NAN HUA PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2024

PRIMARY FOUR

SCIENCE
(BOOKLET A)

Total Time for Booklets A and B: 1 hour 45 minutes

**INSTRUCTIONS TO CANDIDATES**

1. Write your name, index number and class in the spaces provided below.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

**Marks Obtained**

| | | |
|---|---|---|
| Booklet A | | / 56 |
| Booklet B | | / 44 |
| Total | | / 100 |

Name: _____ _____ (  )

Form Class: P4 _____

Date: 22 October 2024 Parent's Signature: _____

This booklet consists of 20 printed pages.

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

(56 marks)

1 A snail was observed to hide itself in its shell when touched.



before touching  after touching

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

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

2 Raju made the following observations on the life cycle of an animal.

- There are three stages in the life cycle.
- The young looks like the adult.

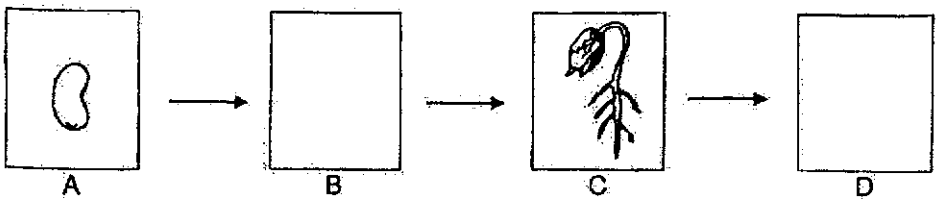
Which animal was Raju observing?

(1) frog
(2) beetle
(3) mosquito
(4) grasshopper



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3 The diagram below shows the growth of a young plant with two missing stages, B and D.



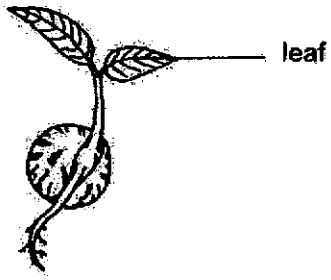

Which of the following shows the correct stages for B and D?

| | B | D |
|---|---|---|
| (1) |  |  |
| (2) |  |  |
| (3) |  |  |
| (4) |  |  |



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4 The diagram below shows a young plant.

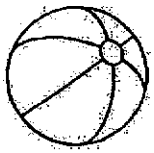



The leaf helps the plant to _____.

(1) make food
(2) grow upright
(3) absorb water
(4) take in mineral salts

5 Which of the following objects is **not** made of waterproof material?

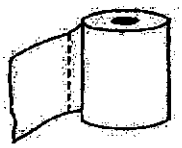
(1) rubber ball



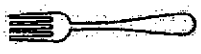
(2) plastic raincoat



(3) toilet paper



(4) metal fork





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6 Which of the following shows the correct order when food moves through some parts of the human digestive system?

(1) 

stomach → large intestine → small intestine

(2) 

large intestine → stomach → small intestine

(3) 

stomach → small intestine → large intestine

(4) 

small intestine → large intestine → stomach

7 Matter is anything that has mass and occupies space.

Which of the following is **not** matter?

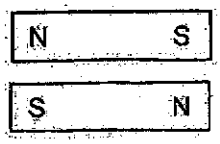
(1) wind
(2) heat
(3) milk
(4) table



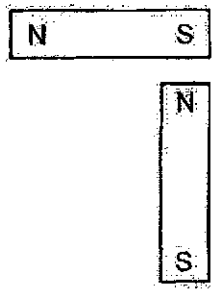
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8 In which of the following will the two magnets push each other away?

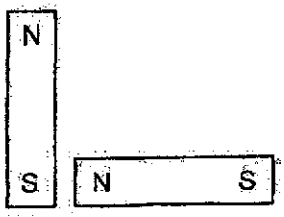
(1)



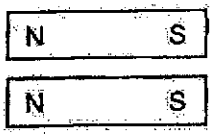

(2)




(3)




(4)

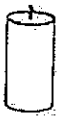




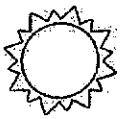

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9 Which of the following is a source of light?

(1) a candle (not lit)



(2) the Sun



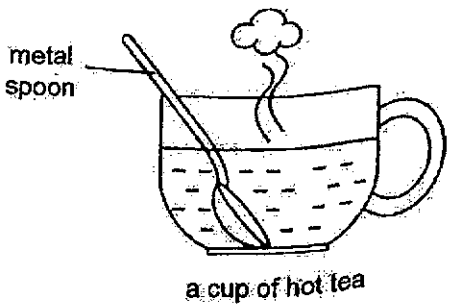
(3) the Moon



(4) a mirror



10 Robin places a metal spoon in a cup of hot tea.




The spoon becomes hotter after a while.
Which of the following explains this?

(1) The tea loses heat to the spoon.
(2) The spoon loses heat to the tea.
(3) The cup gains heat from the tea.
(4) The tea gains heat from the spoon.



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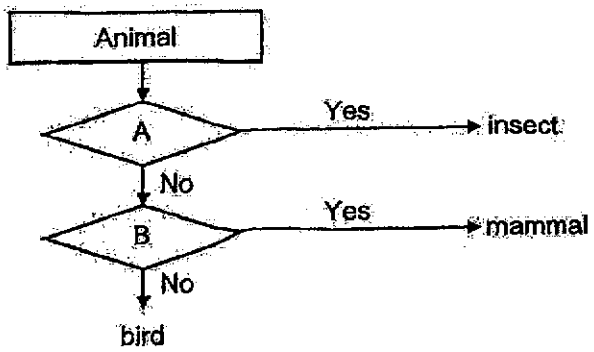
11 The following are some descriptions of living things W, X, Y and Z.

- W is not a fungus.
- X reproduces through spores and can be eaten.
- Y is too small to be seen with the naked eye.
- Z cannot make food and is used in baking bread.

Which of the following could W, X, Y and Z be?

| | W | X | Y | Z |
|---|---|---|---|---|
| (1) | yeast | bread mould | mushroom | bacteria |
| (2) | bacteria | yeast | moss | bread mould |
| (3) | moss | mushroom | bacteria | yeast |
| (4) | mushroom | bacteria | yeast | moss |

12 Study the chart below.



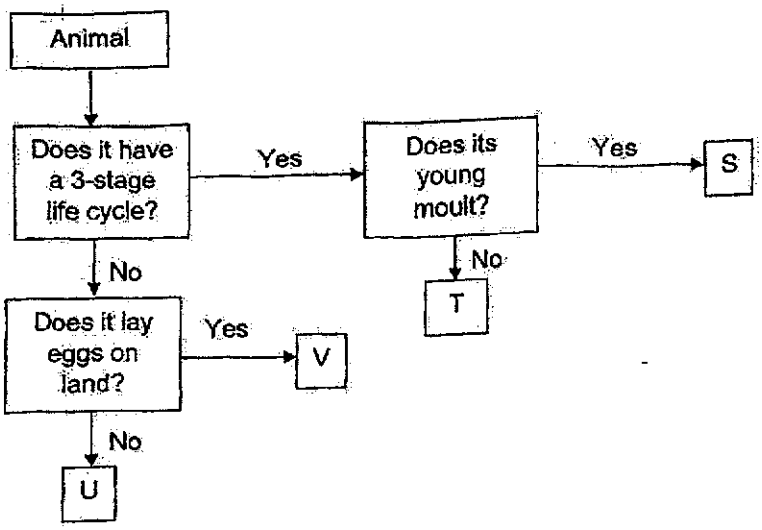

Which of the following shows the characteristics represented by A and B?

| | Characteristics | |
|---|---|---|
| | A | B |
| (1) | Does it have wings? | Does it have a beak? |
| (2) | Does it have six legs? | Does it have hair? |
| (3) | Does it have feathers? | Does it lay eggs? |
| (4) | Does it have a hard body covering? | Does it have feathers? |



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13 Study the chart below carefully.




Which of the following represents S, T, U and V correctly?

| | S | T | U | V |
|---|---|---|---|---|
| (1) | mosquito | cockroach | chicken | butterfly |
| (2) | cockroach | frog | mealworm beetle | grasshopper |
| (3) | frog | mealworm beetle | butterfly | mosquito |
| (4) | grasshopper | chicken | mosquito | mealworm beetle |

14 The arrows ( ⟶ ) in the diagram show the direction of movement of a substance in plants.

roots ⟶ stem ⟶ leaves

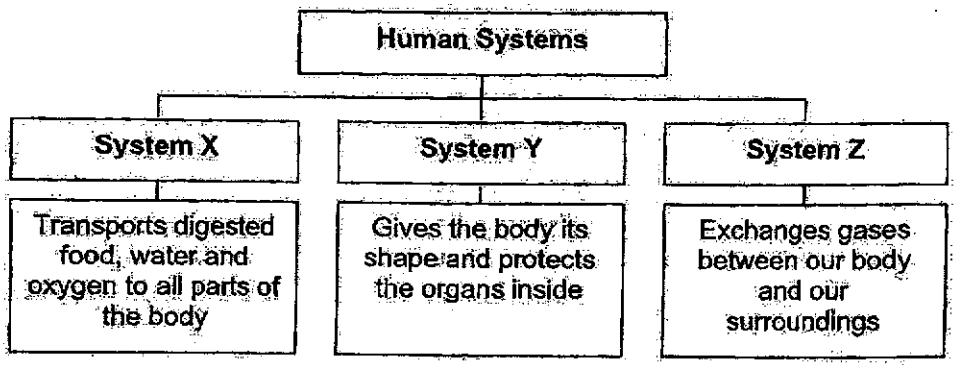
What is this substance?

(1) air
(2) soil
(3) food
(4) water



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15 Study the classification chart below carefully.



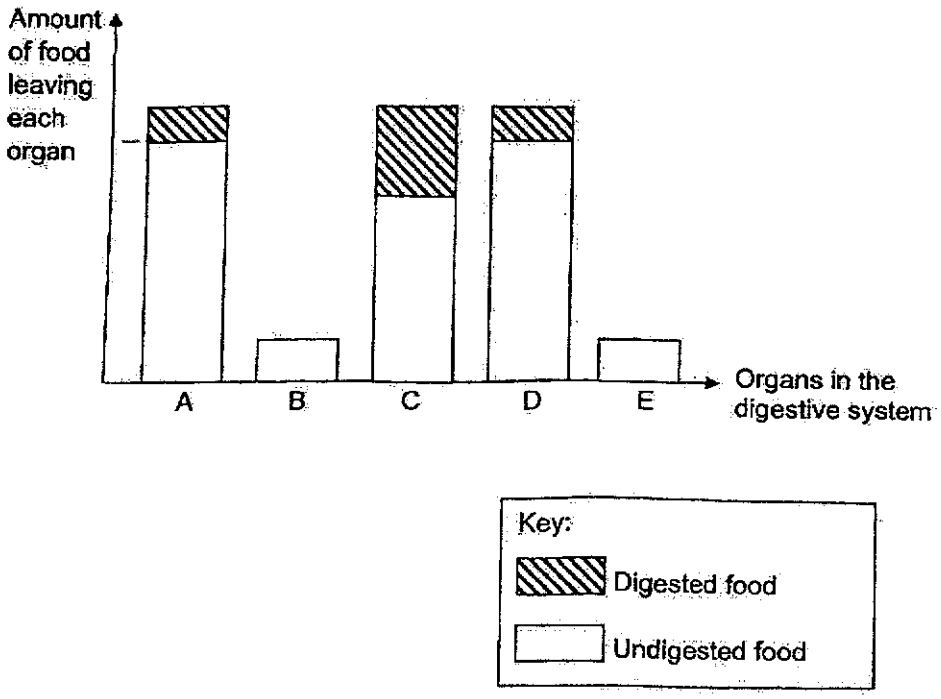

Which of the following correctly matches human systems X, Y and Z?

| | System X | System Y | System Z |
|---|---|---|---|
| (1) | digestive | skeletal | circulatory |
| (2) | circulatory | skeletal | respiratory |
| (3) | respiratory | muscular | circulatory |
| (4) | circulatory | muscular | digestive |



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16 A, B, C, D and E are organs in the digestive system.
The bar graph below shows the amount of digested and undigested food leaving each organ after a meal.




Which of the following is correct?

| | Mouth | Gullet | Small Intestine | Large Intestine |
|---|---|---|---|---|
| (1) | A | D | C | E |
| (2) | D | A | E | B |
| (3) | B | E | C | D |
| (4) | B | A | D | C |

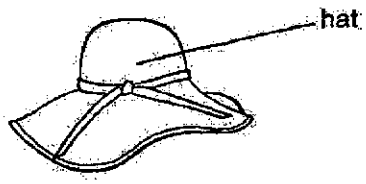


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17 The table below shows the properties of materials, P, Q, R and S. A tick (✓) indicates that the material has the property.

| Materials | Property | | | | |
|---|---|---|---|---|---|
| | strong | allows light to pass through | waterproof | good conductor of heat | flexible |
| P | ✓ | ✓ | ✓ | | |
| Q | ✓ | | ✓ | | ✓ |
| R | ✓ | | | ✓ | ✓ |
| S | | ✓ | ✓ | ✓ | |

Which material, P, Q, R or S, is the best material to make a hat used for providing shade to the wearer's head on a hot, sunny day?

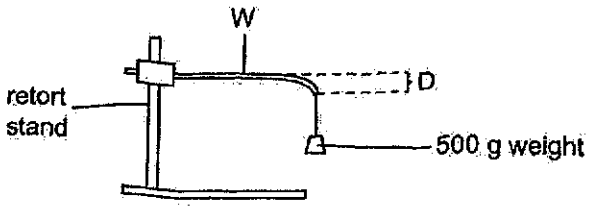



(1) P
(2) Q
(3) R
(4) S

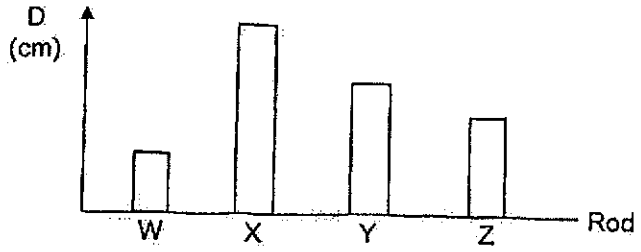


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18 Rod W was attached to a retort stand. A 500 g weight was attached to one end of the rod as shown below. The distance that the rod bent, D, was recorded.




The experiment was repeated with rods X, Y and Z. The rods are made of different materials. The results are shown in the graph below.




Arrange the materials from the least flexible to the most flexible.

| | flexibility | | | |
|---|---|---|---|---|
| | least → | | | most |
| (1) | X | Y | Z | W |
| (2) | X | W | Z | Y |
| (3) | W | Z | Y | X |
| (4) | Z | Y | X | W |

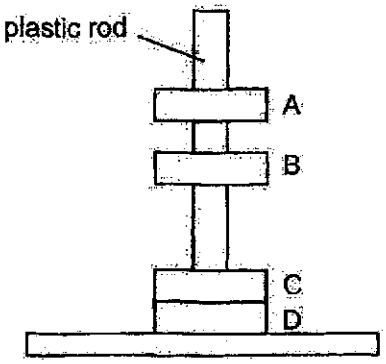


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19 Which of the following properties is correct for both air and a pencil?

(1) They can be seen.
(2) They take up space.
(3) They have fixed shapes.
(4) They have fixed volumes.

20 In the set-up below, A, B, C and D are four rings which passed through a smooth plastic rod. One of the rings is made of aluminium.



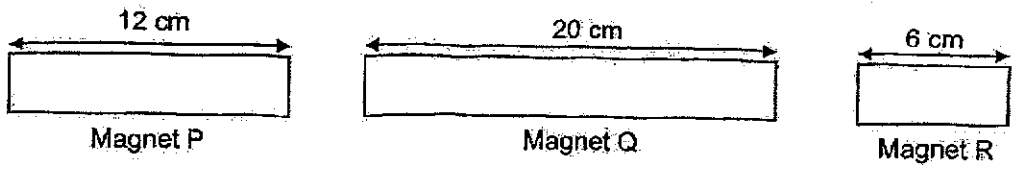

Based only on the diagram above, which of the following is correct?

(1) D is a magnet.
(2) C is a stronger magnet than A.
(3) A is made of a non-magnetic material.
(4) C is a magnet which is repelling B but attracting D.

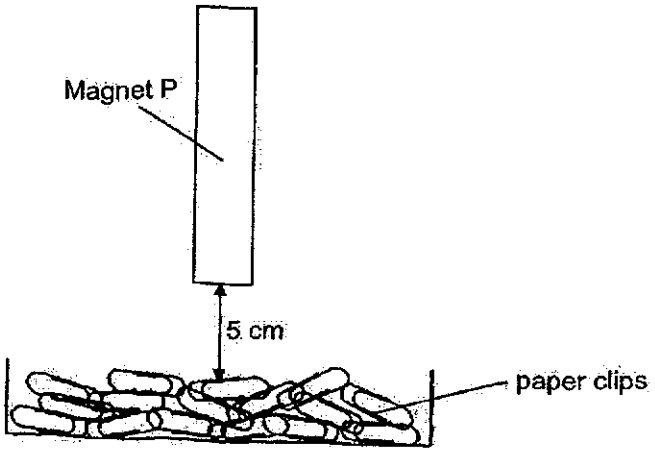


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21 Farhana prepared three different magnets, P, Q and R, as shown below. P, Q and R are made of the same material.




She held magnet P at 5 cm above a tray of paper clips and counted the number of paper clips it attracted. She then repeated the experiment with magnets Q and R.




Which of the following is a possible hypothesis tested in this experiment?

(1) The magnet will attract more paper clips when it is placed nearer to the tray.

(2) The material the magnet is made of affects the number of paper clips it attracts.

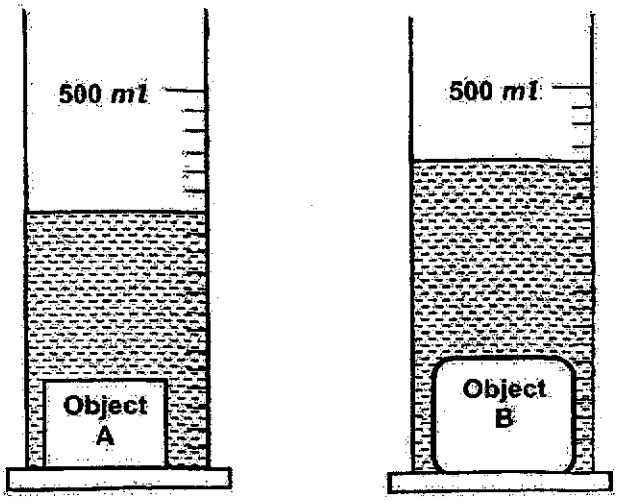
(3) The poles of the magnet will attract more paper clips than the centre of the magnet.

(4) The length of the magnet will not affect the number of paper clips attracted to the magnet.



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22 Siti dropped two objects, A and B, into similar measuring cylinders that were each filled with 200 ml of water. The water levels were as shown in the diagrams with the objects in the water.




Based on the experiment, what could Siti conclude about objects A and B?

A Object A is lighter than object B.

B Objects A and B can be compressed.

C Objects A and B have definite volumes.

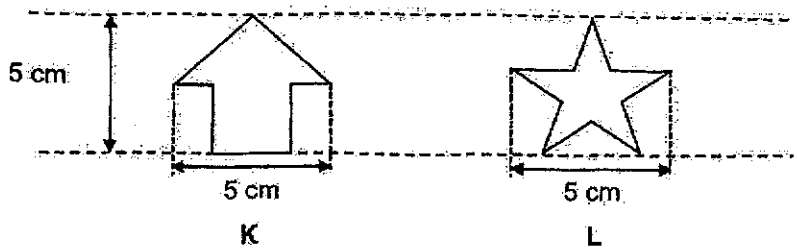
D Object A takes up less space than object B.

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



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**23** The diagrams below show objects K and L.

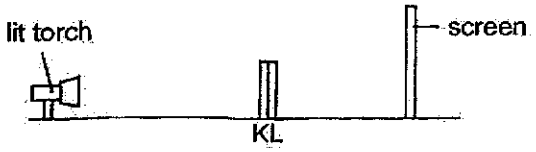



The two objects were arranged in a set-up such that the shadow below was seen on the screen.

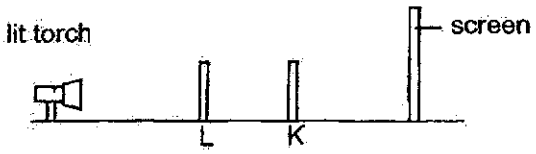


Which one of the following correctly shows where K and L were placed between the lit torch and the screen?

(1)



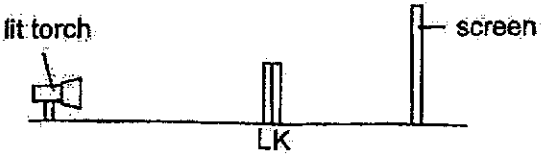

(2)




(3)



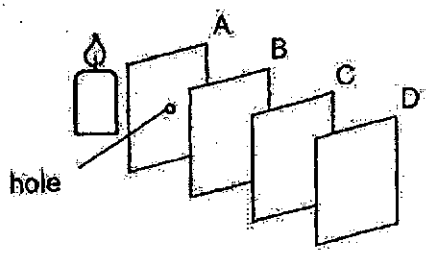

(4)






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24 Four square sheets of different materials, A, B, C and D, were placed in a straight line in front of a candle in a dark room as shown below.




A bright, round patch of light was seen on sheet C only. Based on the experiment above, which of the following statement(s) is/are definitely correct?

W Sheet B allows most light to pass through.

X Sheet D allows some light to pass through.

Y Sheet C does not allow light to pass through.

Z Sheets A and B allow most light to pass through.

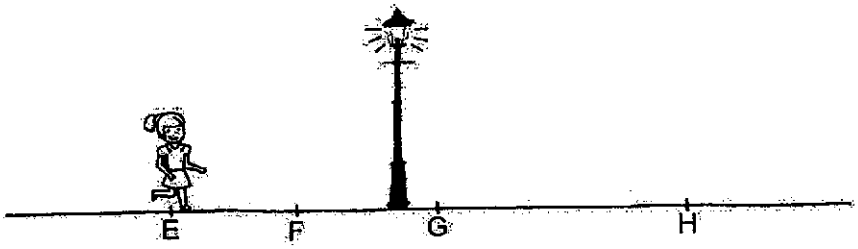
(1) W only

(2) Z only

(3) W and Y only

(4) X and Y only

25 A girl walked from point E to H on the street at night. The street lamp was turned on.




At which of the positions, E, F, G or H, will the shadow of the girl be the shortest?

(1) E

(2) F

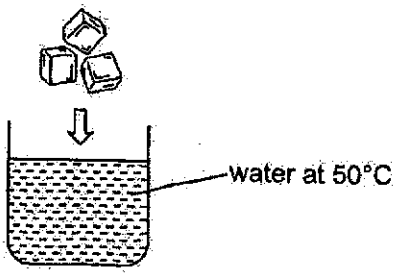
(3) G

(4) H



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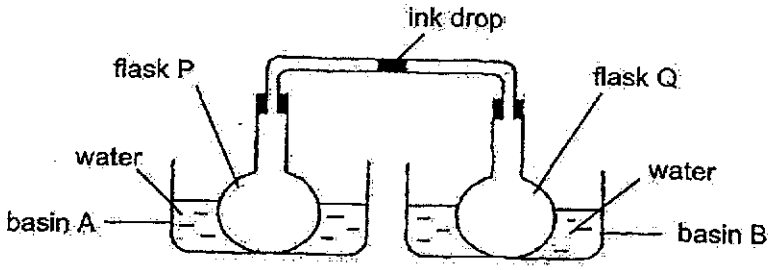
26 John placed some ice cubes into a beaker of water at 50°C as shown below.




What will happen to the water level and the temperature of the water after 5 minutes?

| | Water level | Temperature of water |
|---|---|---|
| (1) | increases | decreases |
| (2) | increases | increases |
| (3) | decreases | stays the same |
| (4) | stays the same | decreases |

27 Mary prepared the set-up as shown below.




She then poured the same amount of water at different temperatures into basins A and B. The set-up was left in a room with a temperature of 30°C.

After a few minutes, Mary observed that the ink drop moved towards flask P.

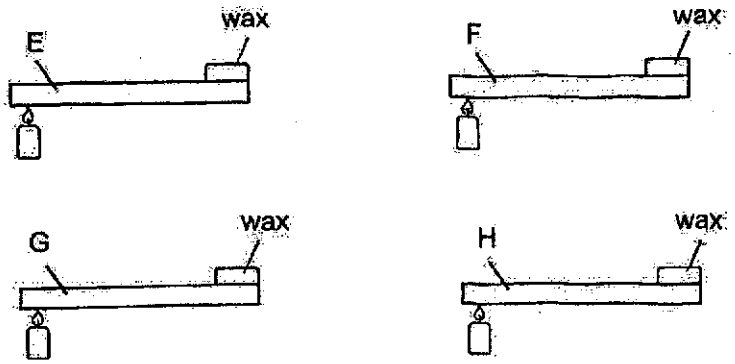
Which of the following best represents the temperature of water in basins A and B?

| | Temperature of water in basin A (°C) | Temperature of water in basin B (°C) |
|---|---|---|
| (1) | 60 | 30 |
| (2) | 60 | 20 |
| (3) | 30 | 30 |
| (4) | 20 | 60 |



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28 Devi wanted to find out how well different materials, E, F, G and H, conduct heat. She placed the same amount of wax at one end of each rod. Each rod is of identical length and thickness. She then heated the rods as shown below.




The time taken for the wax on each rod to melt completely was recorded in the table below.

| Rod | Time taken (min) |
|---|---|
| E | 10 |
| F | 3 |
| G | 8 |
| H | 5 |

Based on the results above, which rods, E, F, G or H, is classified correctly?

| | Poorest conductor of heat | Best conductor of heat |
|---|---|---|
| (1) | E | G |
| (2) | E | F |
| (3) | F | E |
| (4) | H | F |



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NAN HUA PRIMARY SCHOOL
END-OF-YEAR EXAMINATION 2024
PRIMARY FOUR

**SCIENCE**
(BOOKLET B)

**Total Time for Booklets A and B: 1 hour 45 minutes**

**INSTRUCTIONS TO CANDIDATES**

1. Write your name, index number and class in the spaces provided below.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters.

**Marks Obtained**

| | | |
|---|---|---|
| **Section B** | | / 44 |

**Name:** _____ (  )

**Form Class: P4** _____ **Teaching Group: 4S** _____

**Date: 22 October 2024** **Parent's Signature:** _____

This booklet consists of 14 printed pages.

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For questions 29 to 41, write your answers in the spaces provided.

The number of marks available is shown in brackets [ ] at the end of each question or part question. (44 marks)

29 Jasmine observed and grouped some things as shown in the table.

| Group F | Group G |
|---|---|
| ant | pen |
| tiger | towel |
| mushroom | stone |

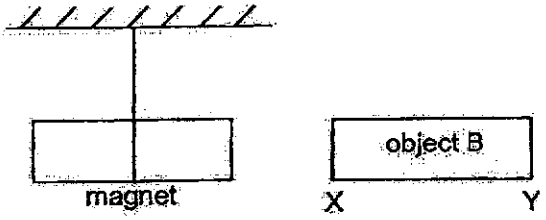
What are the suitable headings for F and G? [2]

Group F: _____

Group G: _____

| Score | 2 |
|---|---|

30 When end X of object B is brought near a magnet as shown, the magnet moves away.




(a) The shows that object B is a _____. [1]

(b) When end Y is brought near to the magnet, it is _____ by the magnet. [1]

(c) A magnet will come to rest in a _____ direction when freely suspended. [1]

| Score | 3 |
|---|---|



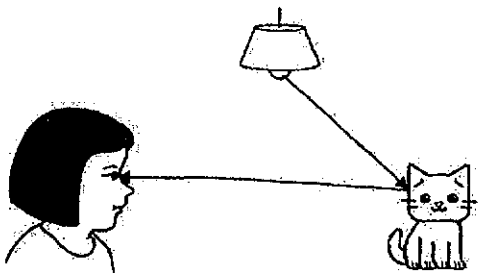
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31 Tick (✓) in the box if each of the following has a definite shape and/or a definite volume. [2]

| | Has definite shape | Has definite volume |
|---|---|---|
| (a) tea | | |
| (b) plastic cup | | |

Score 2

32 The diagram below shows how Susan sees the cat.



The _____ from the lamp is _____ by the cat and and enters Susan's eye. [2]

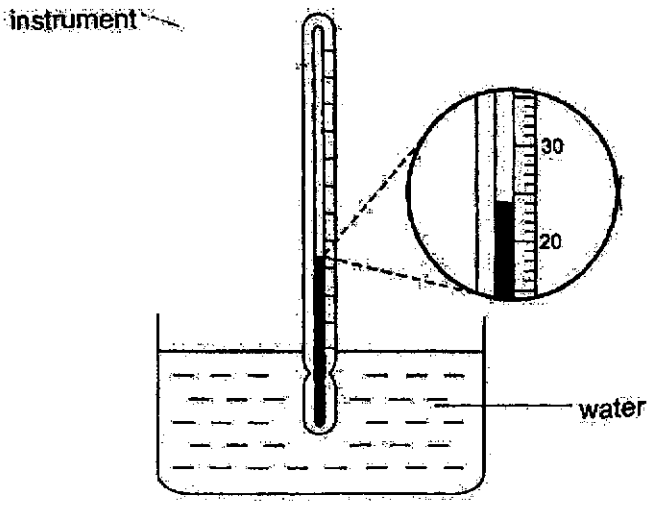
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Score 2



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33 Gina used an instrument to measure the temperature of water in a glass.




(a) What is the instrument called? [1]

_____

(b) What is the temperature of the water in the glass? [1]

_____ °C

(c) State what temperature is. [1]

_____

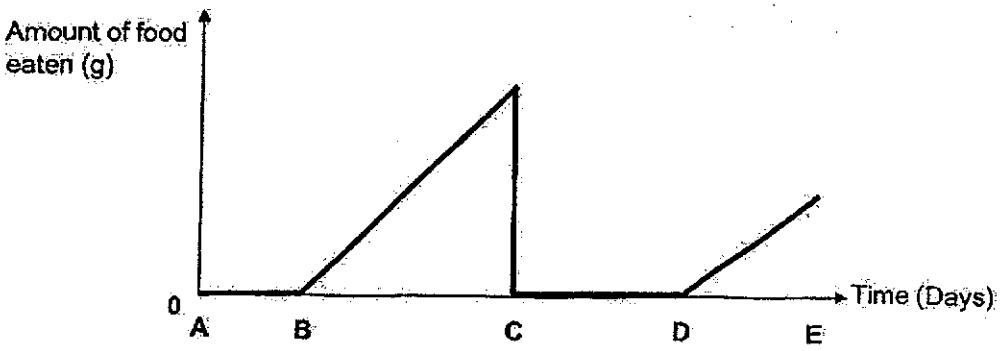
_____

| Score | 3 |
|---|---|



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34 The graph below shows the amount of food eaten by a butterfly through the different stages of its life cycle represented by AB, BC, CD and DE.




(a) Which part of the graph, AB, BC or DE, represents the larva stage? [1]

(b) Name the stage of the life cycle of a butterfly from point C to D. Explain your answer. [2]

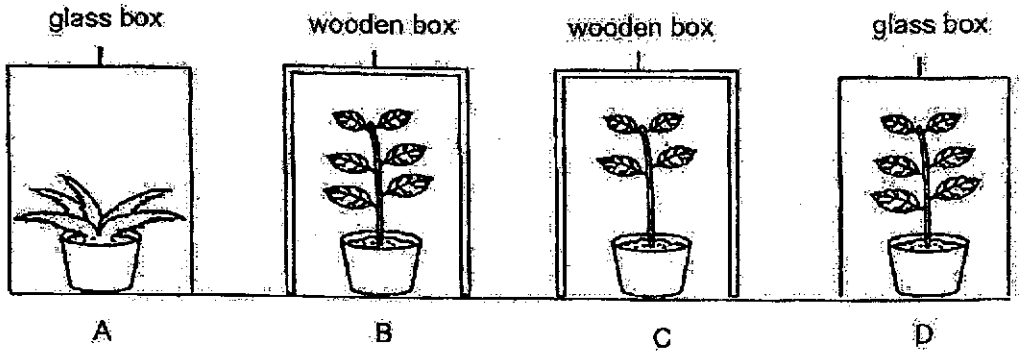
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Score 3



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35 The diagram below shows four set-ups. Each plant is planted in an identical pot and is watered with the same amount of water daily.




(a) Suzy wants to find out if light affects how fast plants grow. Which two set-ups should she choose in order to conduct a fair test? Explain why. [2]

(b) State another variable that she should keep the same to ensure the experiment is a fair one. [1]

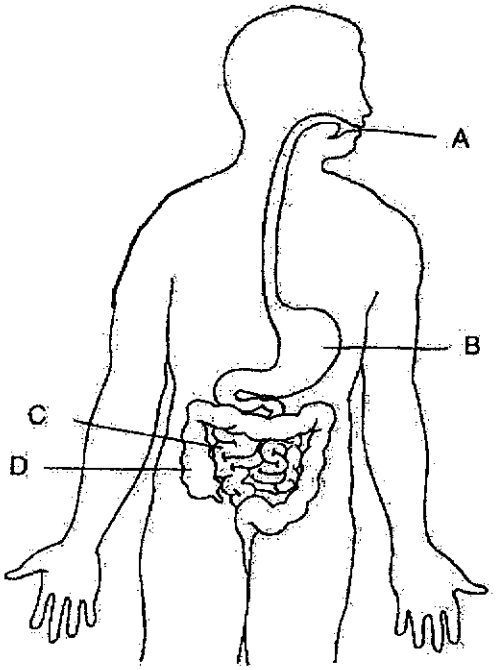
(c) Besides transporting food and water to all parts of a plant, state another function of the stem. [1]

Score 4



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36 The diagram below shows the human digestive system.




(a) Identify the part /parts A, B, C and/or D where

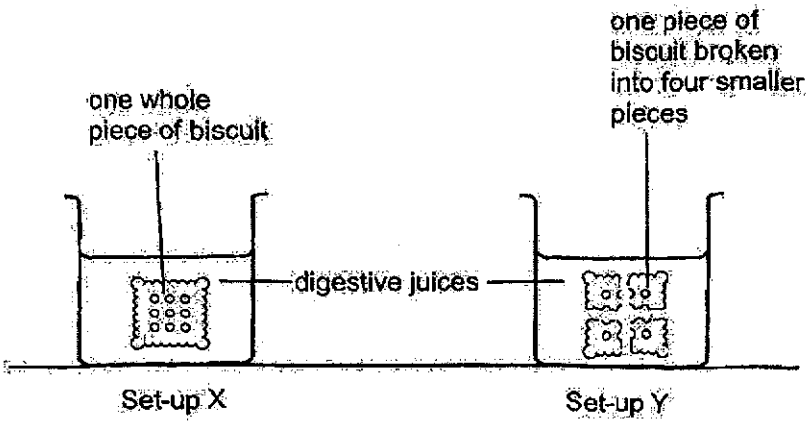
digestive juices can be found: _____ [1]





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Two similar pieces of biscuit were placed in set-ups X and Y as shown in the diagrams below. Equal amounts of digestive juices were then added to the set-ups.




**(b)** Shanti noticed that the smaller pieces of biscuit in set-up Y were broken down faster than the one whole piece of biscuit in set-up X. Explain why. [2]

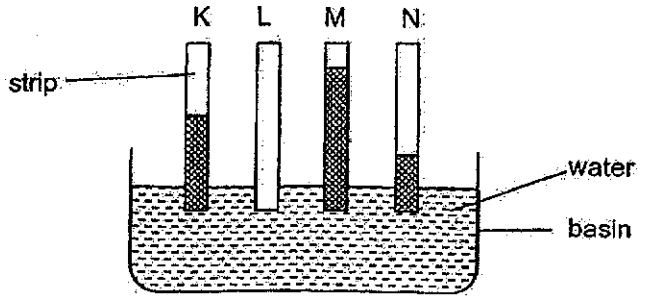
**(c)** Shanti's teacher advised her to repeat the experiment for at least two more times. Why did she ask her to do that? Explain why. [1]

| Score | |
|---|---|
| | 4 |



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37 Jack prepared the set-up shown below to find out how absorbent four materials, K, L, M and N are. The four strips of materials were of the same size and colour. He dipped them into a container of water for 10 minutes. The shaded part of the strips shows the amount of water absorbed by each material.




(a) What is the variable that is changed in this experiment? [1]

(a) Based on the results above, which material, K, L, M or N, is the best for making an umbrella to be used on a rainy day? Explain why. [2]

(b) Jack's teacher suggested using red-coloured water instead for the experiment. How will using red-coloured water improve the accuracy of the experiment? [1]

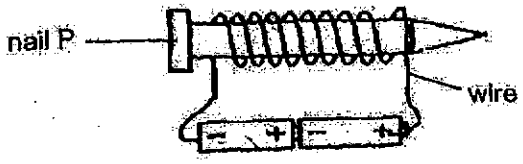
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| Score | |
|---|---|
| | 4 |



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38 Carina made a temporary magnet using nail P as shown below.




She recorded the number of thumbtacks attracted to the nail in a table as shown below. She then repeated the experiment with nails Q, R and S. All the nails are made of different materials.

| Nail | Number of thumbtacks attracted |
|---|---|
| P | 5 |
| Q | 0 |
| R | 12 |
| S | 8 |

(a) Suggest and explain why there are no thumbtacks attracted to nail Q. [2]

(b) Name two materials that nail R could be made of. [1]

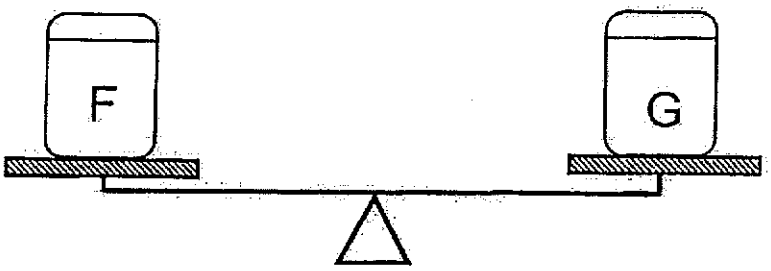
(c) Suggest two ways Carina could do to enable nail P to attract more thumbtacks. [2]

| Score | |
|---|---|
| | 5 |



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39 Devi had two identical containers, F and G. The volume of each empty container is 100 $cm^3$. She filled each container with 50 $cm^3$ of air and placed both containers on a beam balance as shown in the diagram below.




(a) Devi pumped another 200 $cm^3$ of air into container G and placed it back onto the beam balance. What would be the total volume of air in container G? Explain why. [2]

(b) What would be observed of the beam balance after 200 $cm^3$ of air was pumped into container G Explain why. [2]

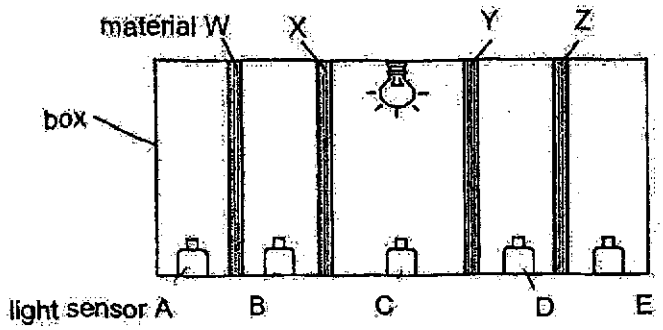
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Score 4

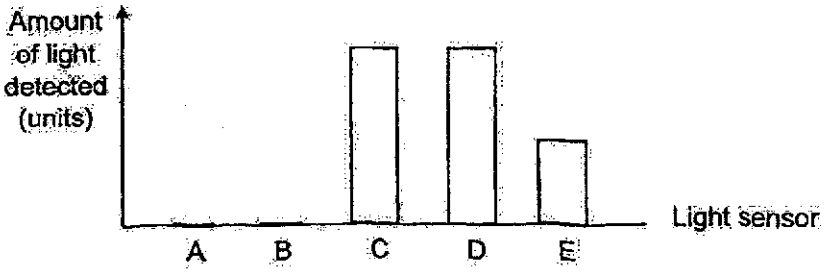


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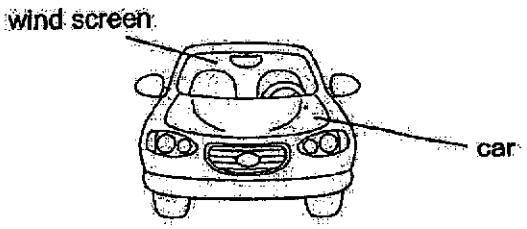
40 Larry prepared the set-up as shown below to find out about the transparency of materials W, X, Y and Z. No light could enter the box.




He recorded the amount of light detected by the five light sensors A, B, C, D and E, in the set-up in the graph below.




The diagram below shows a car.




(a) Which of the materials, W, X, Y or Z, is the best material to make the wind screen of a car? Explain why. [2]



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Based on the results of the experiment, Larry concluded that material W does not allow light to pass through.

**(b)** Do you agree with Larry? Explain why. [2]

_____

_____

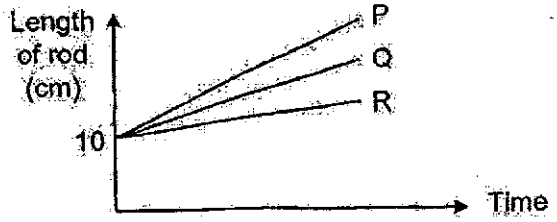
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| Score | |
|---|---|
| | 4 |



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41 Elmer conducted an experiment by heating three similar rods made of different materials, P, Q and R, for ten minutes. He recorded the change in the length of each rod as they were heated is shown in the graph below.

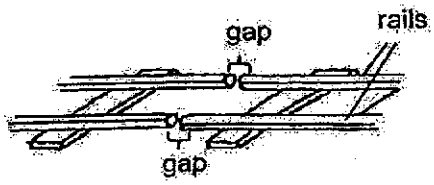



(a) Based on the results of the experiment, what could Elmer conclude about the effect of heating the different materials? [1]

Elmer then stopped heating the rods and left them at the same location for five hours. He observed that their lengths returned to 10 cm.

(b) Give a reason for his observation above. [1]

Railway tracks are built with gaps in between the rails of the tracks as shown below.




(c) What would happen to the railway track on a very hot day if there were no gaps? Explain your answer. [2]

**End of Paper**

| Score | |
|---|---|
| | 4 |



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# EYE 2024
# PRIMARY FOUR
# SCIENCE
## Answer Key

**Section A**

| Qns | Ans | Qns | Ans | Qns | Ans |
|---|---|---|---|---|---|
| 1 | 3 | 11 | 3 | 21 | 4 |
| 2 | 4 | 12 | 2 | 22 | 3 |
| 3 | 2 | 13 | 4 | 23 | 3 |
| 4 | 1 | 14 | 4 | 24 | 3 |
| 5 | 3 | 15 | 2 | 25 | 3 |
| 6 | 3 | 16 | 2 | 26 | 1 |
| 7 | 2 | 17 | 2 | 27 | 4 |
| 8 | 4 | 18 | 3 | 28 | 2 |
| 9 | 2 | 19 | 2 | | |
| 10 | 1 | 20 | 2 | | |

**Section B**

| Qns | Answer |
|---|---|
| 29 | Group F: living things<br>Group G: non-living things |
| 30a | magnet |
| 30b | attracted |
| 30c | North-South / N-S |
| 31 | <table><tr><th></th><th>Has definite shape</th><th>Has definite volume</th></tr><tr><td>(a) tea</td><td></td><td></td></tr><tr><td>(b) plastic cup</td><td>✓</td><td></td></tr></table> |
| 32 | light<br>reflected |
| 33a | thermometer |
| 33b | 24 |
| 33c | Temperature is a measure/ measurement of the degree of hotness of an object.<br>**OR**<br>Temperature is a measure/measurement of how hot or cold an object is. |
| 34a | BC |
| 34b | Pupa stage<br>From point C to D, no amount of food is being eaten.<br>A pupa does not eat/feed at all during the pupa stage. |

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| | |
|---|---|
| 35a | B and D<br>The only changed variable is the type of material of the box.<br>This ensures that how fast plants grow is only due to presence/absence of light (and not other variables). |
| 35b | Type/Amount/Mass of soil OR Type of plant OR Temperature/Humidity of the location |
| 35c | To hold the plant upright (to get light) |
| 36a | A, B, C |
| 36b | The smaller pieces of biscuits have a bigger/larger (exposed) surface area that is in contact with/ exposed to/ touching the digestive juices so it gets digested faster/more easily than the biscuit. |
| 36c | To ensure that the results are reliable. |
| 37a | Type of material |
| 37b | Material L. Material L did not absorb any water / is waterproof and will prevent water from passing through the umbrella to wet the person / keep the person dry on a rainy day. |
| 37c | He will be able to see the water on the strips / water level on the strip more clearly/clearer. |
| 38a | Nail Q is made of a non-magnetic material and thus cannot be magnetised / become an electromagnet. |
| 38b | Iron / steel / nickel / cobalt |
| 38c | Increase the number of batteries (connected to the circuit)<br>Increase the number of turns / coils of wire around the nail |
| 39a | 100 $cm^3$<br>Air can be compressed / has no definite volume. |
| 39b | The beam balance would tilt towards container G/ the right as the mass of container G increases after 200 $cm^3$ of air was pumped into it. |
| 40a | Material Y. The amount of light detected by light sensor D is the most. Material Y allows most light to pass through / is transparent. The window of the car needs to be transparent so that the driver in the car can look outside the car / at the traffic most clearly. |
| 40b | No. No light passed through material X to reach material W. |
| 41a | Different materials expand to different lengths after heating (for the same period of time) |
| 41b | The rods lost heat to the surroundings and contracted. |
| 41c | The rail road would gain heat from the (warmer/ hotter) surroundings and expand. As there is no space for the expansion, the rail road will crack/buckle/break. |

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