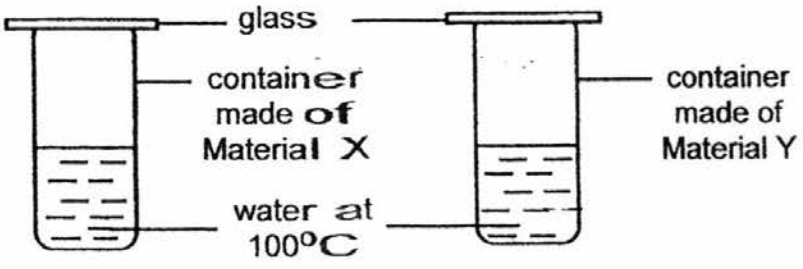
Which of the following variables should **not** be changed?

A Length of rod
B Number of iron nails attracted
C Number of batteries in the circuit
D Distance of rod to the tray of nails
E Number of coils of wire around the rod

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

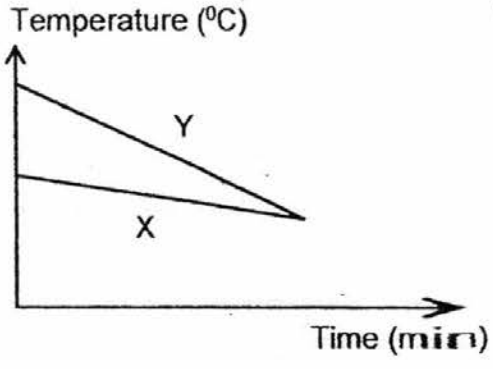
25. The diagram below shows two containers, one made of Material X and the other Material Y. They are of the same size and thickness. Each container is filled with 500ml of water at 100°C.

The containers were covered with a sheet of glass and were left on a table in a room for 30 minutes.

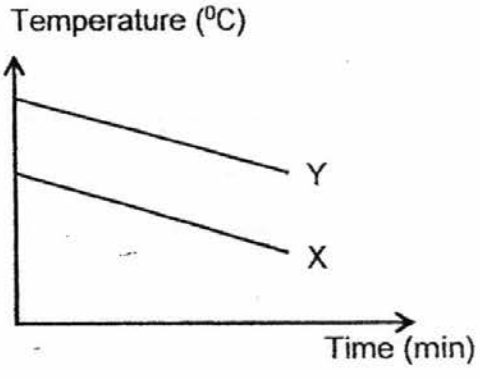


If Material X is a better conductor of heat than Material Y, which one of the following graphs shows the correct changes in the temperature of the water in the two containers over time?

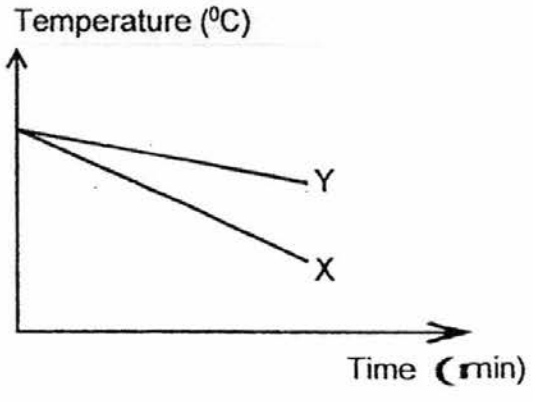
(1)



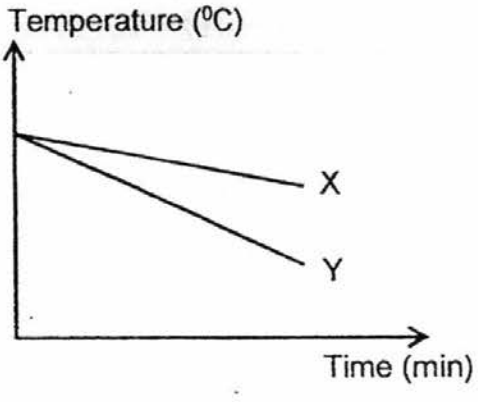
(2)



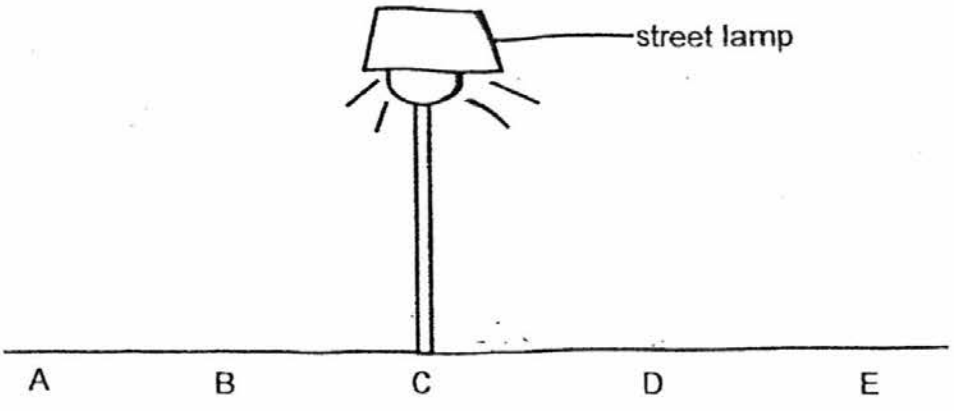
(3)



(4)



27. Anthony walked past a lighted street lamp one night.



Which of the following is correct about the length of his shadow as he walks from A to E?

(1) It keeps increasing in length.

(2) It keeps decreasing in length.

(3) Its length keeps increasing until he walks to C and then starts to decrease.

(4) Its length keeps decreasing until he walks to C and then starts to increase.

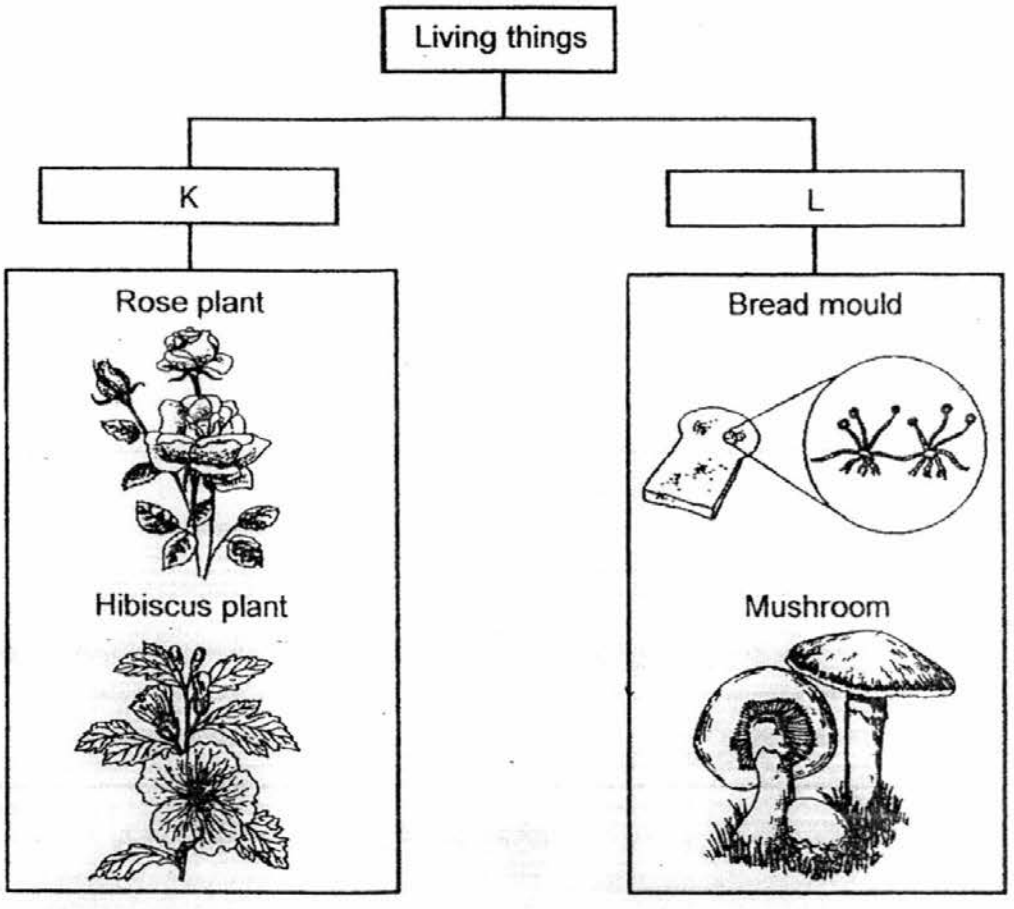
Name: _____ ( ) Marks:_____/44

Class: _____

Section B: 44 marks

Read the questions carefully and write down your answers in the spaces provided.

29. Study the classification chart below.



Choose the correct words from the box to give suitable headings for K and L. [2]

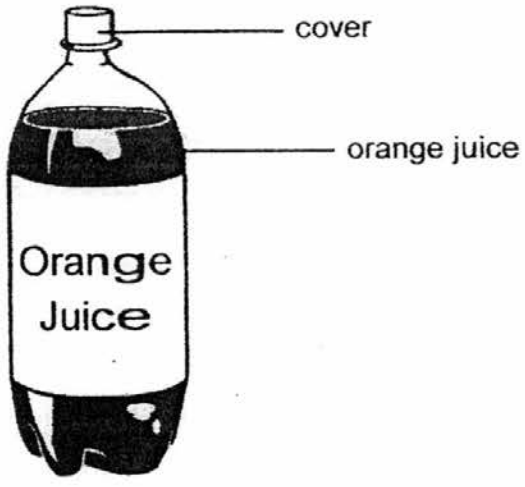
flowering plant	non-flowering plant	fungi	bacteria

K: _____

L: _____

2

32. The diagram below shows a bottle of orange juice.

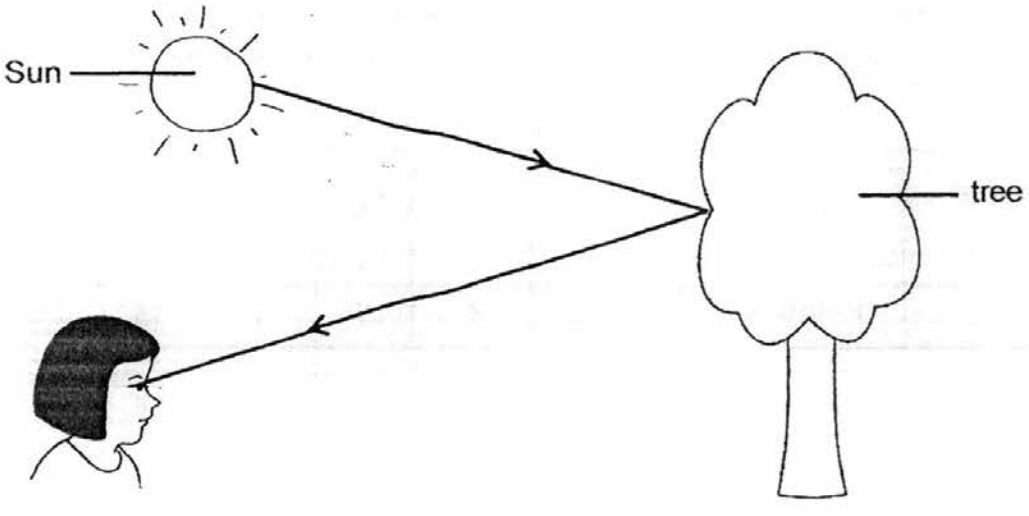


Complete the sentences to state if the parts are solid, liquid or gas.

(a) This cover is a _____ . [1]

(b) The orange juice is a _____ . [1]

33. The diagram below shows how Mary can see the tree in the daytime.



The _____ from the Sun is _____ by the tree and enters Mary's eye. [2]

4

(ii) Based on his observations, what is the relationship between the mass of plant and the number of weeks? [1]

_____

_____

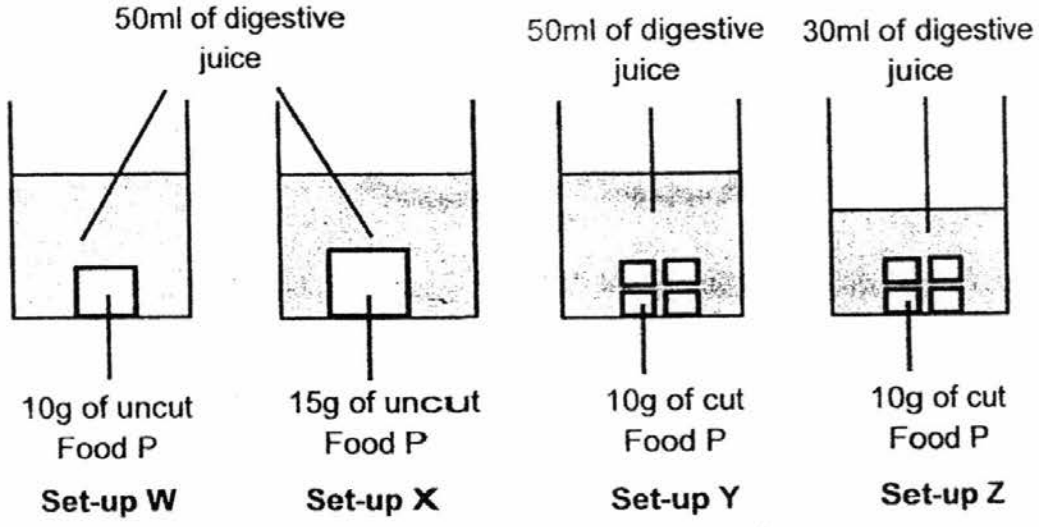
(iii) What do you think would happen to the plant if it was kept in a dark room for week 6 onwards? Explain your answer. [1]

_____

_____

2

36. Wei Ling wanted to find out if cutting Food P into smaller pieces affects the rate of digestion of the food. She prepared 4 different set-ups, W, X, Y and Z, as shown in the diagram below.



(a) i) Which 2 set-ups should Wei Ling use to help her achieve the aim of her experiment? [1]

_____

ii) In which set-up from part a(i) would Food P digest the fastest? Explain your answer. [2]

_____

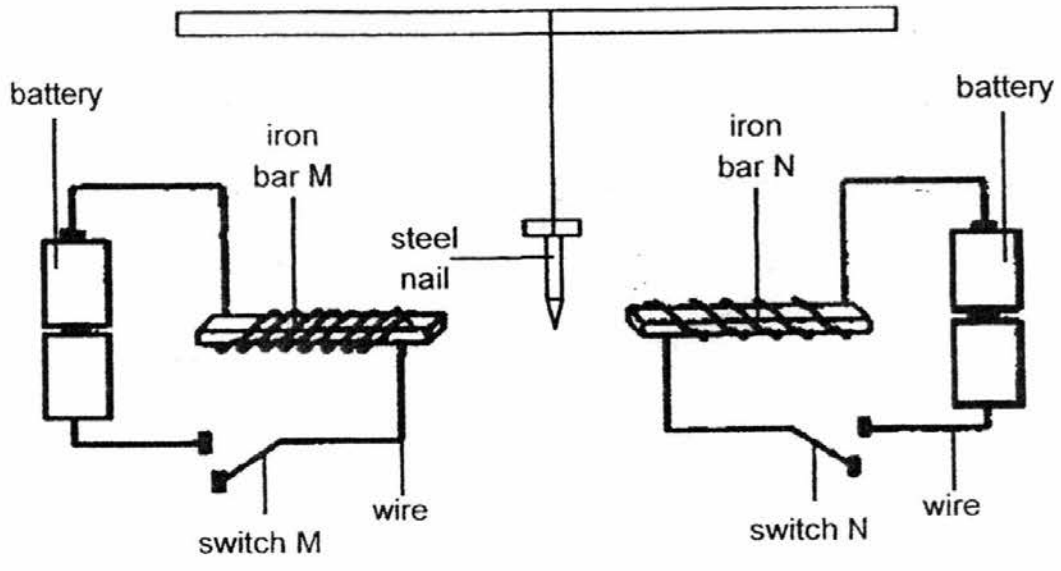
_____

(b) In which set-up, Y or Z, would Food P digest slower? Explain your answer. [1]

_____

4

38. Ahmad set up an experiment as shown in the diagram below. He used identical batteries, wires and iron bars. A steel nail is freely suspended at equal distance between the two iron bars, M and N.



(a) What do you think would happen to the steel nail if both switches M and N are turned on at the same time? Explain your answer. [2]

_____

_____

_____

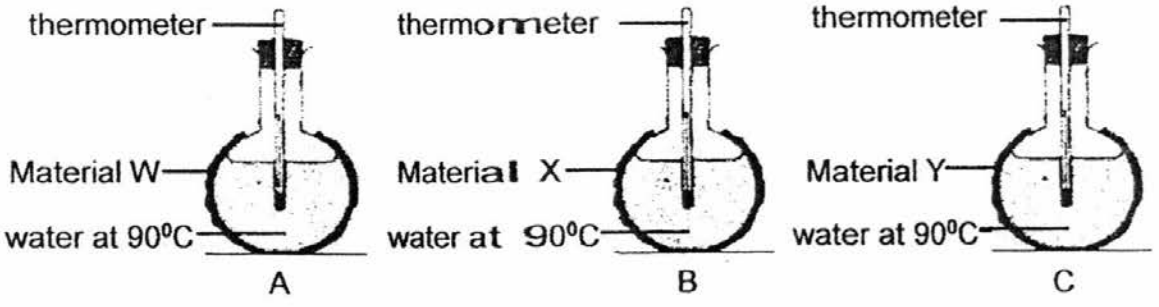
(b) The steel nail is now replaced with a copper nail. What do you think would happen to the copper nail when the switches M and N are turned on again? Explain your answer. [1]

_____

_____

3

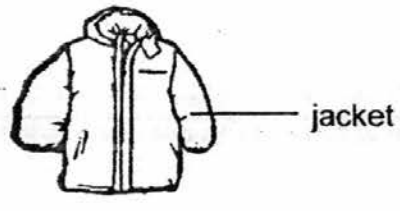
39. Three identical flasks A, B and C were filled with equal volumes of water at 90°C. The flasks were wrapped with different materials, W, X and Y.



The temperature of the water in each flask was measured and recorded at the end of 30 minutes. The results are shown in the table below.

Material	Temperature of water at the start (°C)	Temperature of water after 30 minutes (°C)
W	90	53
X	90	40
Y	90	79

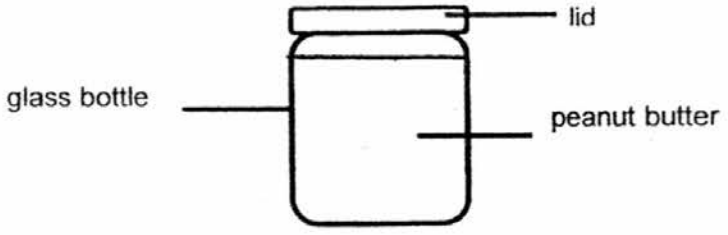
(a) Based on the results obtained above, which one of the materials, W, X, or Y, would be most suitable to make a jacket that can keep us the warmest in a cold country? Explain your choice. [2]



(b) A jacket also has a lot of air spaces in it. Explain clearly how this also makes the jacket suitable to keep us warm. [1]

3

Amanda placed a glass bottle of peanut butter in the refrigerator.



(c) Explain how will heat travel. [1]

_____

(d) After a few days when Amanda tried to open the glass bottle of peanut butter, she found it difficult to open the lid. Explain what she should do to open the lid. [1]

_____

_____

2

(c) Without changing the apparatus, suggest one change that Mr Lim could do to the set-up if he wants to count more than 7 sheets of Material X.[1]

_____

_____

(d) In another experiment, Mr Lim used the same set-up to count the number of sheets of Material Y put together. Each piece of Material X and Y were of the same thickness.

At the end of the experiment, it was noted that the set-up cannot be used to count more than 5 sheets of Material Y.

What does this tell you about Material Y as compared to Material X? [1]

_____

_____

2

EXAM PAPER 2016
LEVEL : PRIMARY 4
SCHOOL : AI TONG SCHOOL
SUBJECT : SCIENCE
TERM : CA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q7	Q8	Q9	Q10
3	4	2	2	1	3	2	3	3	1
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
4	1	3	3	4	4	2	3	3	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
1	2	3	2	3	2	4	1		

Q29. K: Flowering plant L: Fungi

Q30a) 1 b) 4

Q31a) Non-magnetic b) Repelling

Q32a) Solid b) Liquid

Q33. Light reflected

Q34a) Set-up S: The seeds do not have warmth as it is placed in a fridge.

Set-up T: The seeds do not have water as the cotton wool is dry.

Q34bi) Any value between 7cm to 13cm.

Q34bii) As the number of weeks increases, the mass of the plant increases.

Q34biii) The plant would die. There is no sunlight for the leaves to make food.

Name : _____ ( ) Class: P4-_____

P4 Science Practice Paper

Suggested Answer Key and Notes – Section B

Qn	Suggested Answer	Notes / Remarks
29	K : flowering plant L : fungi	Groups of living things
30	a) 1 b) 4	Digestion **first** takes place in the mouth and the process is completed in the small intestine where ***digested*** *food is absorbed into the blood*. Water is then removed from the **undigested food** in the large intestine.
31	a) non-magnetic b) repelling	• Magnets can only attract magnetic materials (e.g., metals like iron and steel) and do not attract non-magnetic materials (e.g., non metals and some metals like aluminium and copper) • When magnets repel each other, they push each other away.
32	a) solid b) liquid	Solid and liquid are **states** of matter.
33	light reflected	The light from the Sun falls on an object and is reflected into the eye in order to see the object.
34	a) Set-up S: The seeds do not have warmth as it is placed in a fridge. Set-up T: The seeds do not have water as the cotton wool is dry b) i) Any value between 7cm to 13cm ii) As the *number of weeks* increases, the *mass of the plant* increases. iii) The plant would die. There is no sunlight for the leaves to make food.	• The conditions require for seeds to germinate are presence of air, water and warmth (not sunlight). • There is not enough warmth in the fridge in Set-up S and in Set-up T, there is no water at all since the cotton wool is dry. • Marks will be deducted for wrong or no unit. • Use the results and variables given to follow a relationship pattern: As the .... *(changed variable / cause)*.... (increases/decreases), the ....*(measured variable / effect)*.... (increases/decreases). • Cause and effect must be correct • Since the plant was in a dark room, there would be no light at all. Since light could not reach the plant, it could not make food and will wither and eventually die.

Qn	Suggested Answer	Notes / Remarks
38	a) The steel nail will be **attracted** by iron bar **M**. When the switch is closed / turned on, iron bar M becomes an **electromagnet**. Since M has **more coils** than N, it is a **stronger** electromagnet to attract the nail.	• Know the factors affecting the strength of an electromagnet (made using electricity).
	b) It will not move / not be attracted by any of the electromagnets. Copper is a **non-magnetic** material, which cannot be attracted by a magnet.	• Avoid writing "Nothing will happen." Be specific.
	c) Do : Bring the South pole of the bar magnet near Pole Z. Observe : If the magnet repels with Pole Z, then Pole Z is South. *OR* Do : Bring the North pole of the bar magnet near Pole Z. Observe : If the magnet attracts Pole Z, then Pole Z is South.	• Like poles of two magnets repel. • Unlike poles of two magnets attract. • It is the magnet that attracts a magnetic material or that the material is attracted to the magnet **(✓)**. • It is incorrect to say that the material attracts the magnet **(X)**.
39	a) *Choice :* Material Y *Data :* It has the **least decrease** in temperature. *Concept :* Y is the **poorest** conductor of heat. *Apply :* Heat transfer from the body to the surroundings will be the ***slowest***.	• The choice must be made for explanation to be marked. No/Wrong choice → 0 mark • Heat cannot escape or be blocked. Heat transfer can happen at a faster or slower rate, depending on the object it is in contact with.
	b) Air is a poor conductor of heat. It **slows down** heat transfer from the body to the surroundings.	• Air spaces contain air. Make inference based on the property of air in the transfer of heat.
40	a) The wire **gained heat** from the candle flame and expanded. b) At night, the power lines **lost heat to** the surroundings and **contracted**.	Effects of heat : • matter gains heat → expands → increases in size/volume → occupies more space • matter loses heat → contracts → decreases in size/volume → occupies less space • Mention the region that heat was gained from or lost to. The ..... gained heat from ..... The ..... lost heat to .....
	c) Heat travels from the glass bottle of peanut butter to the refrigerator.	• Concept : *Heat travels from hotter region to a colder region.*
	d) She should place the lid in **hot water** so that the lid could **expand** and become bigger than the bottle.	• Do not write just the general concept of how heat travels. In this question, you must specify where the hotter and colder region is.