# NANYANG PRIMARY SCHOOL

## PRIMARY 3 SCIENCE

## SEMESTRAL ASSESSMENT 2
## 2018

## BOOKLET A

**Date : 29 October 2018**
**Duration : 1 h  20 min**


Name : _____(     )

Class: Primary  3  (            )


**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**
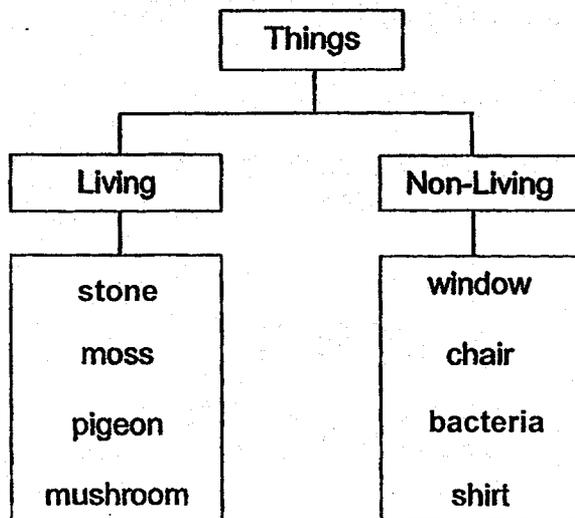**FOLLOW ALL INSTRUCTIONS CAREFULLY.**


**Booklet A consists of 14 printed pages including this cover page.**

For each question from 1 to 24, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4).
**Indicate your answer and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1.  The table below shows a classification diagram.

```
                    ┌──────────┐
                    │  Things  │
                    └──────────┘
              ┌────────────┴────────────┐
        ┌──────────┐              ┌────────────┐
        │  Living  │              │ Non-Living │
        └──────────┘              └────────────┘
     ┌───────────────┐          ┌───────────────┐
     │     stone     │          │    window     │
     │               │          │               │
     │     moss      │          │    chair      │
     │               │          │               │
     │    pigeon     │          │   bacteria    │
     │               │          │               │
     │   mushroom    │          │    shirt      │
     └───────────────┘          └───────────────┘
```

Which of the following things had been wrongly classified?

(1)  stone and bacteria
(2)  pigeon and window
(3)  moss and chair
(4)  mushroom and shirt

2.  Beng Huat observed the characteristics of 2 things, A and B. He then recorded his observation in the table below. A tick (✓) shows that the characteristic is present and a cross (✗) shows that the characteristic is not present.

| Characteristic | Things | |
| --- | --- | --- |
| | A | B |
| It can reproduce. | ✗ | ✓ |
| It can respond to changes in the surrounding. | ✗ | ✓ |
| It can move freely from place to place. | ✗ | ✗ |

Based on the information from the table, which one of the following best represents A and B?

| | A | B |
| --- | --- | --- |
| (1) | yeast | lamp |
| (2) | book | plant |
| (3) | pencil | cow |
| (4) | fish | eagle |

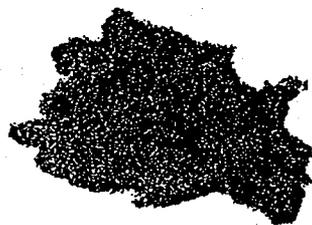3. Study the plants in the picture below.

| Group P | Group Q |
|---|---|
|  |  |
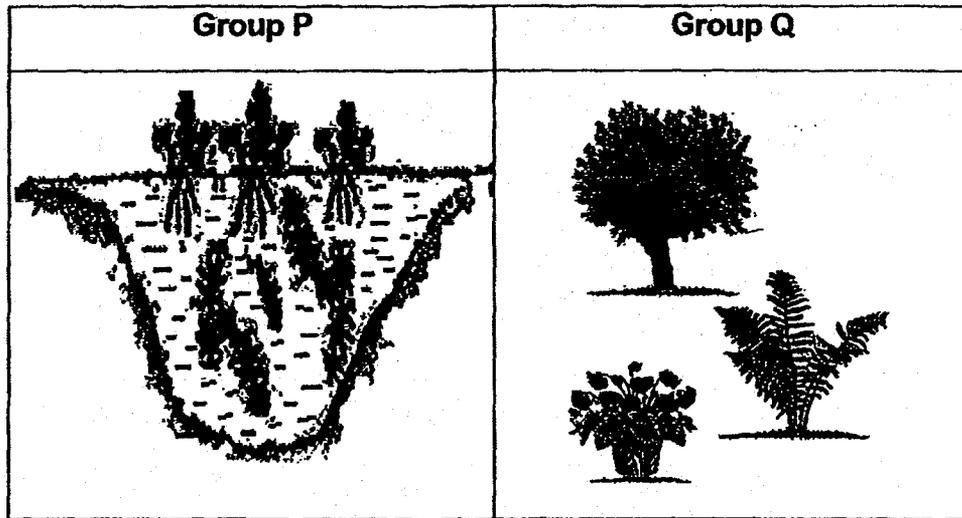
Which one of the following correctly represents headings P and Q?

| | P | Q |
|---|---|---|
| (1) | Big stems | Small stems |
| (2) | Grow in water | Grow on land |
| (3) | Cannot make food | Can make food |
| (4) | Reproduce by seeds | Reproduce by spores |

4. Rashid found some plants growing at the school garden as shown below.
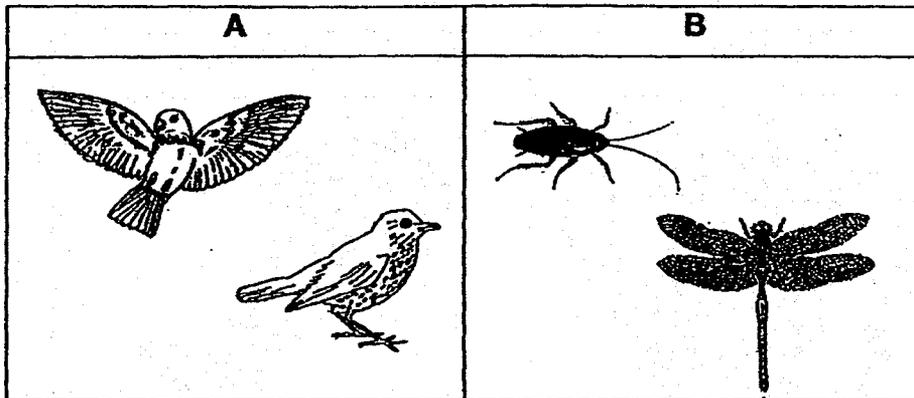


Moss



Banana Plant

Rashid then made some statements about the moss and banana plant.

A    Both can produce fruits.
B    Both can make their own food.
C    Both can move freely from place to place.

Which of his statement(s) above is/are correct?

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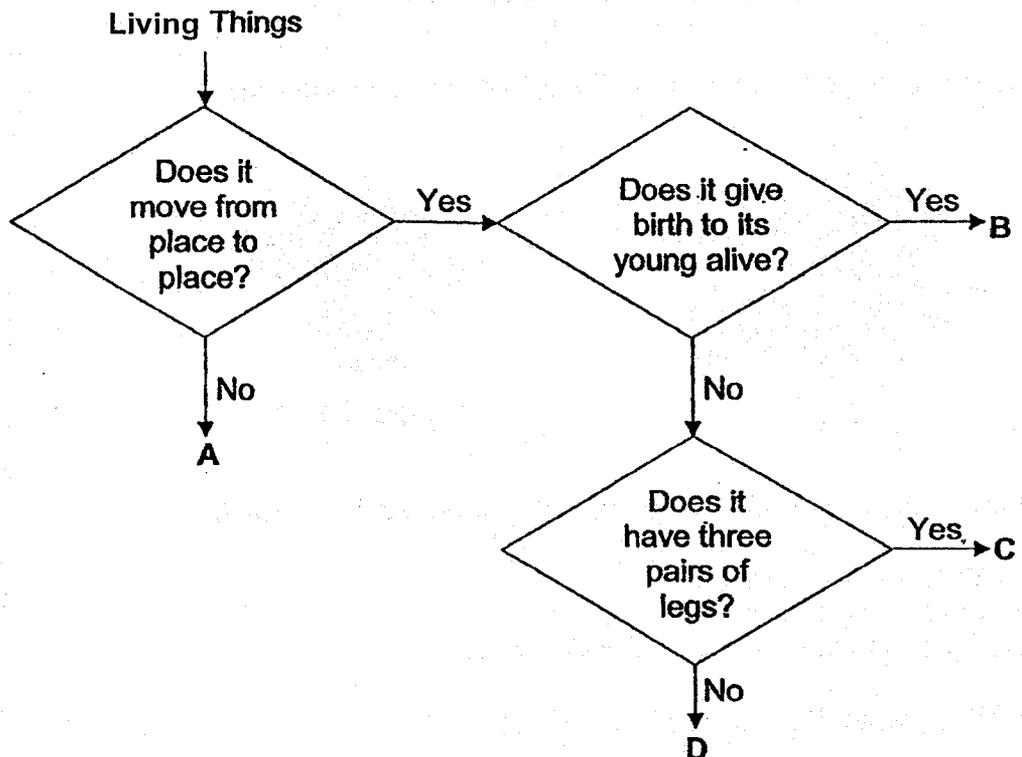(3)    A and C only            (4)    B and C only

3

5.  Study the two animal groups below.
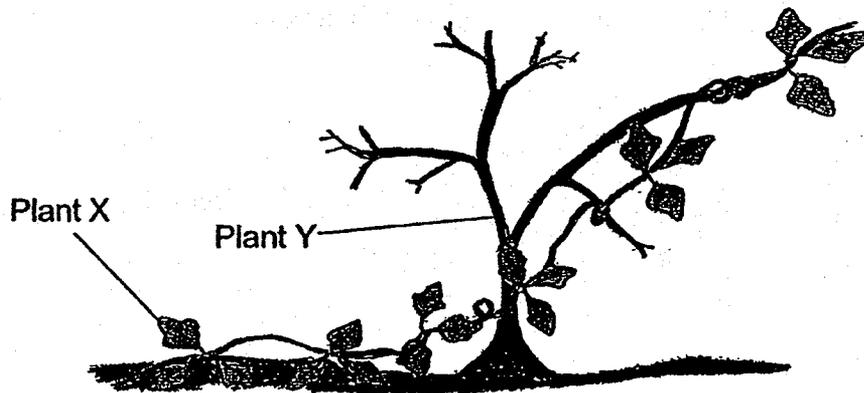
| A | B |
|---|---|
|  |  |

Which one of the following correctly describes animal groups A or B?

| | Group | Has hard outer covering | Has 3 body parts | Give birth to its young alive |
|---|---|---|---|---|
| (1) | A | Yes | Yes | No |
| (2) | A | No | No | No |
| (3) | B | Yes | Yes | Yes |
| (4) | B | No | No | Yes |

**Study the following flowchart. Refer to It to answer question 6 and 7.**

Living Things

Does it move from place to place?

Yes → Does it give birth to its young alive? → Yes → B

No → A

No → Does it have three pairs of legs? → Yes → C

No → D

4

6. Justin spotted a living thing **X** in the park. It is moving on a tree, leaving behind a cluster of eggs, as shown in the picture below.



eggs

Living thing X

legs

Which letter, A, B, C or D from the flowchart, would most likely represent living thing X?

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

7. Which one of the following could correctly represent the group of living things A, B, C and D?

|     | A | B | C | D |
|-----|------|--------|--------|----------|
| (1) | plant | mammal | insect | fish |
| (2) | mammal | insect | fish | plant |
| (3) | plant | insect | mammal | amphibian |
| (4) | insect | fish | reptile | mammal |

8. Xuanling observed three living things, J, K and L, and recorded her observations in a table as shown below. A tick (✓) shows that the living thing has the characteristic.

| Characteristic | J | K | L |
|----------------|---|---|---|
| Able to make food | ✓ | | |
| Reproduce by spores | ✓ | | ✓ |
| Can only be seen with a microscope | | ✓ | ✓ |

Based on the information above, which one of the following correctly represents the living things J, K and L?

|     | J | K | L |
|-----|---------|---------|-------|
| (1) | fern | mould | yeast |
| (2) | bacteria | yeast | mould |
| (3) | fern | bacteria | mould |
| (4) | yeast | fern | yeast |

9.  Study the picture below.



Which one of the following best explains why plant X climbed up plant Y?

(1)   It needed to get more air.
(2)   It needed to get more water.
(3)   It needed to get food from plant Y.
(4)   It needed to get more sunlight to make food.

10. Study the pictures below.
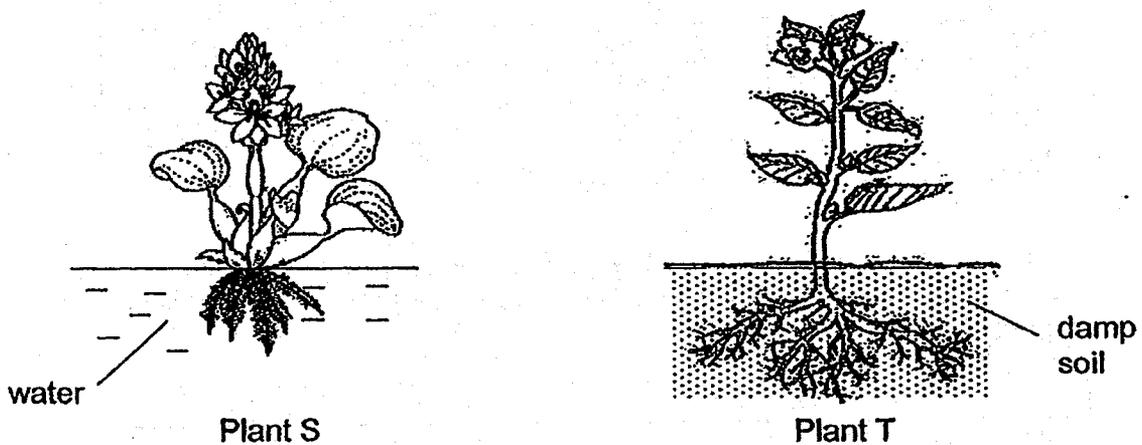


Which one of the following statements explains the function of roots for both plant S and plant T?

(1)   The roots absorb water for the plants.
(2)   The roots hold the plants firmly to the ground.
(3)   The roots trap light for the plants to make food.
(4)   The roots hold the leaves towards sunlight for them to make food.

11. Which one of the following correctly matches the human system to its function?

| | System | Function |
|---|---|---|
| (1) | Circulatory system | Carries waste materials away from different parts of the body |
| (2) | Muscular system | Gives the body shape |
| (3) | Respiratory system | Helps different parts of the body to move |
| (4) | Skeletal system | Absorbs digested substances to be used by different parts of the body |

12. The human digestive system is shown in the figure below.
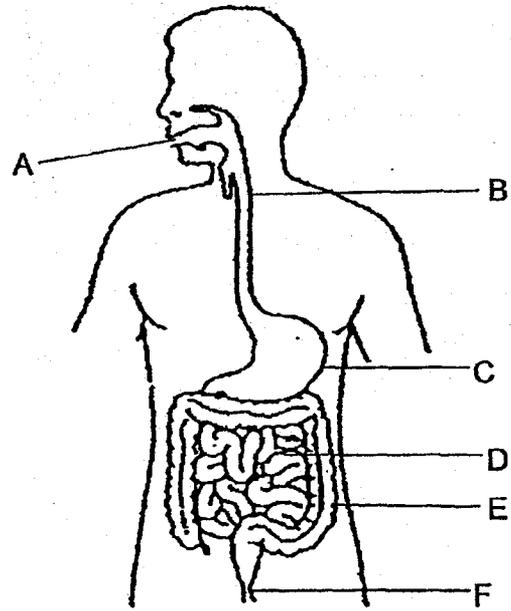


Which one of the following correctly identifies the part(s) where digestion of food takes place?

(1) A only
(3) A, C and D only
(2) A, B and C only
(4) All of the above

13. Study the classification diagram below. The objects had been grouped according to the properties of the materials that they are made of.

```
                    ┌─────────────────┐
                    │    Materials    │
                    └─────────────────┘
              ┌──────────────┴──────────────┐
      ┌───────────────┐              ┌───────────────┐
      │   Group R     │              │   Group S     │
      │   rubber      │              │   ceramic     │
      │   metal       │              │   glass       │
      └───────────────┘              └───────────────┘
```
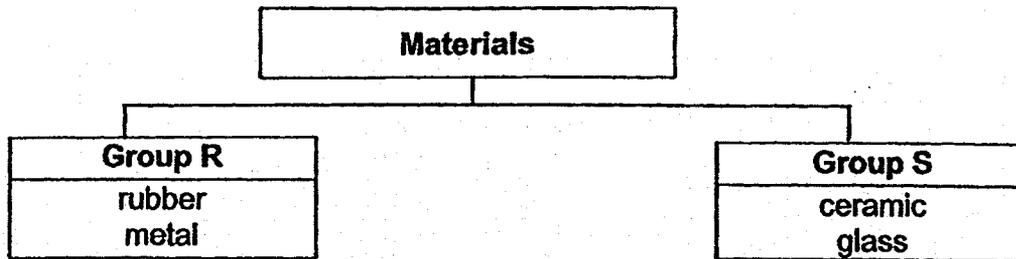
Which one of the following correctly represents group R and group S?

|     | Group R | Group S |
|-----|---------|---------|
| (1) | stiff | flexible |
| (2) | float on water | sink in water |
| (3) | waterproof | not waterproof |
| (4) | strong | not strong |

14. Study the picture below. Part X is the cover of the light bulb.
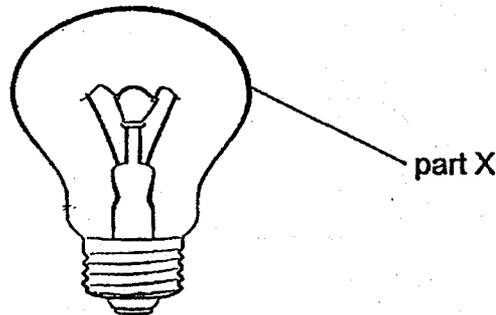


part X

Which one of the following pairs of properties are important in order for part X to function properly?

|     | property 1 | property 2 |
|-----|------------|------------|
| (1) | waterproof | does not allow light to pass through |
| (2) | not waterproof | allows most light to pass through |
| (3) | waterproof | allows most light to pass through |
| (4) | not waterproof | does not allow light to pass through |

15. Study the flowchart below.

Materials

Is it flexible? —— No —→ Does it allow most light to pass through? —— No —→ A

Is it flexible? ↓ Yes

Does it allow most light to pass through? ↓ Yes

B

Does it absorb water? —— No —→ C

Does it absorb water? ↓ Yes

D



M
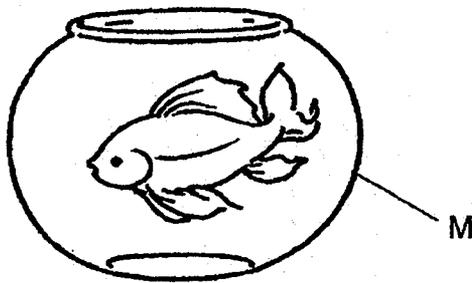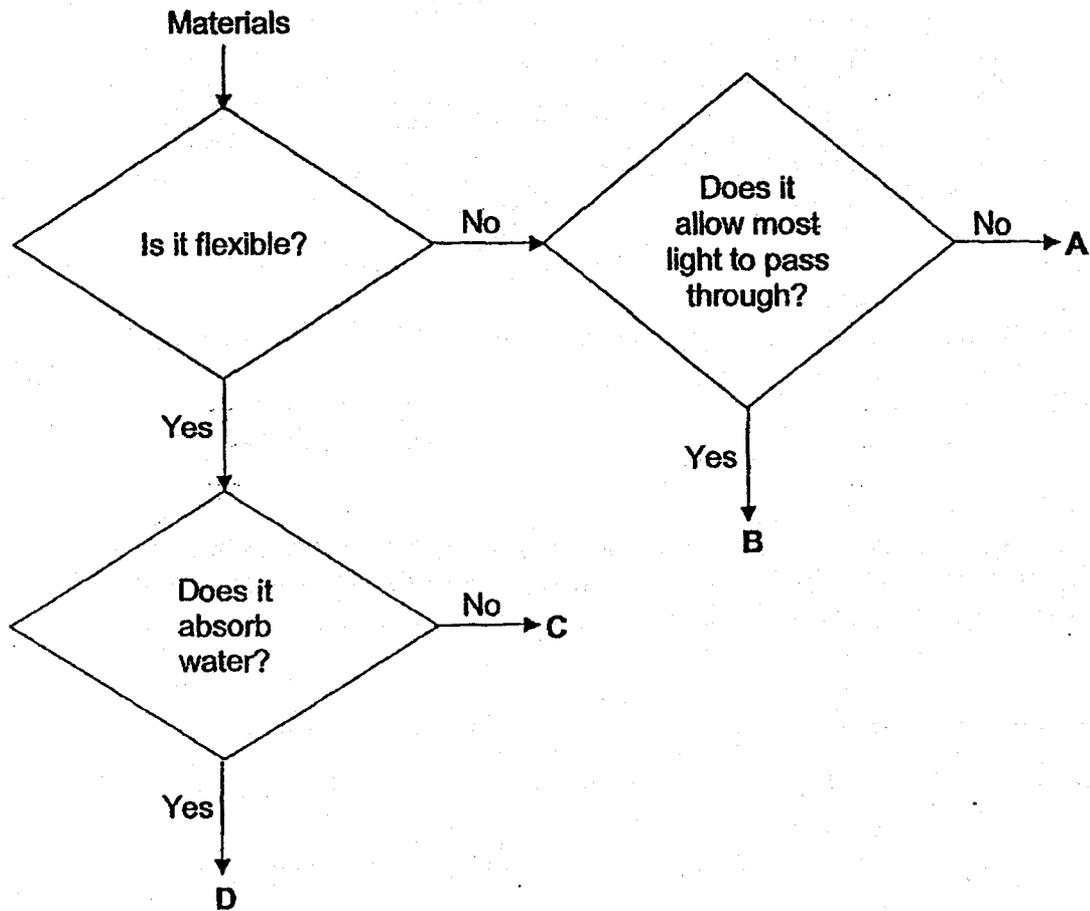
Based on the flowchart, which material A, B, C or D, could be used to make part M of the fish bowl above?

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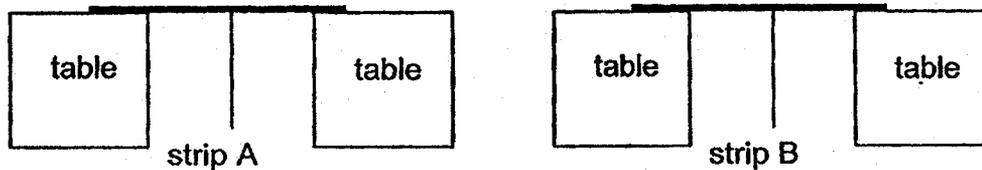(3)    C                                    (4)    D

16. John made the following observations of a material.
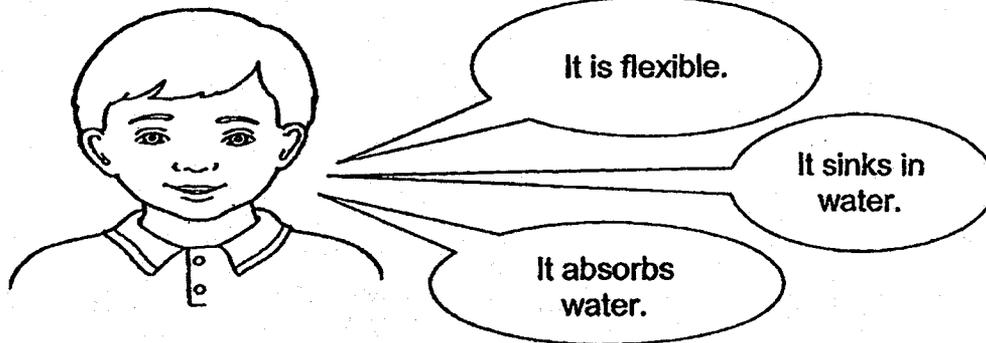


Which one of the following is most likely the material he had observed?

(1)  wood                                    (2)  metal
(3)  cotton                                   (4)  rubber

17. Adam conducted an experiment. He used two strips of materials, A and B, with the same thickness. He placed the strips across two tables which are of the same distance apart as shown below.



He placed the same weight, 5kg, on the two strips and drew the results below.
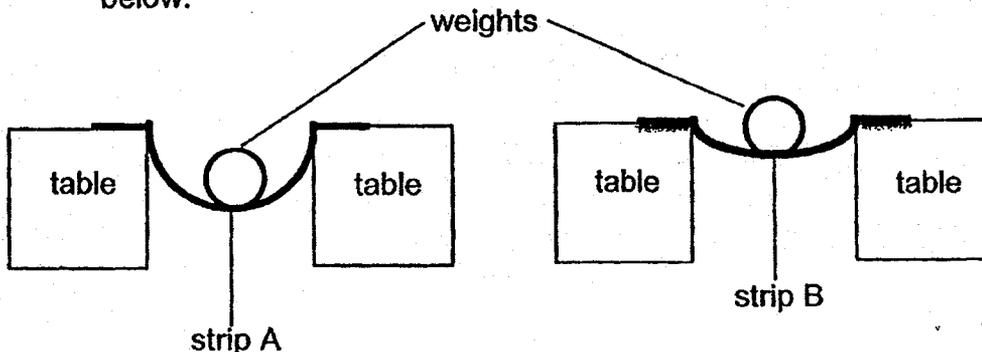


Based only on the results above, what can Adam conclude about strips A and B?

(1)     Strip A is stronger than strip B
(2)     Strip B is stronger than strip A
(3)     Strip A is more flexible than strip B
(4)     Strip B is more flexible than strip A

18. The table below shows a few objects made of different materials.

| A | Iron bar |
| B | Steel ruler |
| C | Glass marble |
| D | Aluminium foil |

Which of the objects above are made of magnetic materials?

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

19. Mark placed a bar magnet in a tray filled with thumbtacks. He then took out the bar magnet from the tray.
Which one of the diagrams below shows the most likely positions of the thumbtacks on the magnet?

(1) thumbtack

(2) thumbtack

(3) thumbtack

(4) thumbtack
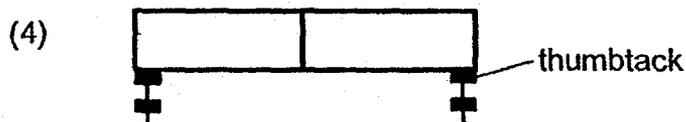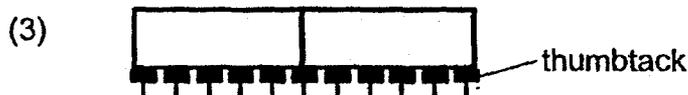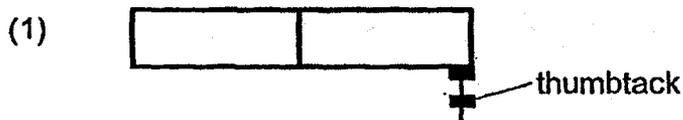
20. Three bars, X, Y and Z, are freely suspended from a rod and ended up interacting as shown in the diagram below.
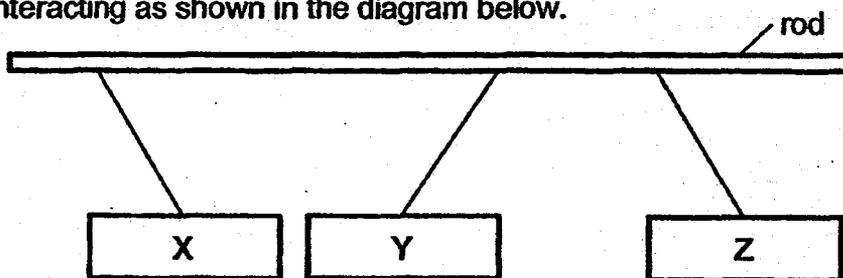


Based on the result above, which one of the following statements and explanation is true?

(1)     Only bar X is a magnet because it attracts bar Y.
(2)     Only bar Y is a magnet because it attracts bar X.
(3)     Bars Y and Z are magnets because they repel each other.
(4)     Bars X and Y are magnets because they attract each other.


21.    The table below shows a few objects.

| A | compass |
|---|---------|
| B | maglev train |
| C | stapler |

Which of the object(s) above make use of magnets?

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

22. Michael created a temporary magnet using the stroke method correctly. He changed the number of strokes used to create the temporary magnet. The results are shown in the table below.

| Number of strokes | Number of paper clips it could attract |
|---|---|
| 20 | 3 |
| 30 | 6 |
| 40 | 8 |
| 50 | 13 |

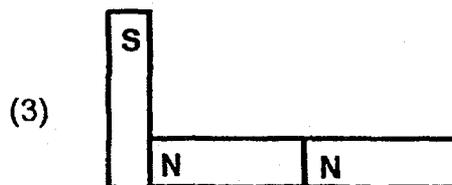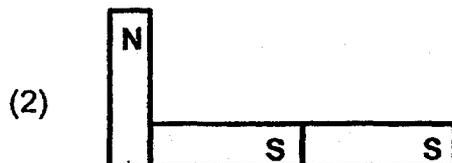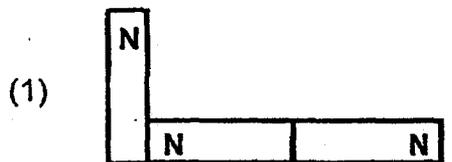What can Michael conclude from the results in the table above?

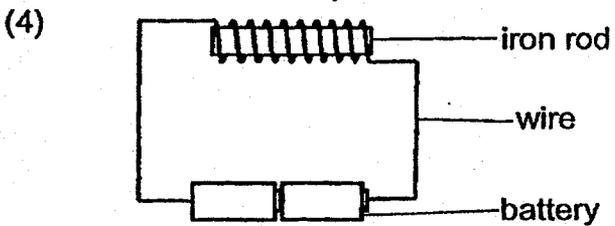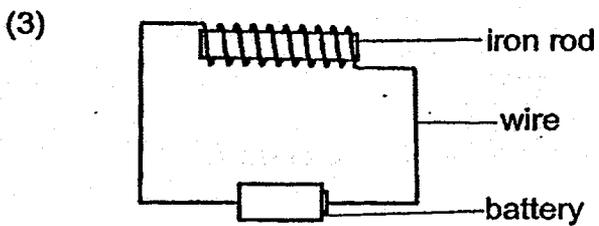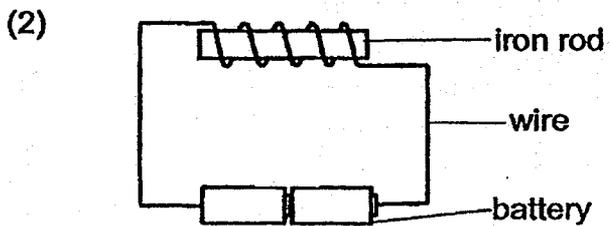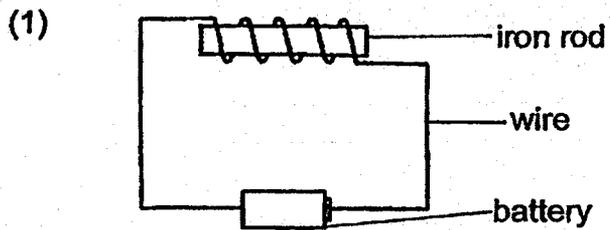| | Strokes | Strength of temporary magnet |
|---|---|---|
| (1) | Less | More |
| (2) | Less | No change |
| (3) | More | Less |
| (4) | More | More |

23. Beth arranged three bar magnets as shown below. The magnets did not repel each other.

Which one of the following diagrams shows the correct poles for the three magnets?

(1) N / N N

(2) N / S S

(3) S / N N

(4) S / S N
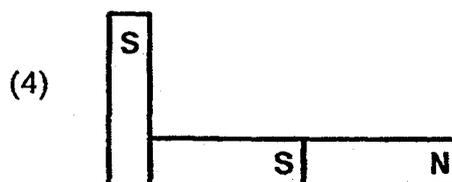
24. The set-ups below made use of identical batteries, iron rods and wires. Which iron rod would attract the most number of steel pins?

(1)

iron rod

wire

battery

(2)

iron rod

wire

battery

(3)

iron rod

wire

battery

(4)

iron rod

wire

battery

# NANYANG PRIMARY SCHOOL

## PRIMARY 3 SCIENCE

### SEMESTRAL ASSESSMENT 2
### 2018

### BOOKLET B

Date : 29 October 2018

Duration : 1 h 20 min

Name : _____ (        )

Class: Primary 3 (        )

**Marks Scored:**

| | | |
|---|---|---|
| **Booklet A:** | | 48 |
| **Booklet B :** | | 32 |
| **Total :** | | 80 |

Any query on marks awarded should be raised by <u>5 November 2018</u>. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.
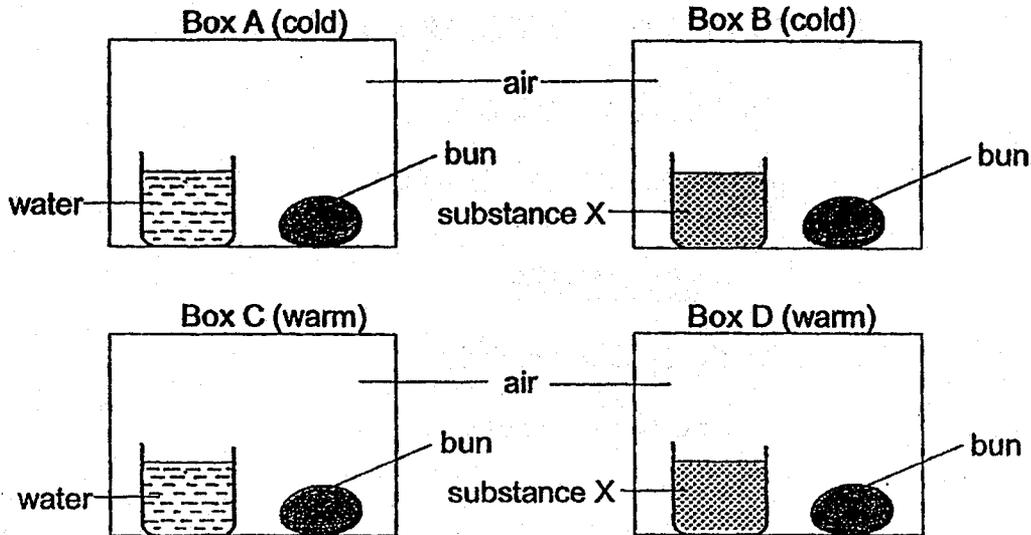
Parent's signature:

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**
**FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet B consists of 12 printed pages including this cover page.

Write your answers to questions 25 to 34 in the spaces provided.

25.  Wilson placed four buns in four identical sealed boxes. Boxes A and B were placed in a cold place and boxes C and D were placed in a warm place. He placed a beaker of water in Box A and Box C. Substance X was used to absorb the moisture in Box B and Box D.

Box A (cold)          Box B (cold)

air

bun                   bun

water   substance X

Box C (warm)          Box D (warm)

air

bun                   bun

water   substance X

(a)  (i)   In which box, A, B, C or D, would mould first appear on the bun?
                                                                    [1]

       Box _____

     (ii)  Explain the reason for the answer in part (i).           [1]

     _____

     _____

Wilson conducted another experiment by placing a wet bun in a clear box and a black box as shown below. He found there was mould growing on both buns after 2 weeks.

clear box          black box

air

wet bun
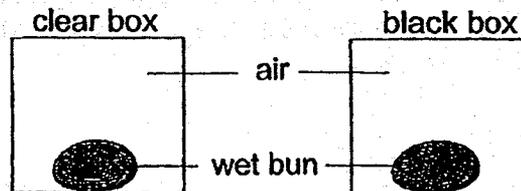
(b)  What could he conclude from the experiment?                    [1]

     _____

     _____

26. Nadia prepared two identical jars of similar plants, P and Q. Each plant was about 5cm tall at the start of the experiment, as shown in the diagram below. Both set-ups were placed next to a window. Only one plant was watered daily.

cover with holes



Plant P          Plant Q
Watered daily    Not watered
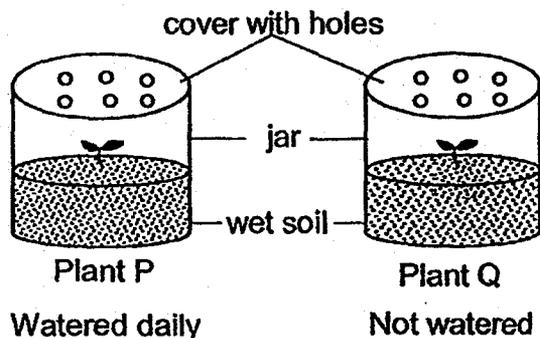
She measured and recorded the height of the plants on the tenth day as shown in the graph below.
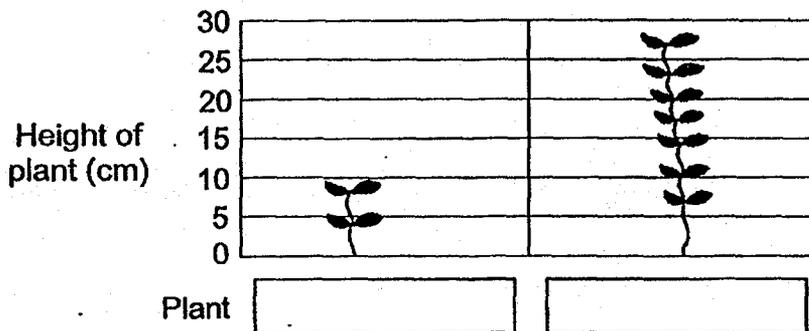


(a) (i) **Fill in the boxes** above with letters **P** and **Q** to correctly represent the height of the plants. [1]

(ii) Explain why Nadia placed the plants next to a window. [1]

_____

_____

After the tenth day, Nadia observed the leaves of Plants P and Q. On one of the plants, she found spores growing on the underside of the leaves. Nadia said that this plant has the same method of reproduction as a rose plant.

(b) Explain why Nadia was wrong. [2]

_____

_____

3

27. The flowchart below is used to classify 5 animals, A, B, C, D and E.
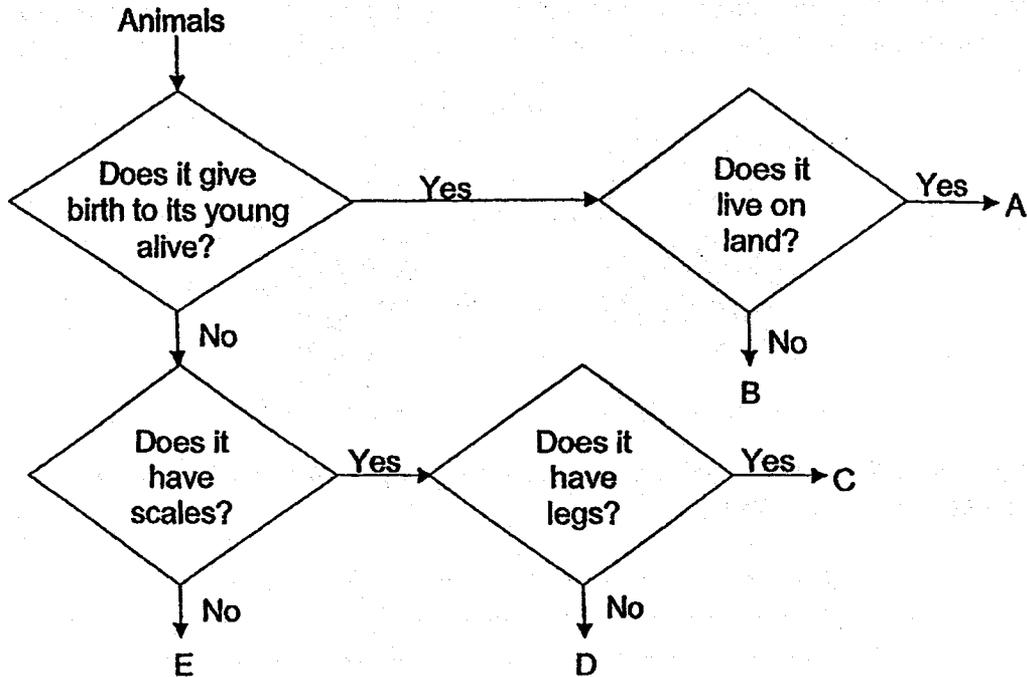
Animals



(a) Based only on the flowchart, state a difference between animals B and C. [1]

_____

(b) Based on the flowchart, which of the following animals could correctly represent animals A, B, C, D and E? Write the letters A, B, C, D and E in the table below. (Each letter should be used **once** only). [2]

|  |  | Animal |
|---|---|---|
| i) | goldfish |  |
| ii) | monkey |  |
| iii) | frog |  |
| iv) | dolphin |  |
| v) | lizard |  |

(c) Jiang Wen said that crocodile is an example of animal E.
Explain why he is wrong. [1]

_____

_____

4

28. Alle conducted an experiment as shown below using 2 similar plants. Some of Plant B's roots had been removed. She then added oil to ensure that there was no water lost to the surroundings. She placed both plants next to a window where there was enough sunlight for the plants.
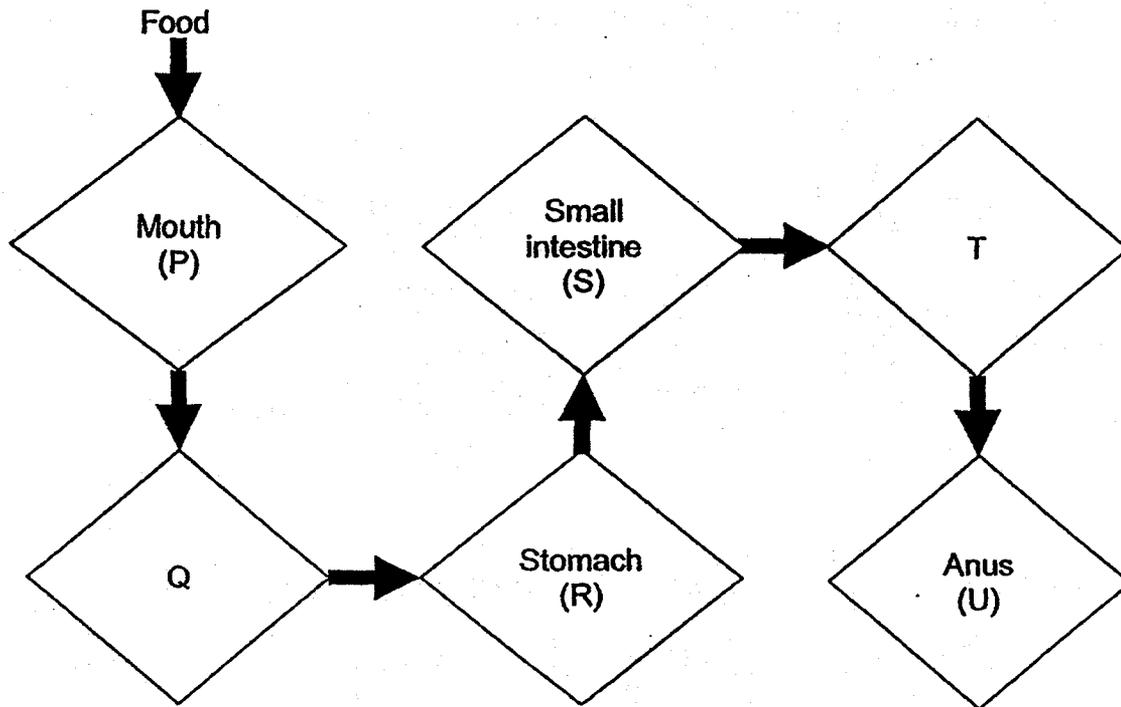


roots Plant A    oil    50 ml of water    Plant B    roots
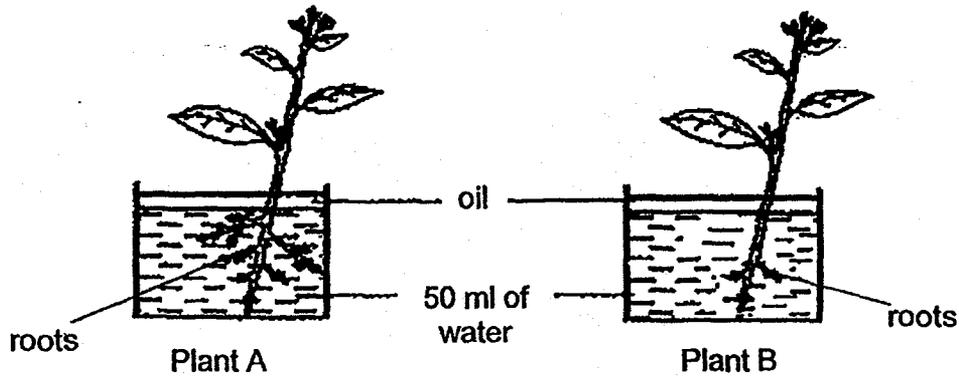
After 5 days, she recorded the amount of water left in each beaker.

| Beaker | Amount of water left after 5 days |
| --- | --- |
| A | 20 ml |
| B | 45 ml |

(a) Based on the results above, state the function of the roots. [1]

_____

(b) After a few more days, plant B died but plant A did not die. Explain the observation. [2]

_____

_____

29. The flowchart below shows the pathway of digestion in the human body. The letters P, Q, R, S, T and U represent the different parts of the human digestive system.

Food

```
      Mouth              Small
       (P)              intestine  ───►        T
                           (S)
        │                   ▲                   │
        ▼                   │                   ▼
        Q      ───►       Stomach              Anus
                            (R)                 (U)
```

(a) Identify parts Q and T.                                    [2]

Q: _____

T: _____

(b) State all the parts (P, Q, R, S, T, U) where digestive juices can be found.
                                                                [1]

_____

_____

(c) After digestion of food is completed, state another process that happens in the small intestine before undigested food is passed on to part T.    [1]

_____

_____

6

30. Jane conducted an experiment to find out which material absorbs water. She used three identical materials, W, X, and Y.

Each material is of the same size and thickness and weigh 100g.
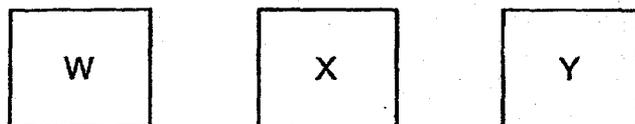


She put each material, one at a time, into a bowl of water for five seconds. She then took the materials out of the bowl. She ensured that no water dripped from the materials and measured the new weight of each material.



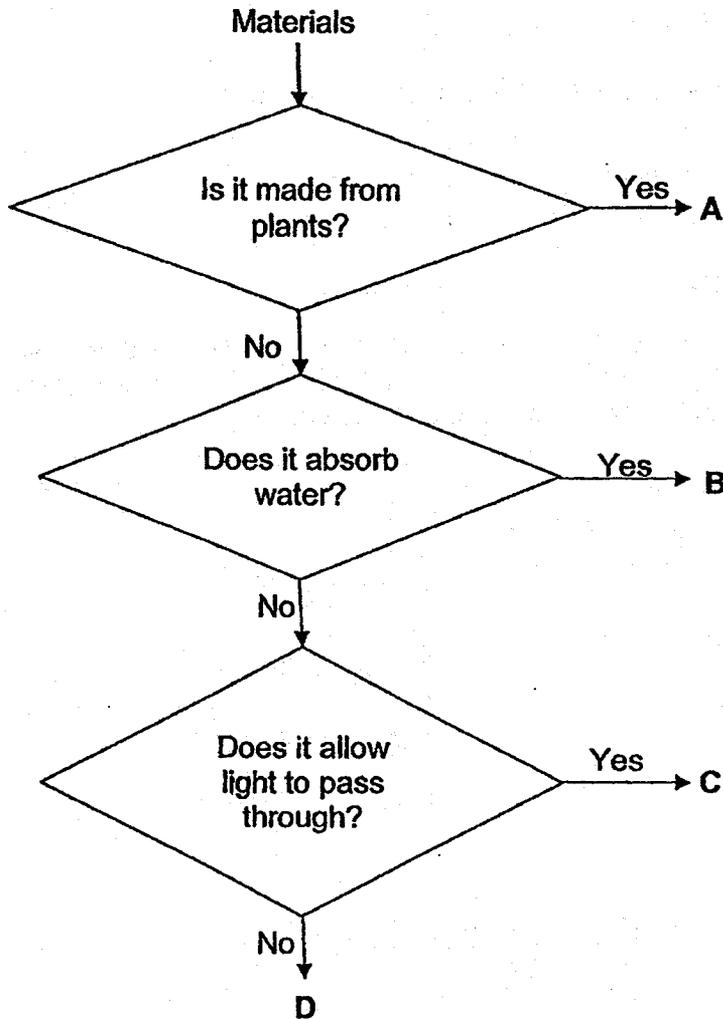bowl of water                                    weighing scale
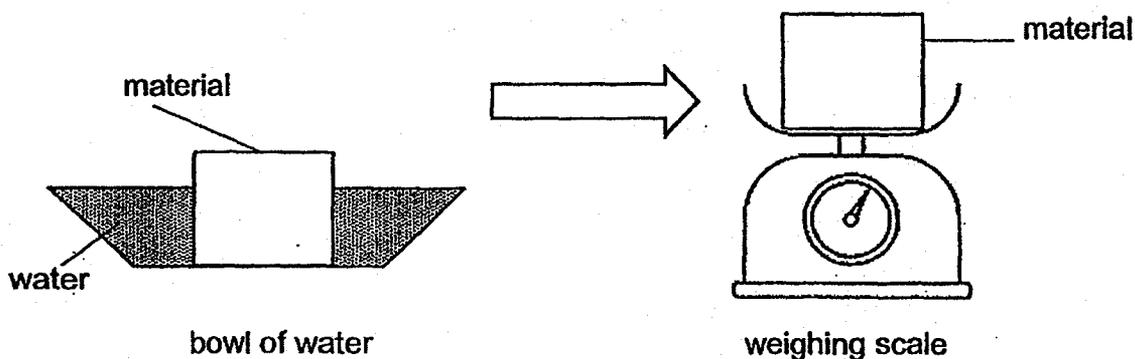
The results are shown below.

| material | Original weight (g) | New weight(g) |
| --- | --- | --- |
| W | 100 | 100 |
| X | 100 | 180 |
| Y | 100 | 250 · |

She concluded that the greater the amount of water the material absorbed, the heavier the material.

(a) Based on the results above, which material is most suitable to make raincoats? Explain your answer. [1]

_____

_____

(b) Based on the results above, which material is most suitable to make a bath towel? Explain your answer. [1]

_____

_____

7

31. The flowchart below is used to classify 4 materials, A, B, C and D.

Materials

Is it made from plants? — Yes → A

No ↓

Does it absorb water? — Yes → B

No ↓

Does it allow light to pass through? — Yes → C

No ↓

D

(a) Based on the flowchart above, state **two** similarities between materials C and D. [1]

(i) _____

(ii) _____

(b) Based on the flowchart above, match the objects below with the correct material that they are most likely made of. Write A, B, C or D in the boxes provided. [2]

| gold ring | wooden box | window glass | woollen jacket |
|-----------|------------|--------------|----------------|
|           |            |              |                |

32. John mixed a container of steel balls with a container of copper balls. The steel and copper balls were of the same size, shape and colour.
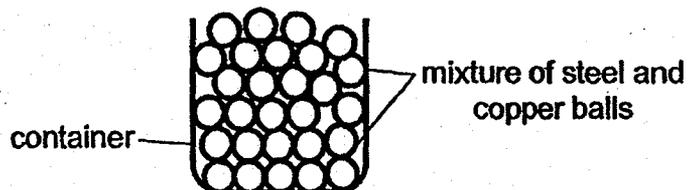


Using a bar magnet, describe what he should do to separate the steel balls from the copper balls. Explain your answer. [2]

_____

_____

_____

33. Bala attached similar magnets to the top of 2 toy cars as shown in the diagram below.

magnets
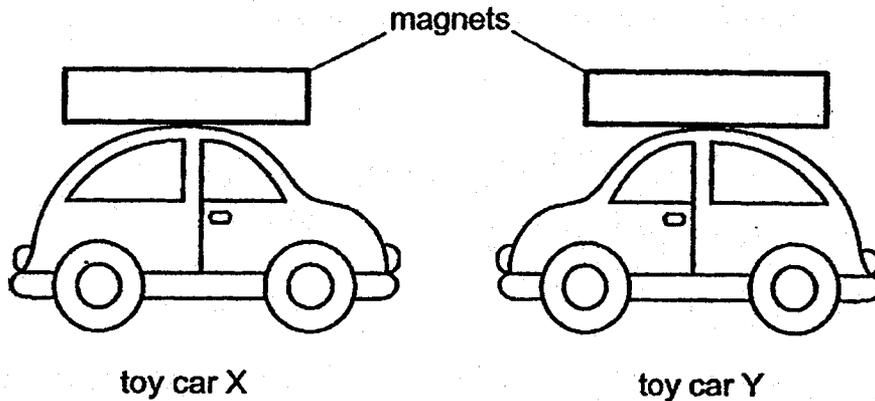
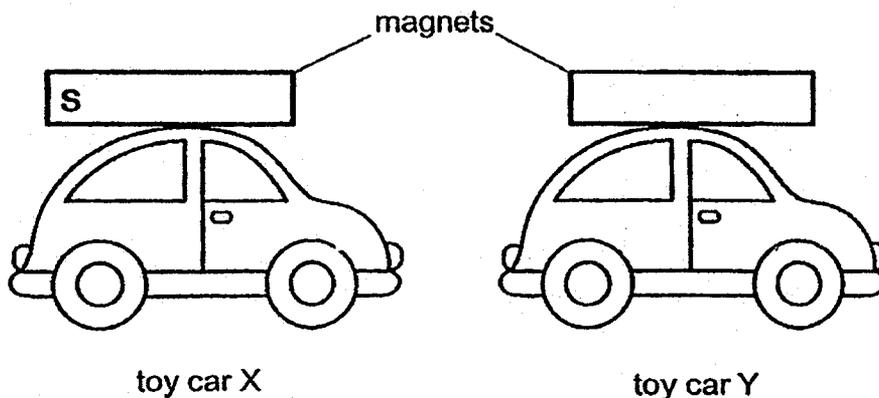toy car X                                        toy car Y

(a) When toy car X was brought close to toy car Y, toy car Y moved away. Explain why the above observation happened.

[2]

_____

_____

_____

Bala turned toy car Y the other way round such that both toy cars are now facing the same direction.

(b) One of the poles of the magnet on toy car X is shown below. **Label the poles of the magnet on toy car Y below.** [1]

magnets

S

toy car X                                        toy car Y

34. Mei Ling set up an experiment to find out the magnetic strength of 3 magnets, A, B and C. She placed the 3 magnets at the same distance away from a steel paper clip. Each magnet was then moved slowly towards the paper clip. She stopped moving the magnet when it attracted the paper clip.
The diagram below shows the start of the experiment.

Start



4 cm

A
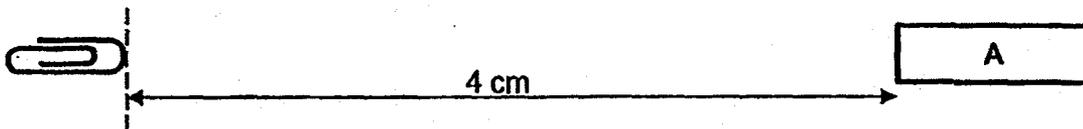
The table below shows the results of the experiment.

| Results |
|---|
| 4 cm — A |
| 1 cm — B |
| 2 cm — C |

(a) Arrange the magnets from the strongest to the weakest. Write the letters A, B and C in the table below. [1]

| Strongest ——————→ Weakest | | |
|---|---|---|
| | | |

(b) Explain your answer for the strongest magnet stated in (a). [1]

_____

_____

She conducted another experiment with magnets D and E. She suspended both magnets at an equal distance above a tray of paper clips. Both magnets attracted paper clips as shown in the diagram below.
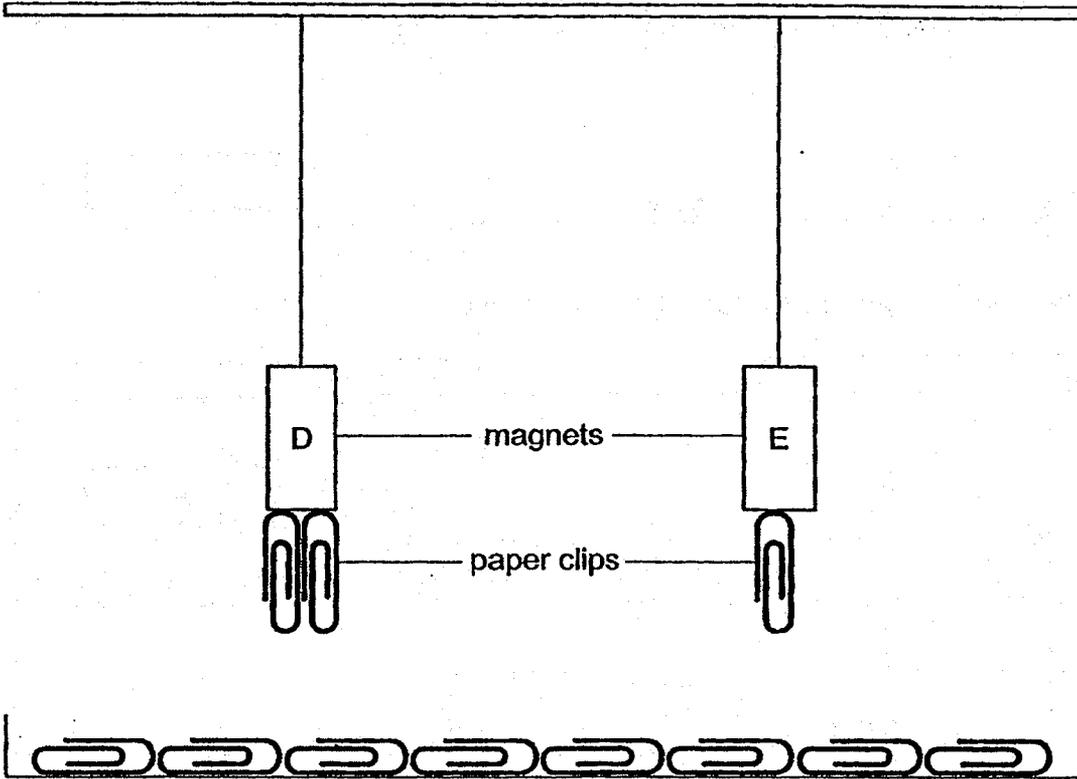


(c) Mei Ling said that since magnets D and E attracted paper clips from the same distance, they are equally strong. Explain why she is wrong.

[2]

_____

_____

_____

## P3 Science SA2 2018

### Booklet A

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

### Booklet B

| Q. No | Answer |
|---|---|
| 25(ai) | Box C |
| (aii) | Box C is warm and has moisture/water and mould needs both to grow.<br>Must mention the conditions in Box C. |
| (b) | Light is not needed for mould to grow. |
| 26(ai) | Q, P |
| (aii) | Plants will be able to get sunlight to make food. |
| (bi) | A rose plant reproduces by seeds but the plant reproduces by spores.<br>Must mention the comparison of the rose plant and the plant. |
| 27a | Animal B gives birth to its young alive but Animal C does not give birth to its young alive/does not/unlike animal C/lay eggs.<br>Must state the difference. |
| b(i) to (v) | D, A, E, B, C |
| (c) | Crocodile has scales as its body covering but Animal E does not have a body covering of scales.<br>Must show comparison of both animals. |
| 28(a) | Roots absorb/take in water for the plant. |
| (b) | Plant B has less roots than Plant A and did not have enough water to survive.<br>Must mention the comparison of roots and why Plant B died. |

| 29(a) | Q: Gullet    T: Large intestine |
|---|---|
| (b) | Digestive juice can be found in parts P, R and S. |
| (c) | Digested food is absorbed into the blood/bloodstream.<br>Must mention the function of small intestine. |
| 30(a) | W. It did not absorb water and it will keep the user dry.<br>Must mention Material(M), Property(P) and Function (F) |
| (b) | Y. It absorbed the most amount of water/most absorbent. It will help dry the user after a bath.<br>Must mention Material(M), Property(P) and Function (F) |
| 31(ai) & (aii) | They are not made from plants and do not absorb water/ waterproof / not absorbent. |
| (b) | D,A,C,B |
| 32 | Use the magnet to attract the steel balls, as steel is a magnetic material but copper is a non-magnetic material.<br><br>Must mention why the magnet can attract the steel balls and not the copper balls. |
| 33 (a) | The like poles of the 2 magnets are facing each other, causing them to repel each other. |
| (b) | <table><tr><td>S</td><td>N</td></tr></table> |
| 34 (a) | |

| Strongest | | Weakest |
|---|---|---|
| A | C | B |

| | |
|---|---|
| (b) | It was able to attract the paper clip from the furthest distance (compared to the rest).<br>Must show comparison of distance. |
| (c) | She is wrong because magnet D was able to attract more paper clips than magnet E although they are placed at the same distance away. Therefore, magnet D is a stronger magnet than magnet E.<br><br>Must show the comparison of number of paper clips attracted of both magnets. |