



# RED SWASTIKA SCHOOL

## SCIENCE 2017 SEMESTRAL EXAMINATION 2 PRIMARY 3

Name : \_\_\_\_\_ (     )

Class : Primary 3/ \_\_\_\_\_

Date : 27 October 2017

### 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 15
  - b. Questions 1 to 24

**Section A: Multiple Choice Questions**

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

1. Study the things below carefully.



A



B



C



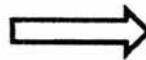
D

Which of the following are living things?

- (1) A and B only
  - (2) A and C only
  - (3) B and D only
  - (4) C and D only
2. Study the following organism carefully.



after a few weeks



What characteristic of living things does the above diagram show?

- (1) Living things can grow.
- (2) Living things can reproduce.
- (3) Living things can respond to changes.
- (4) Living things can move by themselves.

3. Study the table below carefully.

| <b>Mammal</b> | <b>Bird</b> |
|---------------|-------------|
| cat           | bat         |
| horse         | parrot      |
| giraffe       | chicken     |

Which one of the following animals has been grouped wrongly?

- (1) cat
- (2) bat
- (3) horse
- (4) chicken

4. Which one of the following statements about bacteria is true?

- (1) They are non-living things.
- (2) They can be seen everywhere.
- (3) They can be found inside our body.
- (4) They are all harmful and make us ill.

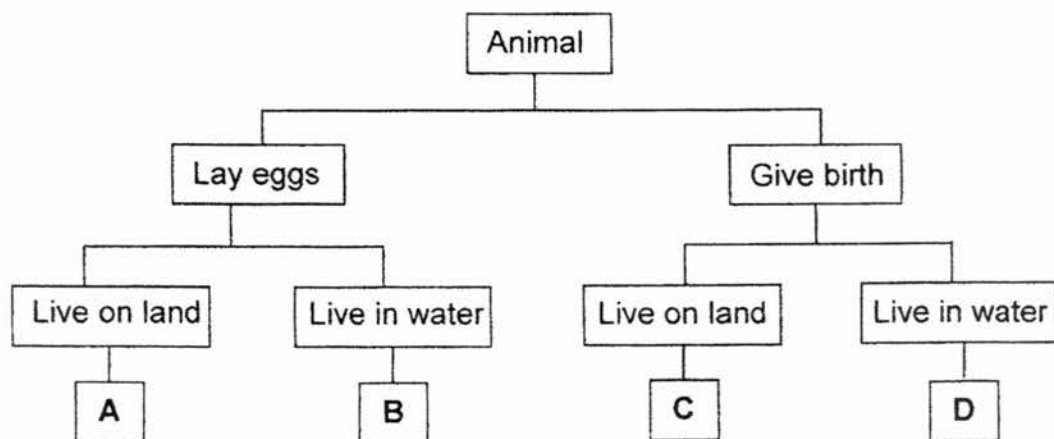
5. Study the table below carefully, a tick ( √ ) indicates that a characteristic is observed and a cross ( X ) indicates that it is not observed.

| Animal | Characteristics |           |            |
|--------|-----------------|-----------|------------|
|        | Lay eggs        | Has wings | Has scales |
| A      | √               | √         | X          |
| B      | √               | X         | √          |

Based on the table, what can A and B represent?

|     | A        | B        |
|-----|----------|----------|
| (1) | dog      | frog     |
| (2) | ant      | chicken  |
| (3) | bat      | parrot   |
| (4) | mosquito | goldfish |

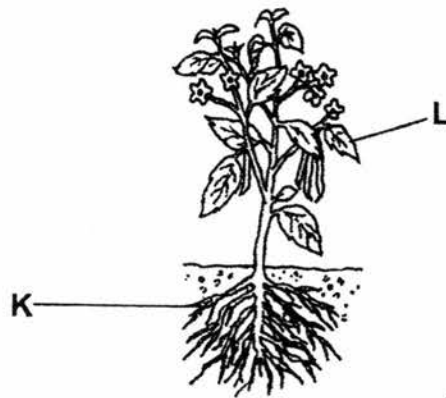
6. Study the classification chart below.



Which letter, A, B, C or D, represents a pigeon?

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

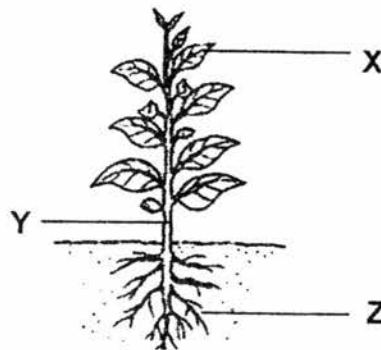
7. The diagram below shows a plant.



Identify parts K and L of the plant.

|     | K      | L      |
|-----|--------|--------|
| (1) | fruit  | roots  |
| (2) | roots  | leaf   |
| (3) | leaf   | flower |
| (4) | flower | fruit  |

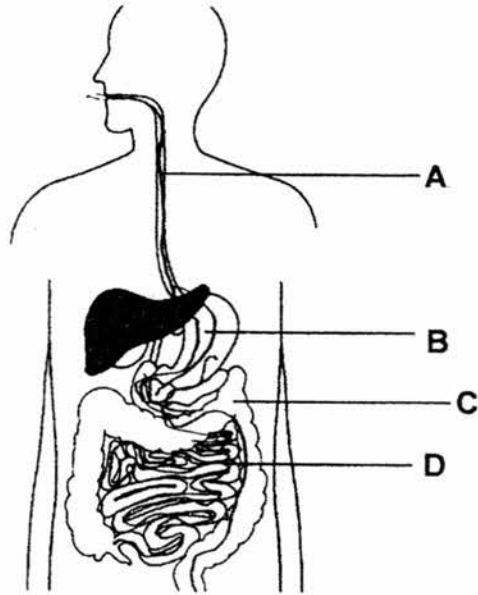
8. Study the diagram below carefully.



Which one of the following about the plant parts is correct?

|     | Supports the plant | Holds the plant firmly to the ground |
|-----|--------------------|--------------------------------------|
| (1) | Y                  | X                                    |
| (2) | Z                  | Y                                    |
| (3) | Y                  | Z                                    |
| (4) | X                  | Y                                    |

9. Study the system below carefully.



Which one of the following shows how food travels through part of the digestive system after it enters the mouth?

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

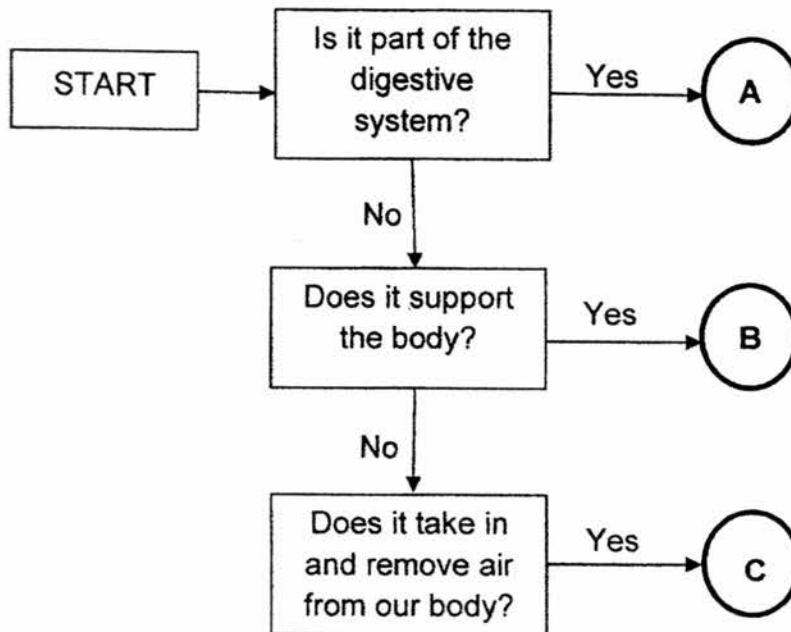
10. Study the classification table of our organ systems carefully.

| Respiratory system | Circulatory system       | Skeletal system  | Digestive system |
|--------------------|--------------------------|------------------|------------------|
| lungs<br>windpipe  | small intestine<br>heart | skull<br>ribcage | anus<br>gullet   |

Which organ is placed in the wrong group?

- (1) heart
- (2) gullet
- (3) skull
- (4) small intestine

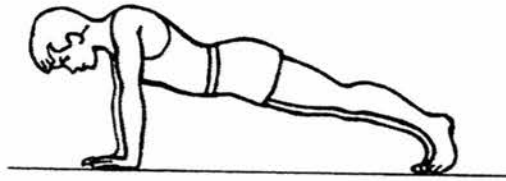
11. Study the flow chart below carefully.



Which organs in the human body do A, B, and C best represent?

|     | A       | B        | C        |
|-----|---------|----------|----------|
| (1) | muscles | skull    | ribcage  |
| (2) | stomach | backbone | lung     |
| (3) | skull   | stomach  | muscles  |
| (4) | ribcage | lung     | backbone |

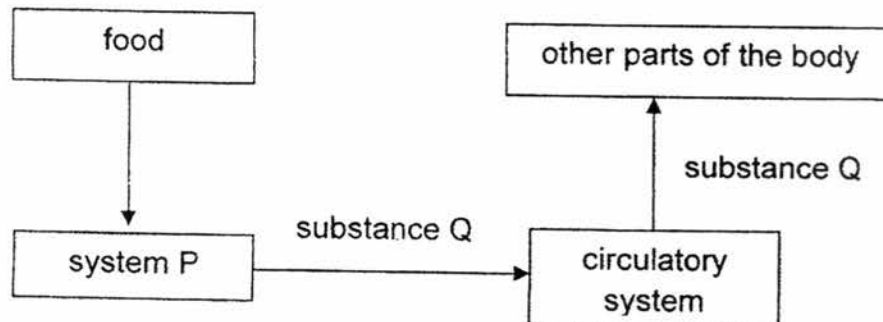
12. Jeremy was training hard for his upcoming competition at the stadium.



Which body systems worked together during his training?

- A: Skeletal system
  - B: Muscular system
  - C: Circulatory system
  - D: Respiratory system
- (1) A and C only  
 (2) B and D only  
 (3) A, C and D only  
 (4) A, B, C and D

13. Study the flow chart below.

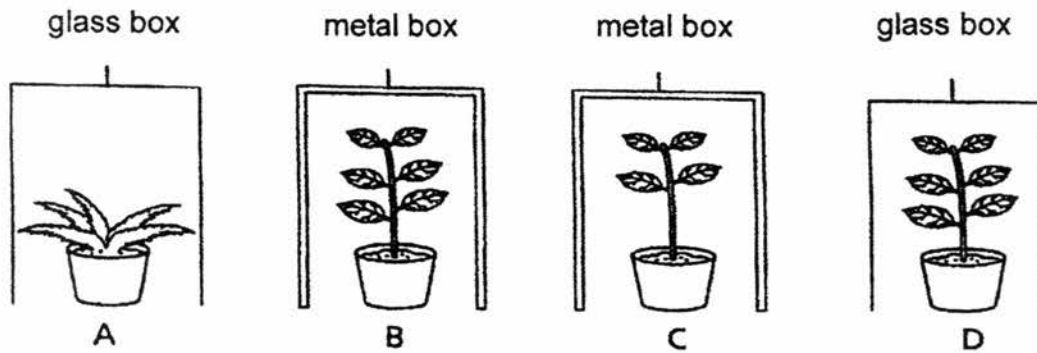


Which one of the following best represents system P and substance Q?

|     | System P           | Substance Q     |
|-----|--------------------|-----------------|
| (1) | skeletal system    | undigested food |
| (2) | digestive system   | undigested food |
| (3) | digestive system   | digested food   |
| (4) | respiratory system | digested food   |



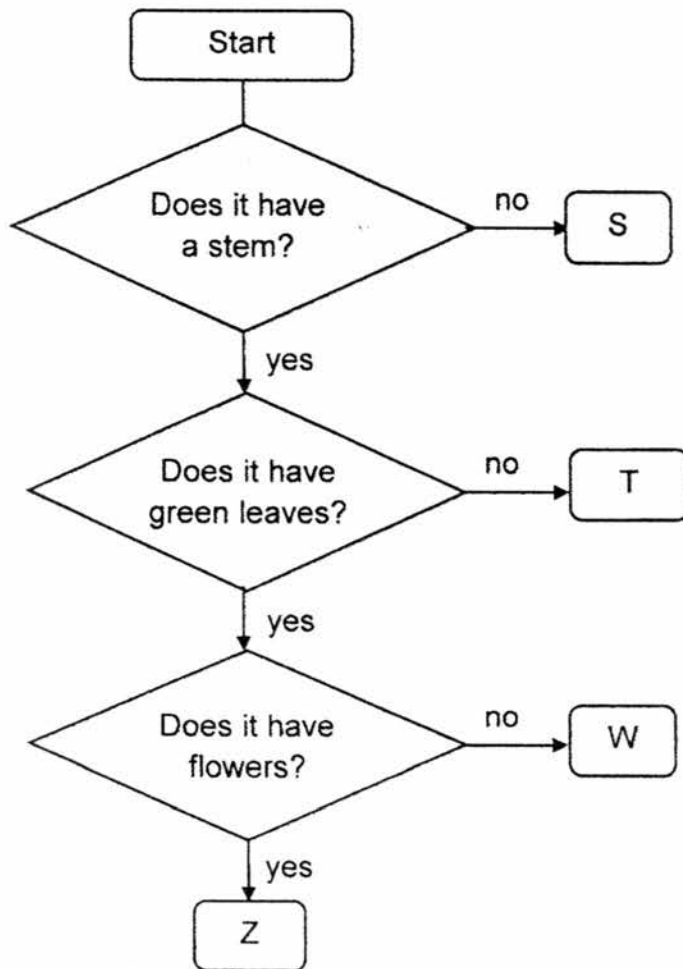
14. Sally wanted to find out if light affects the growth of the plants. She prepared the set-ups as shown below.



Which two set-ups should she choose to conduct a fair test?

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

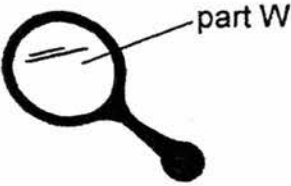
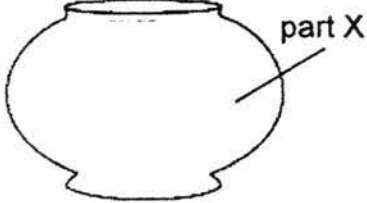
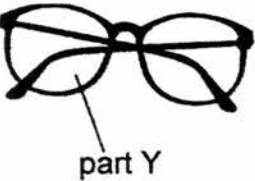

15. Study the flow chart carefully. The letters, S, T, W and Z, represent four different organisms.



Which of the following best represents a fern?

- (1) S
- (2) T
- (3) W
- (4) Z

16. Which of the following, A, B, C or D, will allow light to pass through?

|  |  |
|--|--|
| <p>A: part W of the mirror</p>      | <p>B: part X of the fish tank</p>    |
| <p>C: part Y of the spectacles</p>  | <p>D: part Z of the ceramic cup</p>  |

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

17. Desmond was given four types of materials, A, B, C and D, to make a swimming float. He tested the materials and used a checklist as shown below to record the results. A tick (✓) indicates that the material has that property.

| Material | Breaks easily | Sinks in water | Waterproof | Strong |
|----------|---------------|----------------|------------|--------|
| A        | ✓             |                | ✓          |        |
| B        | ✓             | ✓              |            |        |
| C        |               |                | ✓          | ✓      |
| D        |               | ✓              | ✓          | ✓      |

Which of the following best represents the material(s) with the necessary properties for making a swimming float?

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

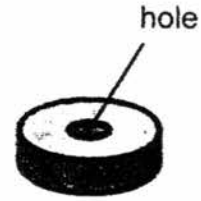
18. Study the three magnets, A, B and C, as shown below.



A



B



C

Which of the following correctly identifies the magnets A, B, and C?

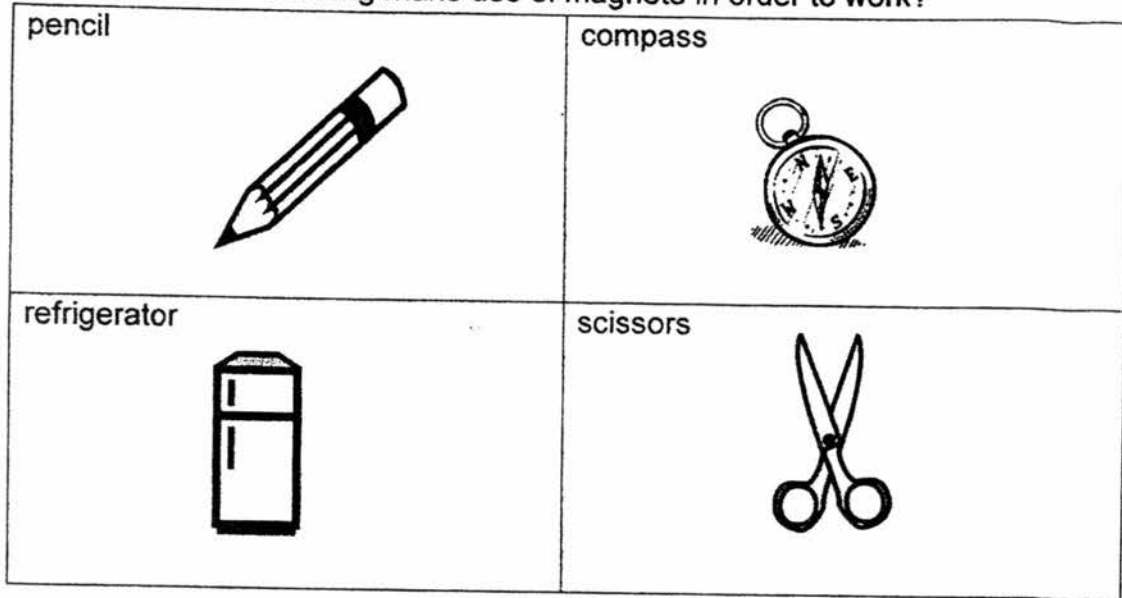
|     | A                | B                | C             |
|-----|------------------|------------------|---------------|
| (1) | horseshoe magnet | U-shaped magnet  | button magnet |
| (2) | U-shaped magnet  | horseshoe magnet | button magnet |
| (3) | U-shaped magnet  | horseshoe magnet | ring magnet   |
| (4) | horseshoe magnet | U-shaped magnet  | ring magnet   |

19. Which of the following object(s) can be attracted by a magnet?

- (A) plastic cup
- (B) aluminium can
- (C) steel paper clip

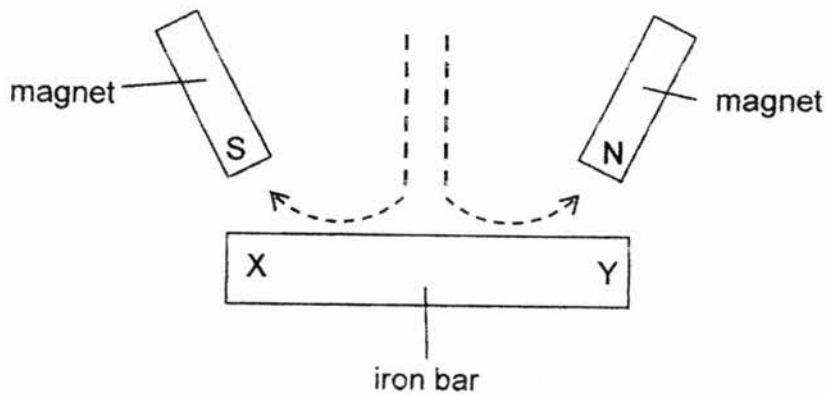
- (1) C only
- (2) A and B only
- (3) B and C only
- (4) A, B and C

20. Which two of the following make use of magnets in order to work?



- (1) pencil and compass
- (2) pencil and scissors
- (3) scissors and refrigerator
- (4) compass and refrigerator

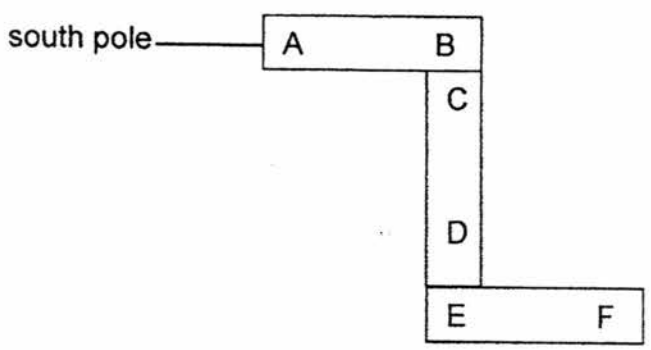
21. An iron bar was magnetised using the stroking method as shown below.



Identify the magnetic poles of the iron bar formed at parts X and Y.

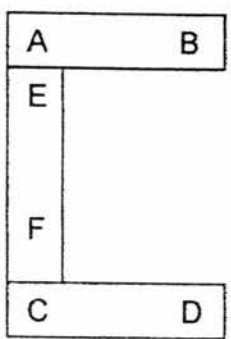
|     | X     | Y     |
|-----|-------|-------|
| (1) | North | South |
| (2) | North | North |
| (3) | South | South |
| (4) | South | North |

22. David arranged three magnets such that the poles are attracted to one another, as shown in the diagram below.

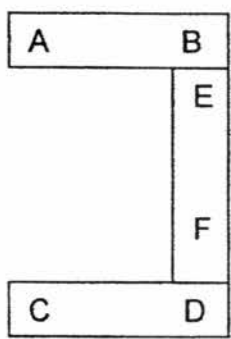


If David were to re-arrange the three magnets, which one of the following arrangements is possible?

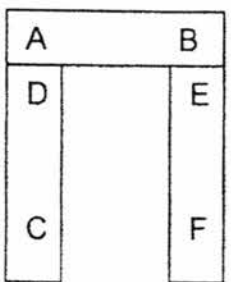
(1)



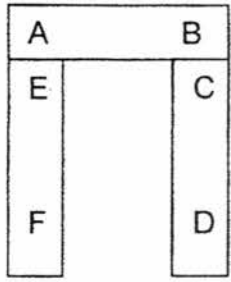
(2)



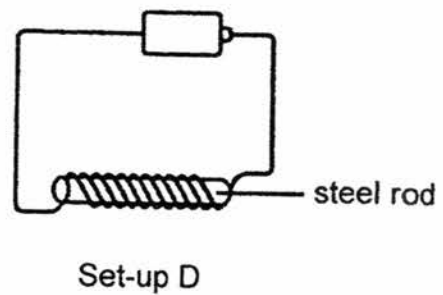
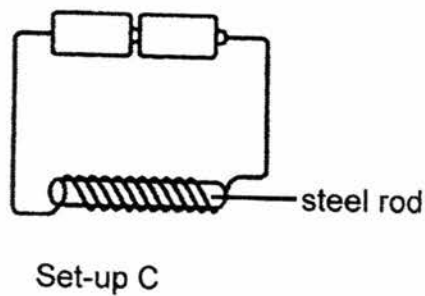
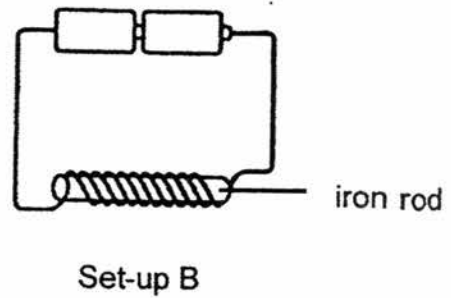
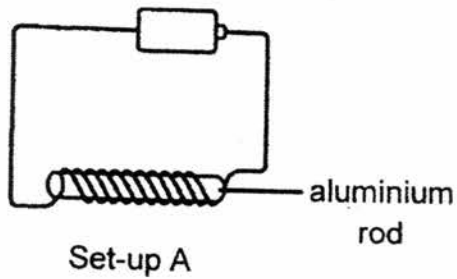
(3)



(4)



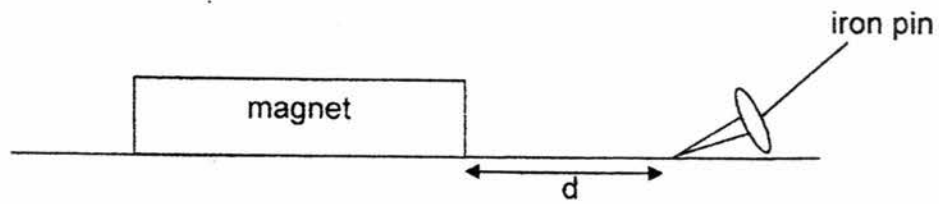
23. Jamal prepared the following four set-ups, A, B, C and D. He wanted to find out if the number of batteries would affect the magnetism of the electromagnet.



Which two sets-up should he use to ensure a fair test?

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

24. Ahmad carried out an experiment with an iron pin and four different magnets, P, Q, R and S. An example is shown.



He moved each magnet towards the iron pin until it could attract the iron pin. He then recorded the distance at which the iron pin was attracted to the magnet, P, Q, R and S. The results were shown in the table below.

| Magnet | Distance, d (cm) |
|--------|------------------|
| P      | 4                |
| Q      | 2                |
| R      | 5                |
| S      | 1                |

Based on the results in the table, which magnet has the greatest magnetic strength?

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

**END OF BOOKLET A**





# RED SWASTIKA SCHOOL

## SCIENCE 2017 SEMESTRAL EXAMINATION 2 PRIMARY 3

Name : \_\_\_\_\_ ( )

Class : Primary 3/ \_\_\_\_\_

Date : 27 October 2017

### BOOKLET B

10 Questions  
32 Marks

In this booklet, you should have the following:

- Page 16 to Page 24
- Questions 25 to 34

### MARKS

|           | OBTAINED | POSSIBLE |
|-----------|----------|----------|
| BOOKLET A |          | 48       |
| BOOKLET B |          | 32       |
| TOTAL     |          | 80       |

Parent's Signature : \_\_\_\_\_

**Section B**

Answer all questions in the space provided.

25. Shuying saw the four animals, S, T, U and P, in her Science textbook.



Animal S



Animal T



Animal U



Animal P

The table below shows how the animals could be grouped.

| Group 1 | Group 2 |
|---------|---------|
| S       | T       |
| P       | U       |

a) Based on the picture, which body part do animals in group 1 have but animals in group 2 do not have? (1m)

\_\_\_\_\_

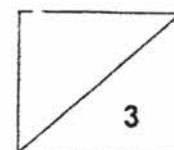
b) Under which group of living things, 1 or 2, would you place a butterfly? (1m)

\_\_\_\_\_

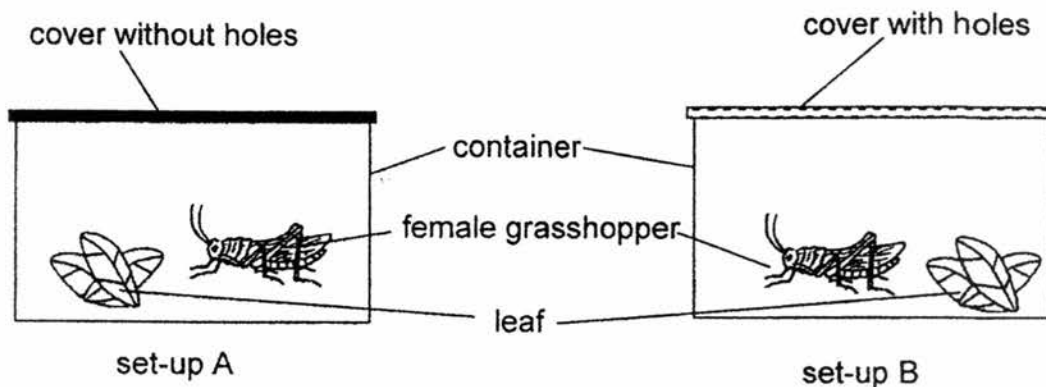
c) Is animal P an insect? Explain your answer. (1m)

\_\_\_\_\_

\_\_\_\_\_



26. Joseph caught two female grasshoppers from the garden. He prepared the following two sets-up to find out more about the characteristics of the organisms.



- a) Which set-up, A or B, is more suitable to keep the female grasshopper alive? (1m)

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

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Two days later, Joseph caught one male grasshopper and put it into the container in set-up B together with the female grasshopper. The grasshoppers were provided with enough food and water.



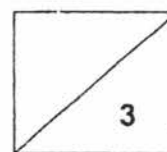
After some time, many young grasshoppers were observed in set-up B.

- c) Which characteristic of living things does this show? (1m)

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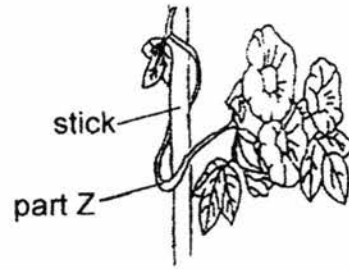
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27. The diagram shows two plants, X and Y.



Plant X



Plant Y

ai) Identify part Z of plant Y. (1m)

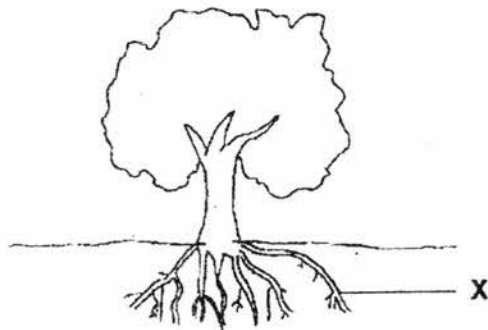
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aii) Based on the diagrams only, state one physical difference in the leaves between plants X and Y. (1m)

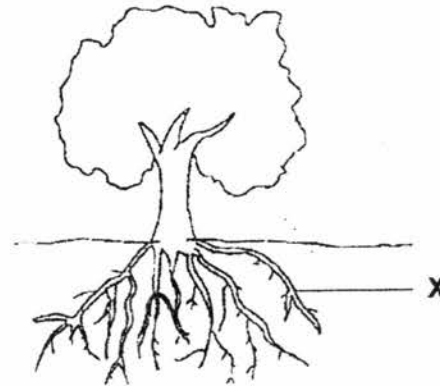
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A scientist studies part X of the two trees shown below.



Tree A

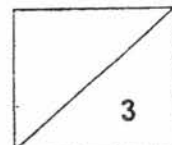


Tree B

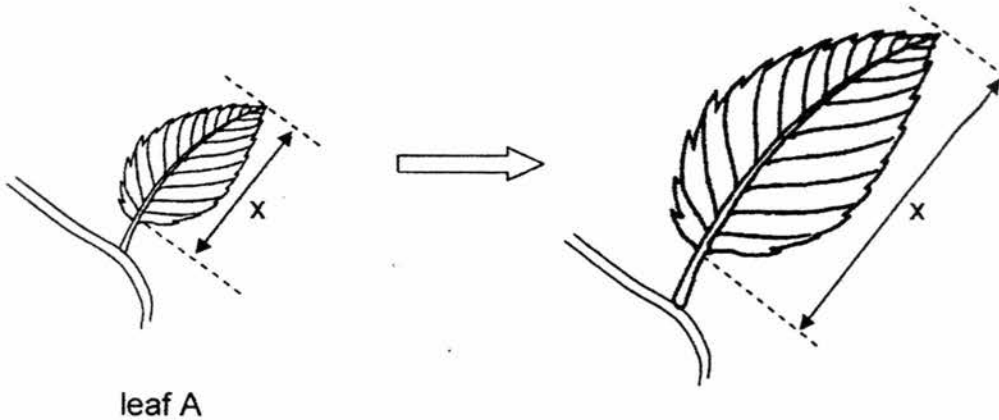
b) The scientist observed that part X of tree B is longer and grows deeper into the soil. How does this help tree B? (1m)

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28. The diagram shows the growth of leaf A on a plant over a period of time.



Dexter watered the plant over a period of 20 days and recorded his observations in a table below.

|                                       |   |   |    |    |
|---------------------------------------|---|---|----|----|
| <b>Number of days</b>                 | 0 | 8 | 15 | 20 |
| <b>Length of the leaf,<br/>X (cm)</b> | 2 | 5 | 10 | 14 |

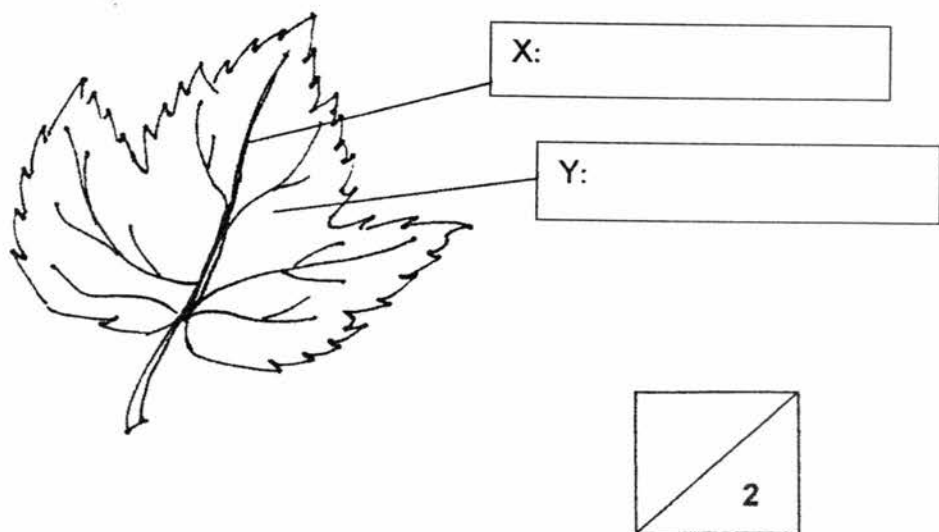
a) State the relationship between the number of days and the length of the leaf. (1m)

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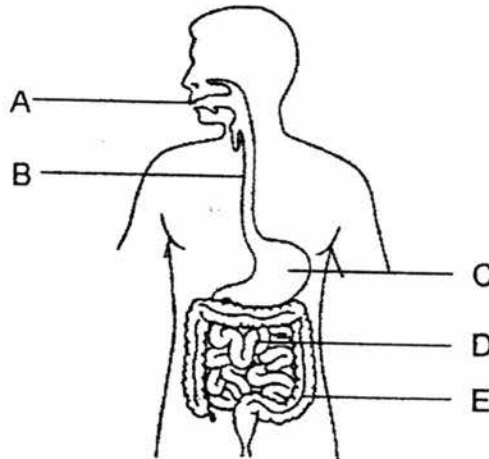
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b) The diagram below shows a leaf. Name the parts labelled X and Y. (1m)



For **questions 29 and 30**, refer to the diagram below.

29. The diagram shows the human digestive system.



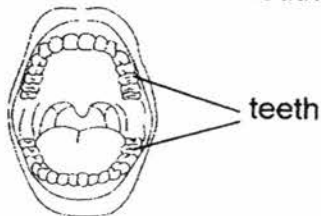
a) Which part, A, B, C, D or E, does digestion first takes place? (1m)

\_\_\_\_\_

b) Which parts, A, B, C, D or E, are digestive juices added? (1m)

\_\_\_\_\_

The diagram below shows an adult human mouth.

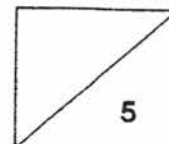


c) How do the teeth help us in digestion? (1m)

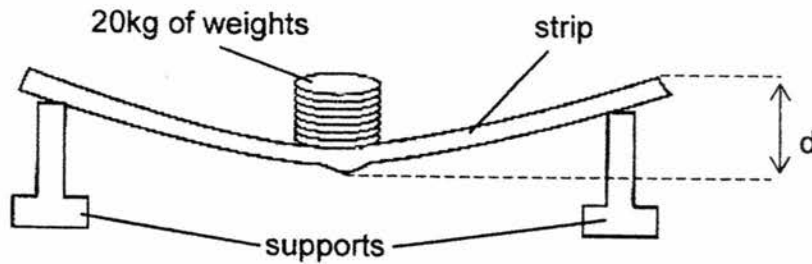
\_\_\_\_\_  
\_\_\_\_\_

30. Study the table. Put a tick (✓) to the correct box(es) in the table. (2m)

| What happens to digested food in part D?                       | Tick (✓) the correct box(es) |
|--|------------------------------|
| Most of the water is removed.                                  | <input type="checkbox"/>     |
| Passes through the wall of part D.                             | <input type="checkbox"/>     |
| Passed out of the body through the anus.                       | <input type="checkbox"/>     |
| Blood transports the digested food to other parts of the body. | <input type="checkbox"/>     |



31. Aminah set up an experiment as shown to compare the physical property of materials used to make different strips, A, B and C. The strips are of the same length and thickness.



For each strip, she added 20kg of weights on it and measured the distance (d) between the highest and lowest points of each strip. The results were shown in the table below.

| Strip | Mass of the weight (kg) | d (cm)   |
|-------|-------------------------|--|
| A     | 20                      | 10   |
| B     | 20                      | distance cannot be measured as the strip broke |
| C     | 20                      | 5  |

- a) Which strip, A, B or C, is the least suitable material to make a book shelf? Why? (2m)

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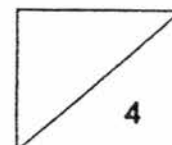
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- b) Which material, glass or rubber, would strip A be likely made of? (1m)

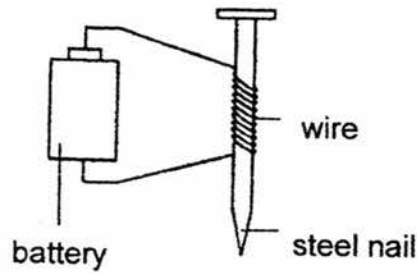
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- c) Tick (✓) the variable(s) that should remain unchanged to conduct a fair test. (1m)

| Variable                | Tick (✓) |
|-------------------------|----------|
| Material of the strip   |          |
| Mass of the weight      |          |
| Material of the support |          |



32. Samad used a steel nail, wire and a battery to set up an experiment.



He tested the magnetic strength of the steel nail by counting the number of paper clips the steel nail could attract. He recorded his results in the table below.

| Number of turns of wire around the steel nail | Number of paper clips attracted |
|---|---------------------------------|
| 10  | 3                               |
| 15  | 6                               |
| 20  | X                               |
| 25  | 15                              |

a) Predict the number of paper clips attracted when the number of turns of wire around the steel nail was 20. (1m)

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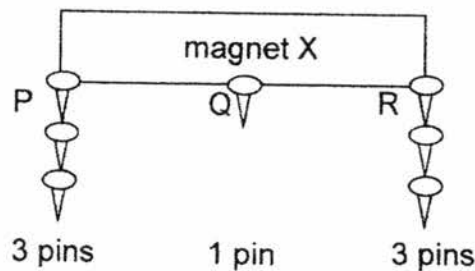
b) What can Samad do if he wants to increase the number of paper clips attracted by the steel nail? Identify two ways. (2m)

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c) Samad set up another experiment as shown. He placed pins, one at a time, at P, Q and R until no more pins could be attracted by the magnet. The figure below shows what he observed.

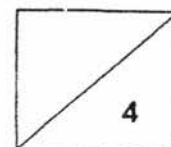


Explain why part Q attracted less pins. (1m)

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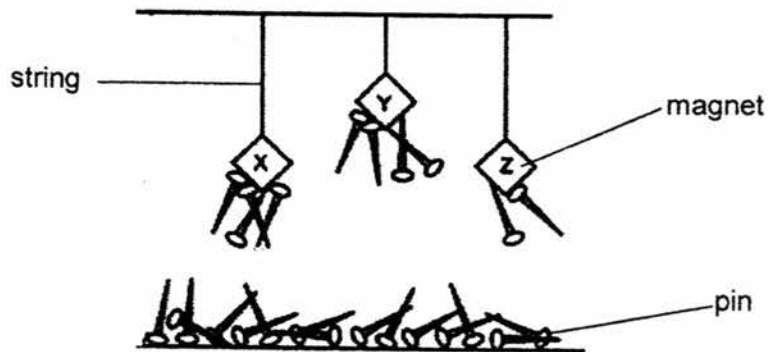


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33. Wei Ling hung three magnets, X, Y and Z, using strings, above some pins. She observed that different numbers of pins were attracted to the magnets.



- a) Which magnet, X, Y or Z, has the greatest magnetic strength? (1m)

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- b) Explain your answer for part (a). (1m)

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- c) Wei Ling changed the pins to glass beads. She observed that none of the glass beads were attracted to the magnets. Why? (1m)

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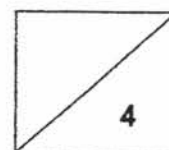
---

- d) Wei Ling did not conduct a fair experiment to find out which magnet has the greatest magnetic strength.

State one change she can do to the string in the set-up to conduct a fair experiment. (1m)

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34. Ronny had three objects, A, B and C, which were wrapped with black paper. He used a bar magnet to find out what would happen when one end of each object was brought close to the north pole of the bar magnet. An example is shown below.



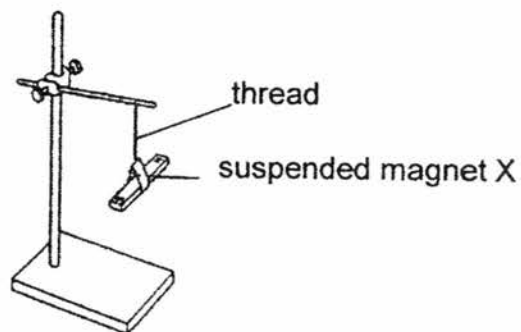
He recorded his observations in the table below.

| Object | Observation when one end of the object was brought close to the bar magnet |
|--------|--|
| A      | Did not attract or repel   |
| B      | Attracted by the magnet  |
| C      | Repelled by the magnet   |

Based on the above observations, put a tick (✓) in the correct box to indicate whether the statements were 'true', 'false' or 'not possible to tell'. (3m)

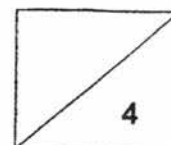
| Statement                               | True | False | Not possible to tell |
|---|------|-------|----------------------|
| a) Object A can be made of plastic.     |      |       |                      |
| b) Object B is a non-magnetic material. |      |       |                      |
| c) Object C is a magnet.                |      |       |                      |

Ronny then took a thread and hung magnet X as shown below. He turned the magnet freely in one direction and it stopped turning after a while.



- d) In which direction would magnet X point to when it finally came to a rest? (1m)

END OF BOOKLET B  
PLEASE CHECK YOUR WORK



# ANSWER KEY

**YEAR** : 2017  
**LEVEL** : PRIMARY 3  
**SCHOOL** : RED SWASTIKA  
**SUBJECT** : SCIENCE  
**TERM** : SA2

## Booklet A

|     |                  |                  |                  |     |                  |     |     |
|-----|------------------|------------------|------------------|-----|------------------|-----|-----|
| Q1  | Q2               | Q3               | Q4               | Q5  | Q6               | Q7  | Q8  |
| 3   | 1                | 2 <sup>(2)</sup> | 3 <sup>(3)</sup> | 4   | 1 <sup>(6)</sup> | 2   | 3   |
| Q9  | Q10              | Q11              | Q12              | Q13 | Q14              | Q15 | Q16 |
| 2   | 4                | 2                | 4                | 3   | 2                | 3   | 2   |
| Q17 | Q18              | Q19              | Q20              | Q21 | Q22              | Q23 | Q24 |
| 2   | 4 <sup>(4)</sup> | 1 <sup>(1)</sup> | 4                | 1   | 3 <sup>(3)</sup> | 3   | 3   |

## Booklet B

|    |       |   |
|----|-------|---|
| 25 | (a)   | Animals in group 1 have <u>wings</u> .  |
|    | (b)   | Butterfly is in <u>group 1</u> .  |
|    | (c)   | Yes, it has 3 body parts / a pair of feelers / 6 legs.                                  |
| 26 | (a)   | Set-up B.   |
|    | (b)   | Grasshopper in B has insufficient air as the cover with holes allows air to enter.      |
|    | (c)   | Living things reproduce.  |
| 27 | (ai)  | Stem  |
|    | (aii) | Plant X has big leaves but plant Y has small leaves.                                    |
|    | (b)   | Part X is able to take in more water / able to hold the tree more firmly to the ground. |
| 28 | (a)   | As the number of days increases, the length of the leaf also increases.                 |
|    | (b)   | X : <u>Leaf vein</u> Y : <u>Leaf blade</u>  |

|    |  |   |
|----|--|---|
| 29 | (a)  | Digestion first takes place in part <u>A</u> .  |
|    | (b)  | A, C, D   |
|    | (c)  | The teeth chew the food into smaller pieces.  |
| 30 | Passes through the wall of part D. ✓                             |   |
|    | Blood transports the digested food to other parts of the body. ✓ |   |
| 31 | (a)  | Strip B is the least suitable as it is the weakest.   |
|    | (b)  | Rubber  |
|    | (c)  | Mass of the weight ✓<br>Material of the support ✓   |
| 32 | (a)  | Any number between <u>7 to 14</u> .   |
|    | (b)  | Increase the number of batteries in the circuit.<br>Increase the number of coils around the steel clip. |
|    | (c)  | Part Q has weaker magnetic strength.  |
| 33 | (a)  | Magnet Y.   |
|    | (b)  | Magnet Y attracts the same number of pins as X, more pins from the furthest distance.                   |
|    | (c)  | Glass is a non-magnetic material.   |
|    | (d)  | Change the string to be of the same length.   |
| 34 | (a)  | ✓ True  |
|    | (b)  | ✓ False   |
|    | (c)  | ✓ True  |
|    | (d)  | North-South direction.  |

End