# AI TONG SCHOOL

## 2012 SEMESTRAL ASSESSMENT ( 2 )

## PRIMARY FIVE SCIENCE

**DURATION : 1hr 45 min**

**DATE: 24 Oct 2012**

## INSTRUCTIONS

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

**Name :** _____ ( )

**Class : Primary 5**_____

**Parent's Signature :** _____ **Marks :** 100

**Date :** _____

## Section A [30 x 2 marks]

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet (OAS).

1. Which of the following cell structures is **not** matched correctly to its function?

| | Cell structure | Function |
|---|---|---|
| (1) | Nucleus | Controls all activities that take place within a cell. |
| (2) | Cytoplasm | Jelly-like substance where most activities take place. |
| (3) | Chloroplast | Performs the function of photosynthesis within the plant cells. |
| (4) | Cell membrane | Gives the cell a fixed shape and supports the cell. |

2. Which of the following statement(s) is/are true about sexual reproduction in **both** flowering plants and most animals?

A: The male reproductive cells are called sperms.

B: The female reproductive cells are stored in the ovary.

C: The fertilization process must take place in the female reproductive system.

D: The male and female reproductive cells must meet for fertilization to take place.

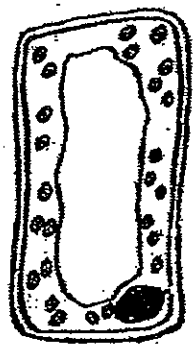
(1) A and B only

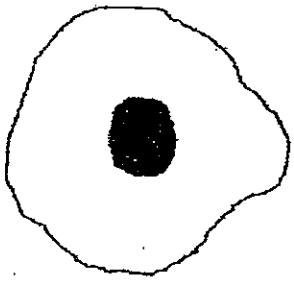
(2) B and D only

(3) B, C and D only

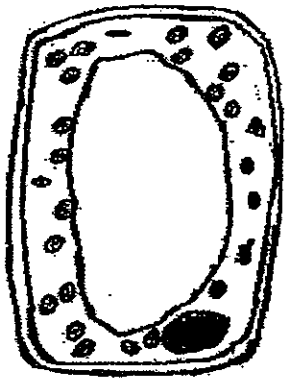
(4) All of the above

3. Dolly observed an animal cell and a plant cell under a microscope. She drew her observation of the two cells as shown below.

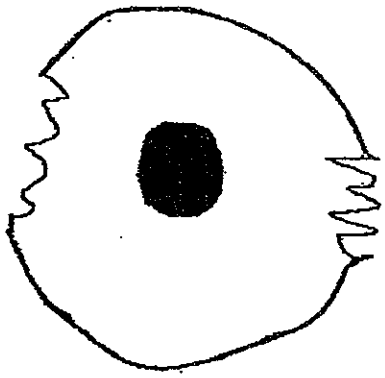
Plant Cell 

 Animal Cell

Next, Dolly placed both cells in a petri dish of water. After 20 minutes, she noticed some differences in the two types of cells when she observed them under a microscope again. She recorded her observations as shown below.



The plant cell became swollen.



The animal cell burst.

Which one of the following correctly explains Dolly's observations?

(1) The large nucleus in the animal cell caused the cell to burst.

(2) The chloroplasts in the plant cell prevented the cell from bursting.

(3) An animal cell has no cell wall to withstand the outward force exerted by the water that had entered the cell.

(4) The large vacuole in the plant cell stored the extra water, thus preventing the cell from bursting.

4. Which of the following statements about heredity are true?

A: The offspring can inherit traits from both parents.

B: A female parent can pass her traits to a male child.

C: Heredity is the passing on of characteristics from one offspring to another.

D: Inherited traits sometimes do not show in one generation but may reappear in the next generation.

(1) A and D only

(2) B and C only

(3) A, B and D only

(4) All of the above

5. The diagram below represents our circulatory system.

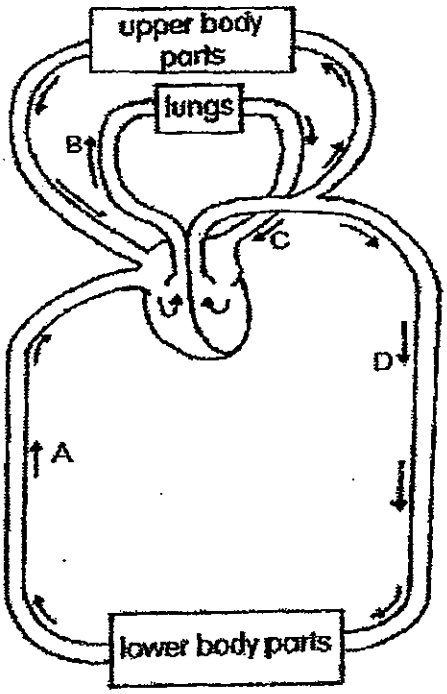
Which pair of blood vessels always carries blood that is rich in carbon dioxide?

(1) A and B

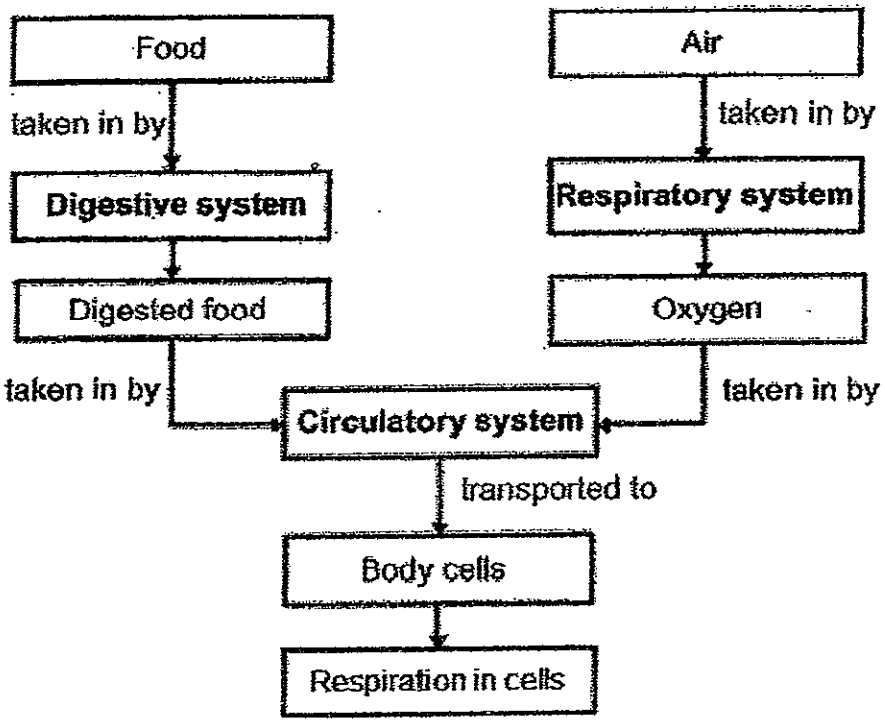
(2) B and C

(3) C and D

(4) A and D



6. The chart below shows how three of our body systems work together to allow respiration to be carried out. Study the chart carefully.




Based on the diagram above, which of the following is/are true?

A: The circulatory system is essential for respiration to take place.

B: The digestive system takes in oxygen and gives out carbon dioxide for respiration to take place.

C: The circulatory system helps to transport the digested food and oxygen to body cells for respiration to take place.

(1) A only

(2) A and B only

(3) A and C only

(4) All of the above

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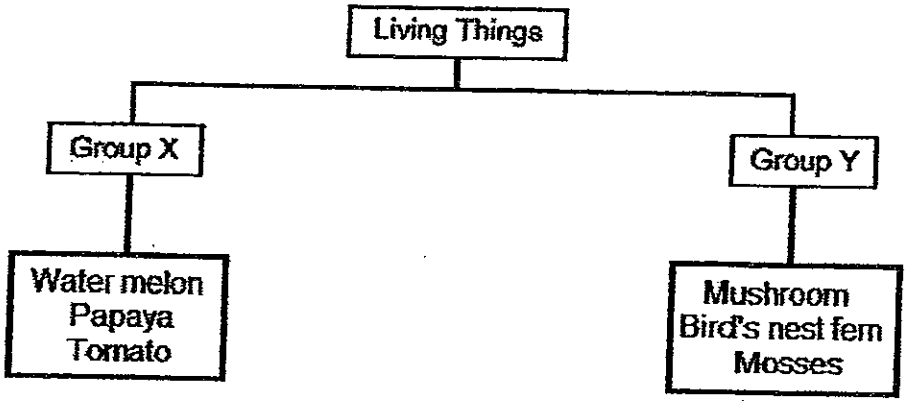
7. The classification chart below shows how some living things can be grouped.




Which of the following represents X and Y?

| | Group X | Group Y |
|---|---|---|
| (1) | Cannot be eaten | Can be eaten |
| (2) | Fruits with many seeds | Fruits with one seed |
| (3) | Reproduce from seeds | Reproduce from spores |
| (4) | Make their own food | Cannot make their own food |

8. Which one of the following about the human digestive system is correct?

| | Digestion of food occurs here | Absorption of digested food occurs here |
|---|---|---|
| (1) | Stomach | Large intestine |
| (2) | Small intestine | Large intestine |
| (3) | Small intestine | Small intestine |
| (4) | Large intestine | Small intestine |

9. Nick made two observations about two animals, A and B.

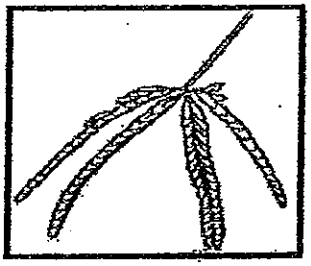
| Observation | Animal A | Animal B |
|---|---|---|
| Eggs | Laid in water | Laid on land |
| Stages in life cycle | 4 | 3 |
| Number of legs in its adult stage | 6 | 6 |

Which one of the following is correct?

| | Animal A | Animal B |
|---|---|---|
| (1) | Platypus | Housefly |
| (2) | Dragonfly | Beetle |
| (3) | Frog | Chicken |
| (4) | Mosquito | Grasshopper |

10. Kai Li found a mimosa plant in the school field. The leaves of the mimosa plant closed up immediately when she touched it.

Before it was touched



After it was touched

Which of the following statement(s) explain(s) her observations?

A: The mimosa plant can grow and reproduce.

B: The mimosa needs air, water and food.

C: The mimosa plant can respond to changes around it.

(1) A only

(2) C only

(3) A and B only

(4) All of the above

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11. Sheryl wanted to do a study on mealworms. She kept an equal number of mealworms in 4 containers. The conditions in each container are shown below. After 7 days, the mealworms in 3 of the containers were dead.

| Container | Air | Water | Food | Sunlight |
|---|---|---|---|---|
| A | Absent | Present | Present | Present |
| B | Present | Present | Absent | Present |
| C | Present | Absent | Present | Present |
| D | Present | Present | Present | Absent |

In which container are the mealworms most likely to survive?

(1) Container A

(2) Container B

(3) Container C

(4) Container D

12. Susan wants to find out the effect of overcrowding on the growth of a balsam plant.
Which three pots given in the table below should Susan use to carry out a fair test?

| Pot | Number of seeds | Type of soil | Size of pot |
|---|---|---|---|
| A | 3 | loamy soil | small |
| B | 5 | garden soil | small |
| C | 5 | garden soil | medium |
| D | 5 | loamy soil | medium |
| E | 5 | garden soil | big |
| F | 10 | garden soil | big |

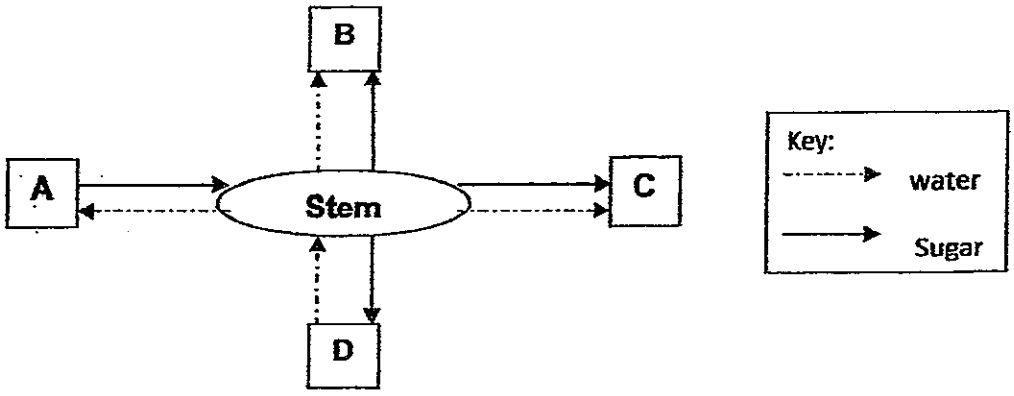
(1) A, B and D only

(2) A, D and F only

(3) B, C and E only

(4) C, E and F only

13. The diagram below shows how water and sugar are transported to and from different parts of a plant.




Which one of the following shows correctly the parts of a plant that A, B, C and D represent?

| | A | B | C | D |
|---|---|---|---|---|
| (1) | Leaves | Flowers | Fruits | Roots |
| (2) | Fruits | Leaves | Flowers | Roots |
| (3) | Roots | Flowers | Fruits | Leaves |
| (4) | Leaves | Fruits | Roots | Flowers |

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14. Candy wanted to find out how different factors affect the germination of seeds. She listed the variables which she would use in the table below.

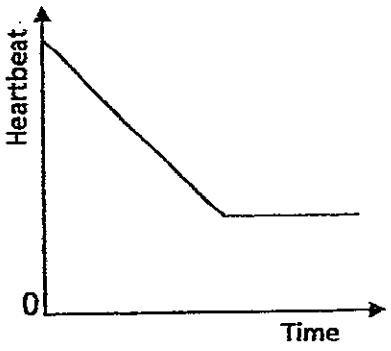
| | |
|---|---|
| A | Size of pots |
| B | Amount of water |
| C | Presence of light |
| D | Number of seeds planted |
| E | Temperature of the surrounding |

She listed the various aims of experiments that she would like to conduct in a table below.
Which one of the following correctly matches the aim of the experiment to the variables to be kept constant and changed?

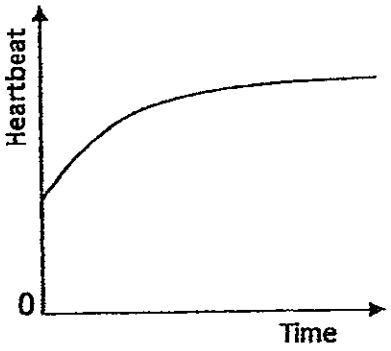
| | **Aim of experiment** | **Variables to be kept constant** | **Variables to be changed** |
|---|---|---|---|
| (1) | To test if light affects germination of seeds. | B, C, D and E | A |
| (2) | To test if heat affects germination of seeds. | A, B, C and D | E |
| (3) | To test if moisture affects germination of seeds. | A, B, C and E | D |
| (4) | To test if overcrowding affects germination of seeds. | A, C, D and E | B |

15. Darren went jogging in the field.
Which one of the following shows the correct changes in his heart rate during his exercise?

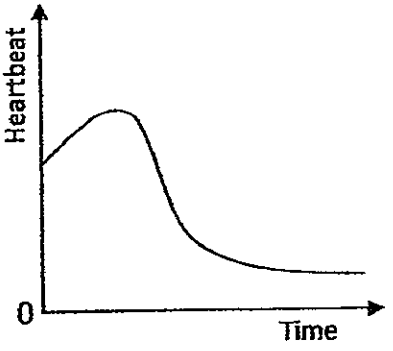
(1)



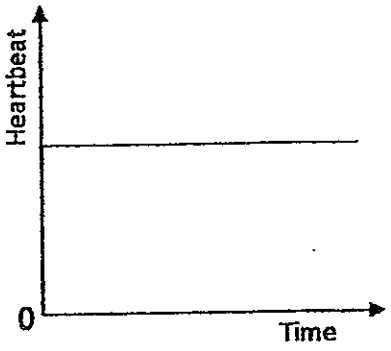

(2)



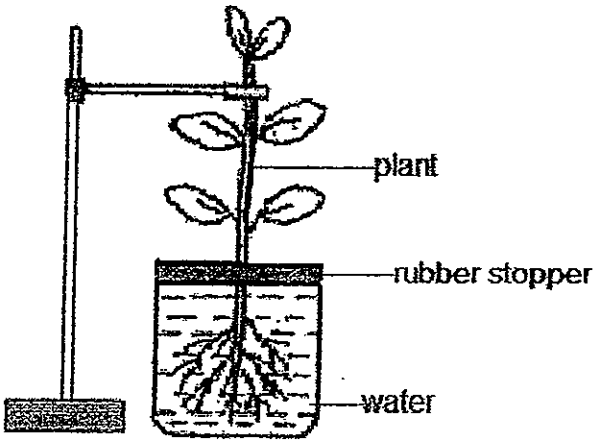

(3)




(4)

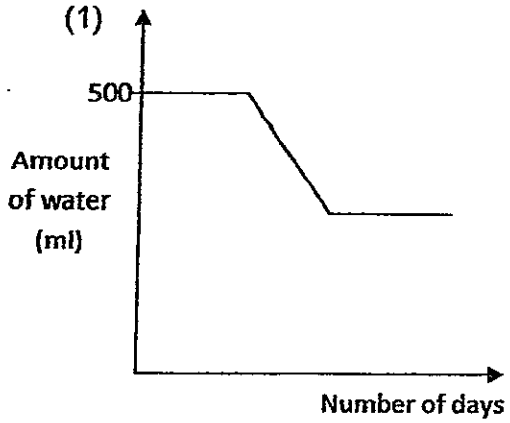


16. Mavis poured 500ml of water into a beaker containing a plant. She covered the beaker with a rubber stopper as shown in the diagram below. The whole set-up is placed next to a window.

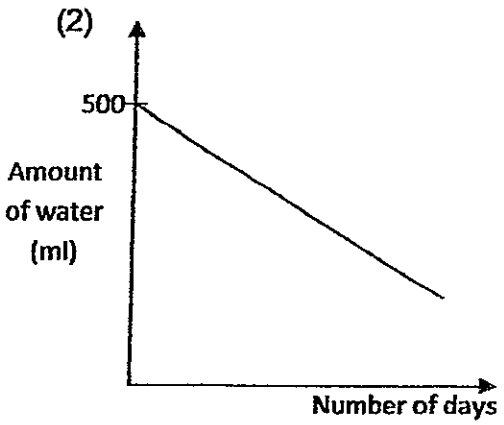



Which of the following graphs shows changes in the amount of water left in the beaker over a few days?

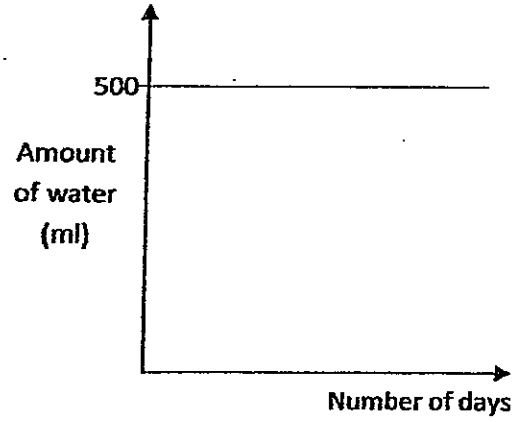
(1)



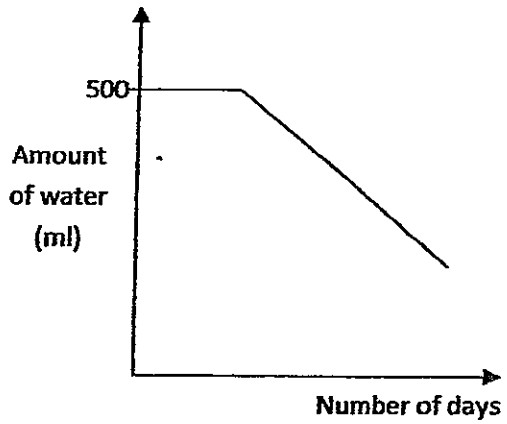

(2)




(3)




(4)



17. Tammy studied the table below which gives the properties of some materials. A tick (✓) shows that the material has the property.

| Properties | Material A | Material B | Material C |
|---|---|---|---|
| Flexible | | ✓ | |
| Waterproof | ✓ | ✓ | ✓ |
| Transparent | ✓ | ✓ | |

She matched the given properties to the following sets of objects.
Which one of the following sets of objects best fits the description in the table above?

| | Material A | Material B | Material C |
|---|---|---|---|
| (1) | window pane | plastic bag | coin |
| (2) | vase | towel | metal fork |
| (3) | pencil | rain coat | textbook |
| (4) | glass | goggles | leather belt |

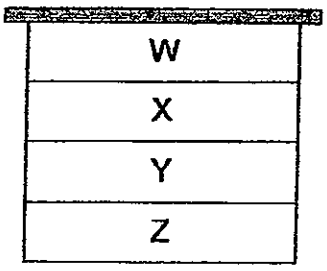
18. Kevin dropped a few marbles into a glass jar and then poured some water and cooking oil into it. He noticed that there was some space left in the glass jar. He sealed the glass jar tightly and shook it. The diagram below shows Kevin's drawing of the glass jar after he let it settle for a while.
What could Part W be?

(1) Oil

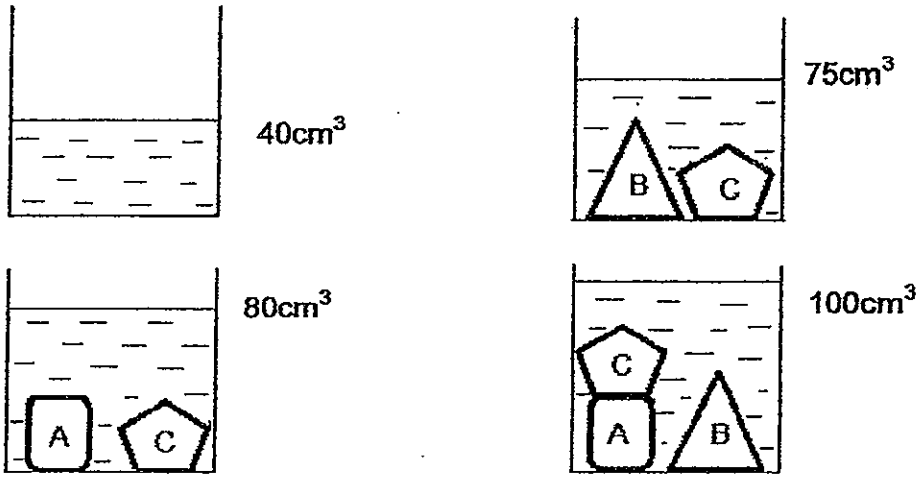
(2) Air

(3) Water

(4) Marbles



19. A container holds $40cm^3$ of water. Different objects are put into the container and the water level rises.




Based on the diagrams, which of the following statements is/are correct?

A: The volume of object B is $20cm^3$.

B: The volume of object C is $15cm^3$.

C: The volume of object A and B is $25cm^3$.

D: The volume of all three objects, A, B and C, is $100cm^3$.

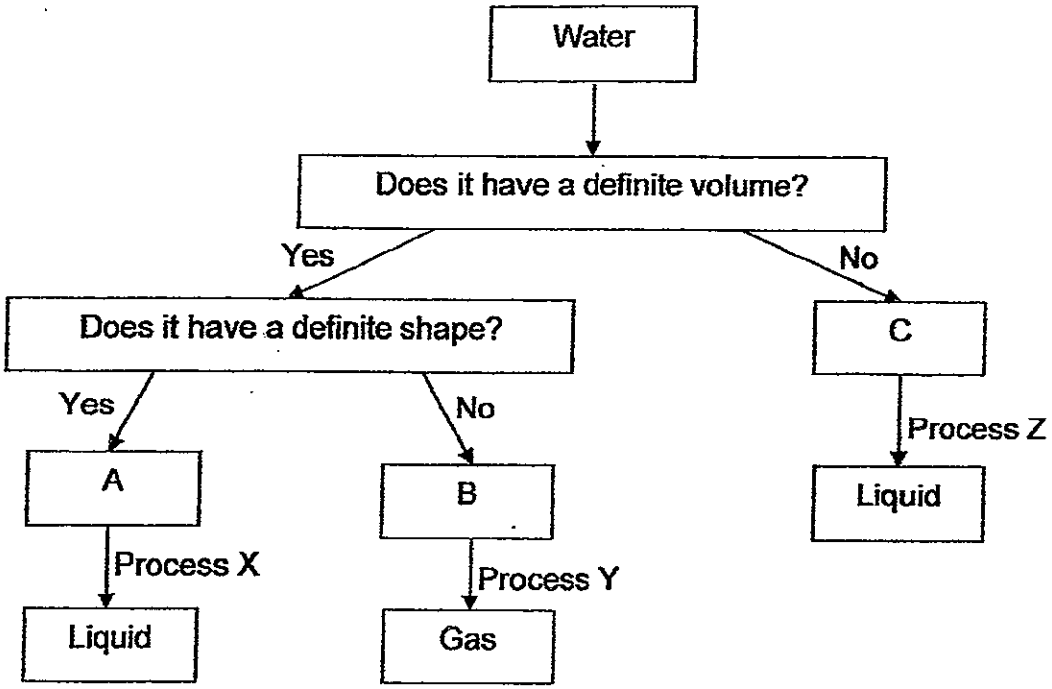
(1) D only

(2) A and B only

(3) B, C and D only

(4) A, B, C and D

20. The chart below shows the different states of water A, B and C.
Study the chart and identify the processes X, Y and Z.




| | Process X | Process Y | Process Z |
|---|---|---|---|
| (1) | Condensation | Boiling | Melting |
| (2) | Melting | Boiling | Freezing |
| (3) | Melting | Evaporation | Condensation |
| (4) | Condensation | Evaporation | Melting |

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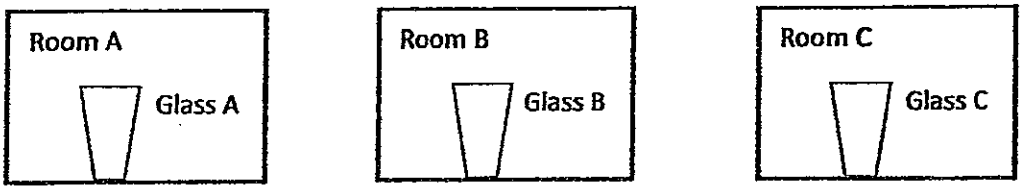
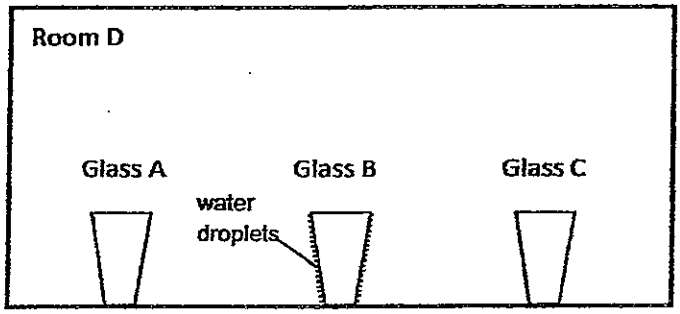
21. Tim left three glasses in Rooms, A, B and C, for an hour.




After one hour, the three glasses were removed and left in Room D.
5 minutes later, he noticed water droplets on the glass from Room B but not on the glasses from Rooms A or C.




If rooms A, B, C and D have different room temperatures, which of the following statement(s) best describe(s) the temperature of the room(s)?

A: Room B is the coldest room.

B: Room D is the warmest room.

C: Rooms A and C are colder than Room D.

D: Rooms A and C are warmer than Room D.

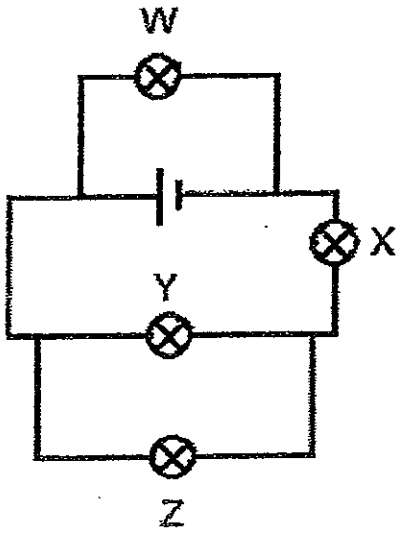
(1) A only

(2) A and D only

(3) B and C only

(4) A, B and C only

22. Study the circuit diagram below.




Which bulb, if faulty, would allow only one other bulb to light up in the circuit?

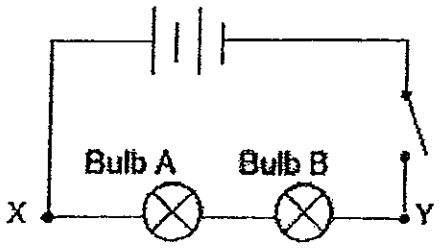
(1) Bulb W

(2) Bulb X

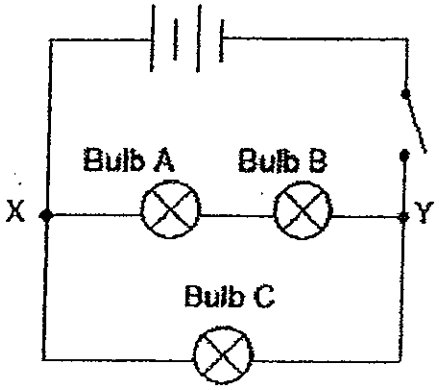
(3) Bulb Y

(4) Bulb Z

23. Ray set up a circuit as shown in the diagram below. Bulbs A and B lit up with equal brightness when the switch is closed.




Ray then connected Bulb C to the circuit at X and Y.




What will happen to Bulb A when the switch is closed?

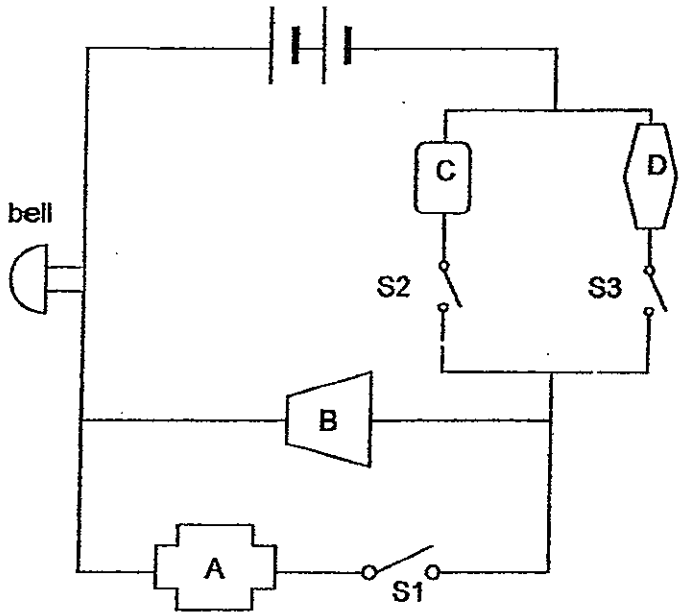
(1) It will be brighter than Bulb C.

(2) It will be dimmer than Bulb C.

(3) It will light up with the same brightness as Bulb C.

(4) It will fuse and it will not light up.

24. Alec connected a bell to an electric circuit to find out which object(s) was /were electrical conductor(s).
Switches S1, S2 and S3 and objects A, B, C and D were connected in the circuit as shown below.




Alec recorded his observations as shown in the table below.

| Switch S1 | Switch S2 | Switch S3 | Did the bell ring? |
|---|---|---|---|
| Closed | Open | Open | No |
| Open | Closed | Open | Yes |
| Open | Open | Closed | Yes |
| Closed | Closed | Open | Yes |

Which one of the following can Alec conclude?

| | Good conductor of electricity | Poor conductor of electricity | Not possible to tell |
|---|---|---|---|
| (1) | Objects A and B | Objects C and D | None |
| (2) | Object B | Objects A, B and C | None |
| (3) | Objects C and D | None | Objects A and B |
| (4) | Objects B, C and D | None | Object A |

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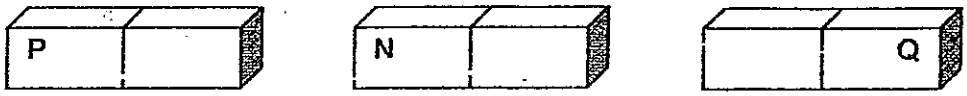
25. Amy arranged three bar magnets, A, B and C, as shown below.
In this arrangement, Magnet A attracts Magnet B, but Magnet C does not attract Magnet B. The letter N represents the North pole of the magnet.




Magnet A Magnet B Magnet C

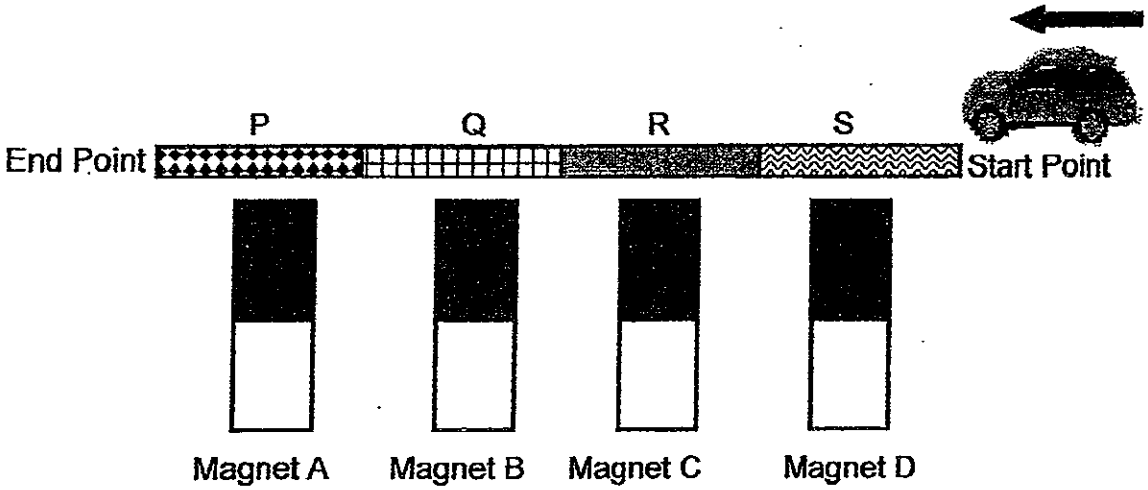
Which one of the following correctly shows the poles of P and Q?

| | P | Q |
|---|---|---|
| (1) | North | South |
| (2) | South | South |
| (3) | South | North |
| (4) | North | North |

26. Sam carried out an experiment with four materials and a magnet. He brought the magnet near to each material and recorded his observation in the table below.

| | Material P | Material Q | Material R | Material S |
|---|---|---|---|---|
| Was the material attracted to the magnet? | Yes | No | Yes | No |

Next, Sam did another experiment using the same four materials, a small steel toy car and some magnets.
The diagram below shows the toy car placed on a flat surface made up of the four materials.




If the toy car was pushed to move from the start point to the end point, which magnets, A, B, C or D, would be able to stop the toy from moving?

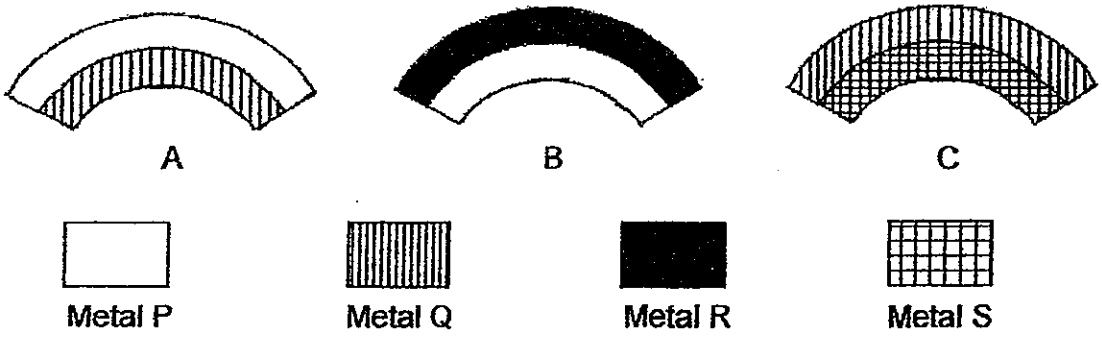
(1) Magnets A and B

(2) Magnets B and D

(3) Magnets A and C

(4) Magnets C and D

27. A bi-metallic strip is made up of two different metals joined together. Marc had three different bi-metallic strips, A, B and C. When Marc heated them, they started to bend as shown in the diagrams below.




Which metal, P, Q, R or S expanded the most when heated?

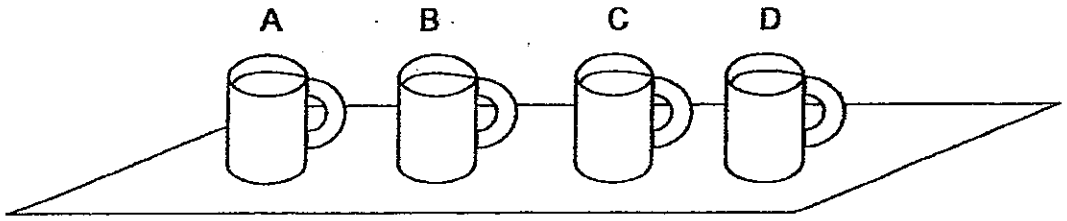
(1) Metal P

(2) Metal Q

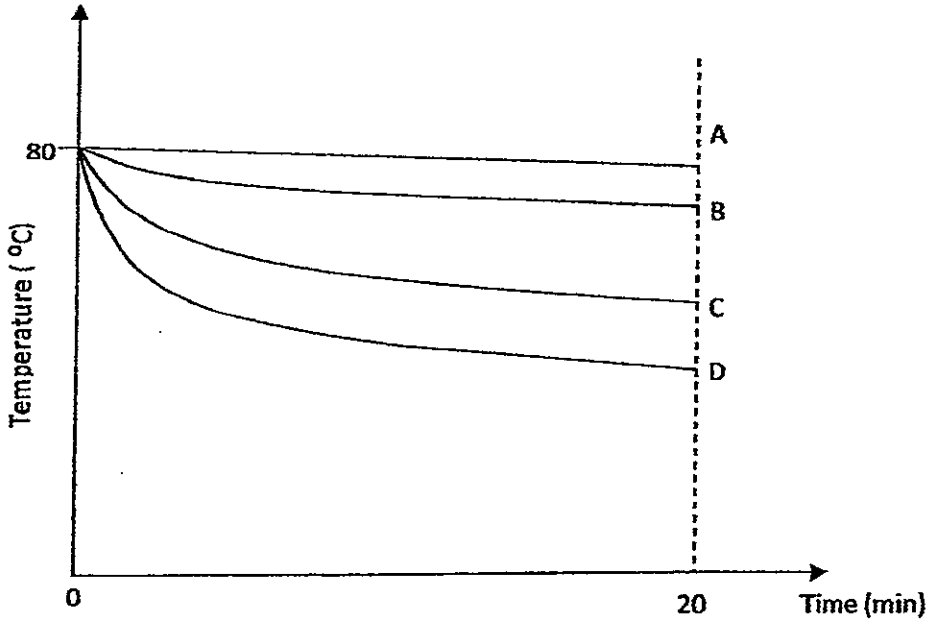
(3) Metal R

(4) Metal S

28. Sharon has four mugs of the same size and thickness. They are made of different materials A, B, C and D. She filled each mug with 250ml of hot water at 80°C. The temperature of the water in the mugs was then measured every two minutes.




The results of the experiment are plotted on the graph below.




Which one of the following statements about the four materials is correct?

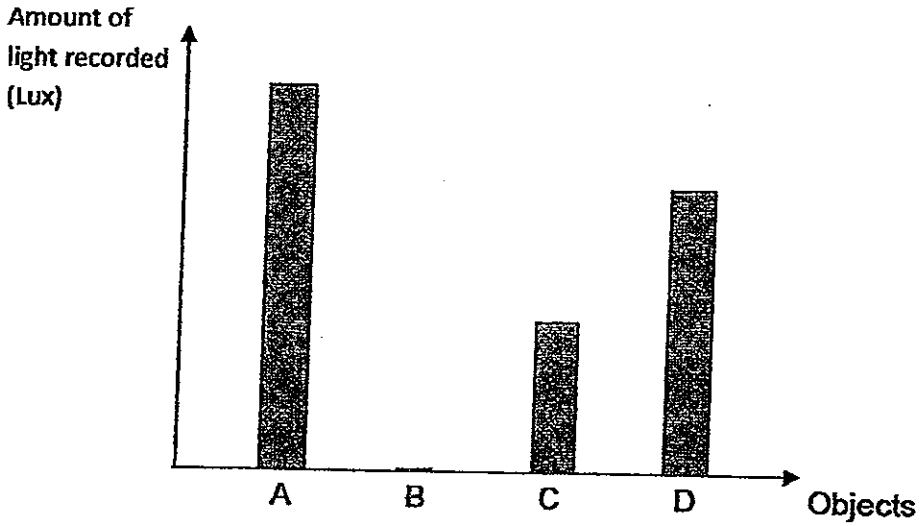
(1) The water remained hot in the mug made of material C for a longer period of time than in the mug made of material B.

(2) Water will heat up the fastest if it is placed in the mug made of material D.

(3) Material A is the best conductor of heat among the four materials.

(4) Material D is a poorer conductor of heat than material C.

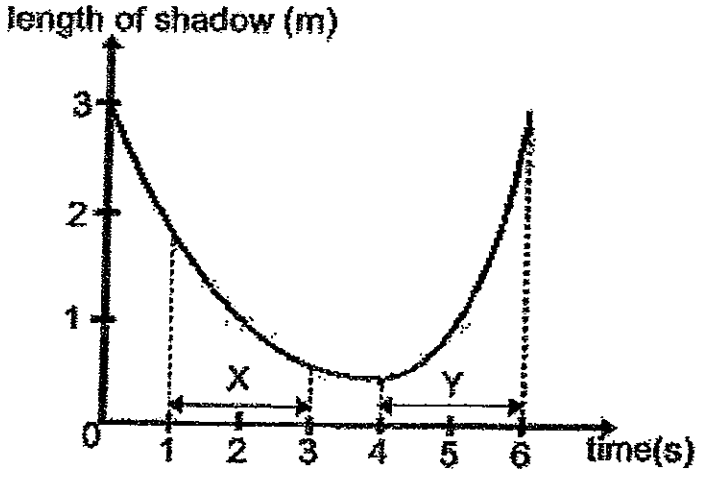
29. Ben wants to find out the amount of light that could pass through four objects A, B, C and D. He placed each object between a torch and a datalogger to measure the amount of light that passed through each object. The graph below shows the results of his experiment.




Which one of the following best describes Objects A, B, C and D?

| | **Object A** | **Object B** | **Object C** | **Object D** |
|---|---|---|---|---|
| (1) | Clear glass | Copper plate | Tracing paper | Sunglasses |
| (2) | Copper plate | Clear glass | Sunglasses | Tracing paper |
| (3) | Sunglasses | Tracing paper | Clear glass | Copper plate |
| (4) | Clear glass | Sunglasses | Copper plate | Tracing paper |

30. The graph below shows how the length of Louise's shadow changes over a period of time as she walks in a straight line near a street lamp at night.




Which of the following statements are correct?

A: Louise is walking directly below the lamp at the 4th second.

B: Louise is walking towards the lamp during period X and away from the lamp during period Y as shown in the graph.

C: Louise is walking at a faster speed during period X compared to period Y.

D: Louise is walking towards the lamp during period Y and away from the lamp during period X as shown in the graph.

(1) A and B only

(2) C and D only

(3) A, B and C only

(4) A, C and D only

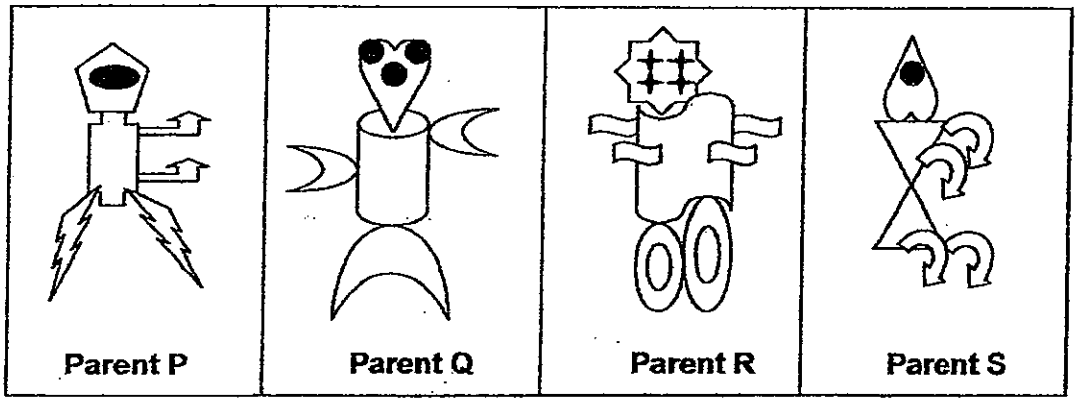
Name: _____( )

Class: P5 ( )

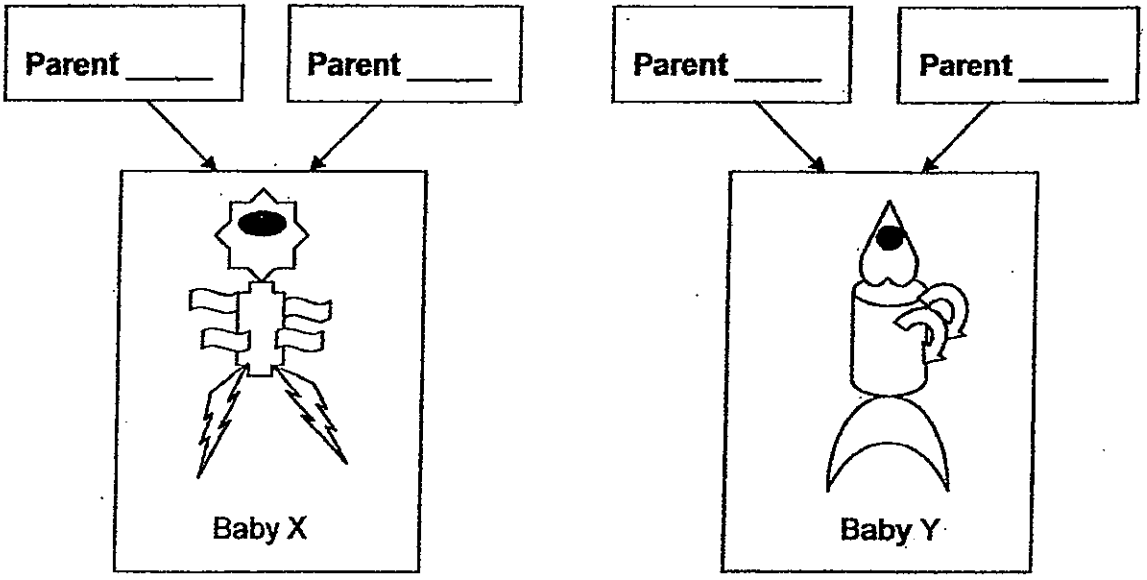
**Section B: 40 marks**

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

31. Parents on Planet Vatar pass on some of their own characteristics to their babies just like human beings. At the Vatar General Hospital, two babies were mixed up at birth accidentally.
The diagrams below show the four parents.

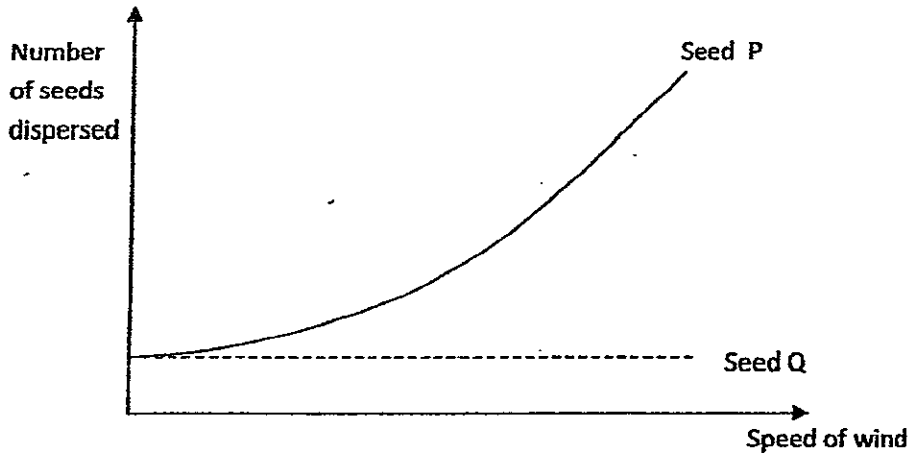



Help the parents find their own baby by writing the correct letter in the boxes below.
[1]

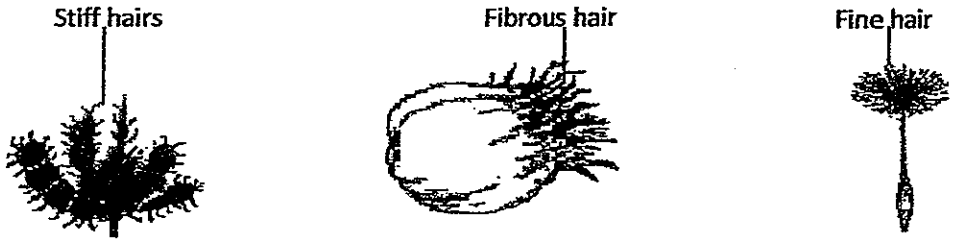



1

32. The graph below shows the number of seeds P and Q dispersed at different speeds of wind.




The diagrams below show three different types of fruit and seeds.




(a) Put a tick ( ✓) in the box below the fruit /seed which is dispersed in the same way as Seed P. [1]

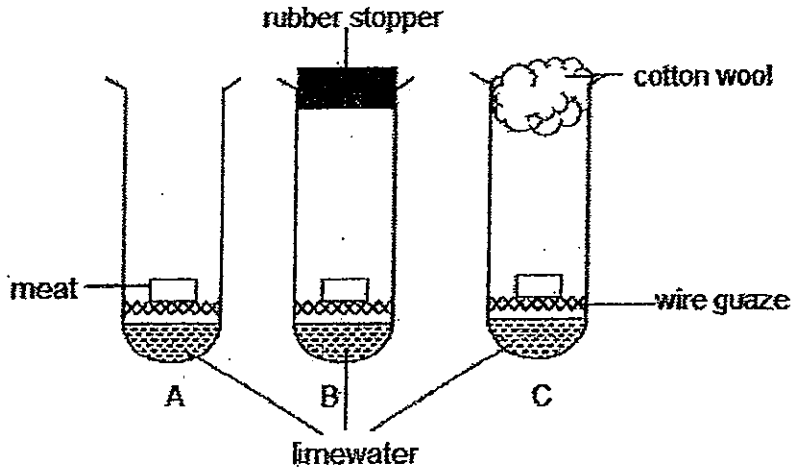
(b) What pattern do you see between the speed of the wind and the number of Seed Q dispersed? [1]

_____

_____

2

33. Nat carried out an experiment on decomposition using three similar pieces of meat of the same size. The set-ups shown below are placed in a room for two days. Nat observed the changes in the limewater.




(a) Arrange the set-ups according to the rate of decomposition of the meat, starting from the slowest to the fastest. [1]

_____

(b) What changes would Nat observe in the limewater? Explain your answer. [1]

_____

_____

(c) In which set-up would the limewater change the most? Explain your choice. [1]

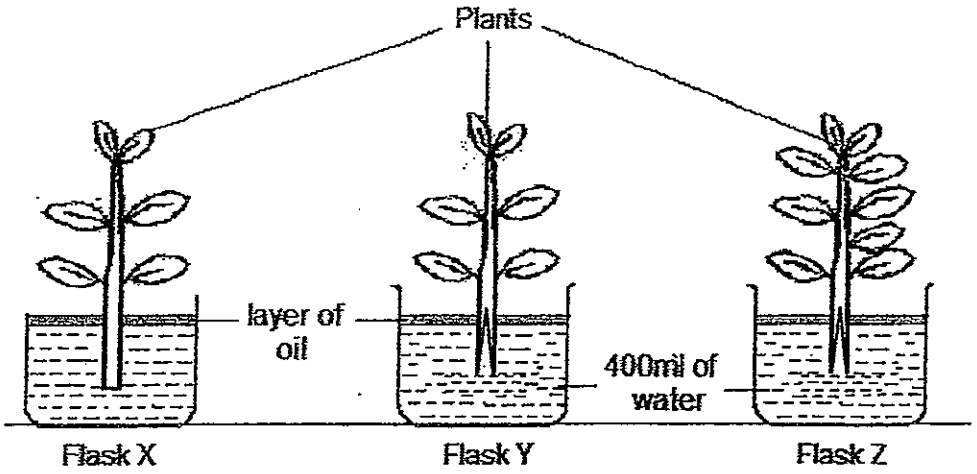
_____

_____

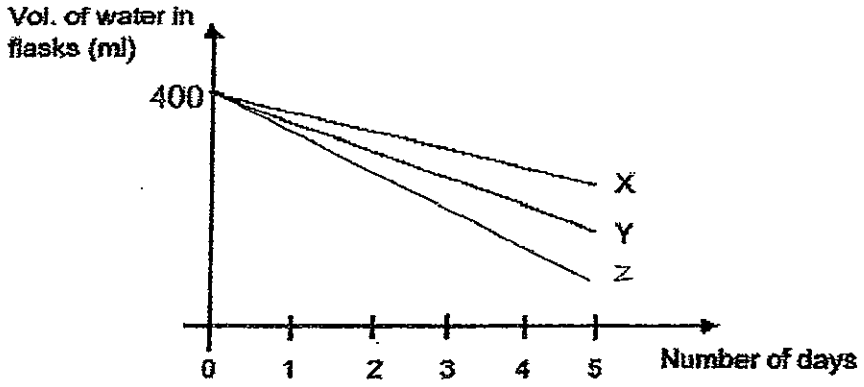


3

34. Siti set up an experiment using three plants as shown below.




All the flasks were left in the open at the same location and the volume of water in each flask was measured at the end of each day. The graph below shows the changes in the volume of water in Flasks X and Y over a period of 5 days.




(a) Based on the graph, which flask, X or Y, lost more water? Explain your answer. [2]

_____

_____

(b) On the same graph given above, draw another line graph to show the changes in the volume of water in Flask Z after 5 days. [1]

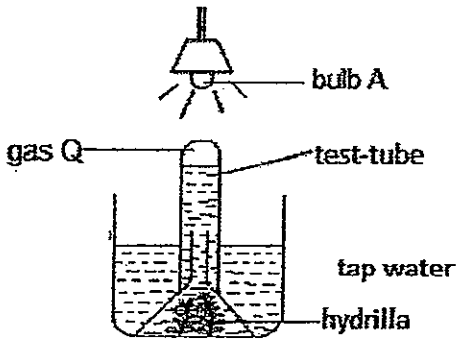
_____



3

119

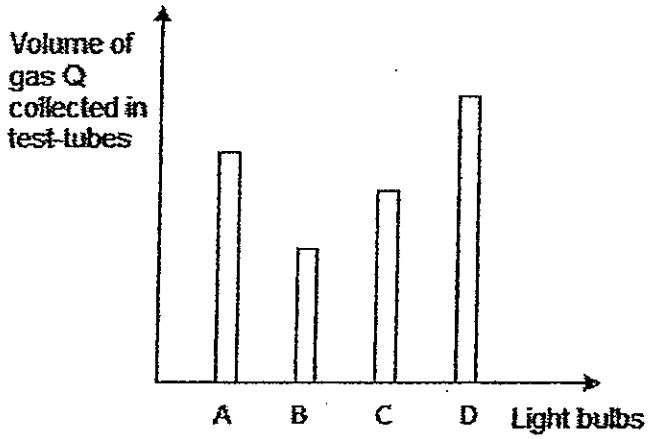
35. Brenda set up an experiment as shown below. The experiment was carried out using bulb A, as shown below. A certain gas Q was produced during process Z.




She measured the amount of gas Q collected in the test-tube after 30 minutes.

Brenda repeated the experiment using different bulbs B, C, and D. She kept all other variables the same.

The results of Brenda's experiment are shown in the graph below.




(a) Identify gas Q and process Z. [1]

Gas Q : _____

Process Z: _____

(b) Explain why different amounts of gas Q were collected in the test-tubes when bulbs A, B, C and D were used. [1]

_____

_____



2

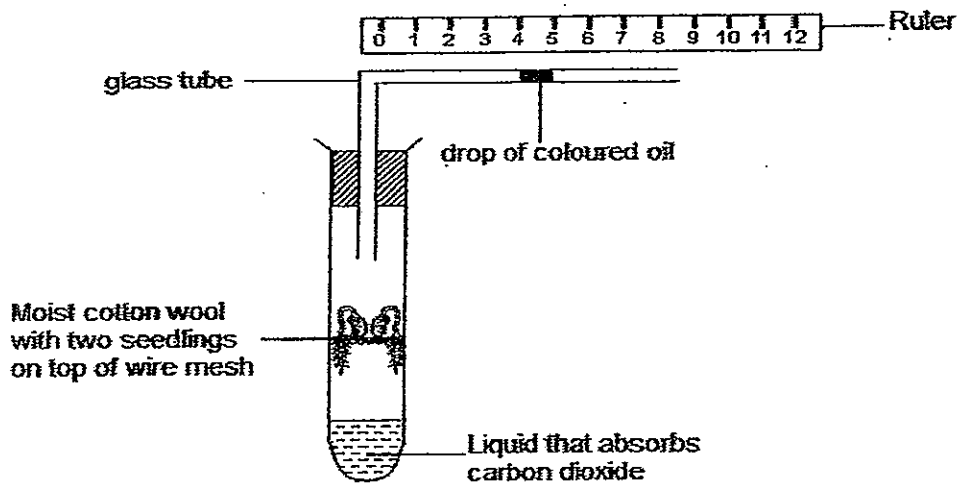
(c) Brenda concluded that the rate of process Z was the fastest when bulb D was used. How does measuring the amount of gas Q collected in the test-tube help Brenda conclude that the rate of process Z is the fastest when bulb D was used? [2]

_____

_____

_____

36. Mindy poured some liquid into a boiling tube. This liquid absorbs carbon dioxide. Then she put in a wire mesh to hold a piece of moist cotton wool with two seedlings. She inserted a glass tube with a drop of coloured oil into a test-tube. This drop of coloured oil prevented air from going in and out of the tube.




(a) In which direction, towards or away from the test-tube, would the drop of coloured oil move after a few hours? [1]

_____

(b) Explain your answer in (a) clearly. [2]

_____

_____

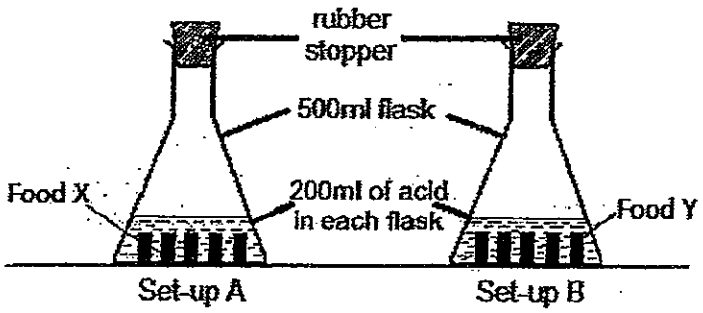
_____



5

121

37. Ben thinks that Food X is easier to digest than Food Y. He conducted the experiment shown below to test his hypothesis.




The experiment was left undisturbed in the laboratory for three days. At the end of the 3rd day, Ben removed the mixture from their respective flasks and recorded the size of Food X and Food Y.

(a) Based on the above set-ups, identify the following variables. [2]

i) Variable changed: _____

ii) Variable to be measured: _____

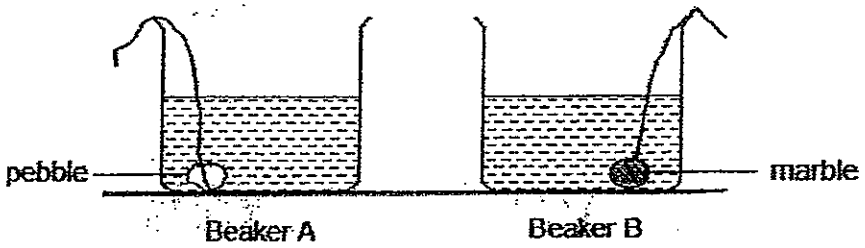
(b) Ben wanted to repeat the experiment and he wanted to complete the experiment in 2 days instead of 3.
Besides adding more acid to both set-ups, state another way Ben could do to speed up the experiment. [1]

_____

_____

3

38. The diagram below shows 2 identical beakers, A and B.
Adam placed a pebble tied with a string into empty Beaker A, and a marble tied with a string was placed into the empty Beaker B. Next, water was poured into each beaker until the beakers had the same water level as shown in the diagram below.




(a) Using only the set-up above, describe how Adam can find out if the pebble or the marble had a larger volume.
You are **not** allowed to:

- use any other apparatus
- pour water into or out of the beakers [2]

(b) Adam's experiment is based on a property of matter. State this property. [1]

39. Doctor Tan cleaned Adam's arm with a piece of cotton wool soaked with alcohol before giving him an injection. Adam's skin felt cool after the alcohol was applied.

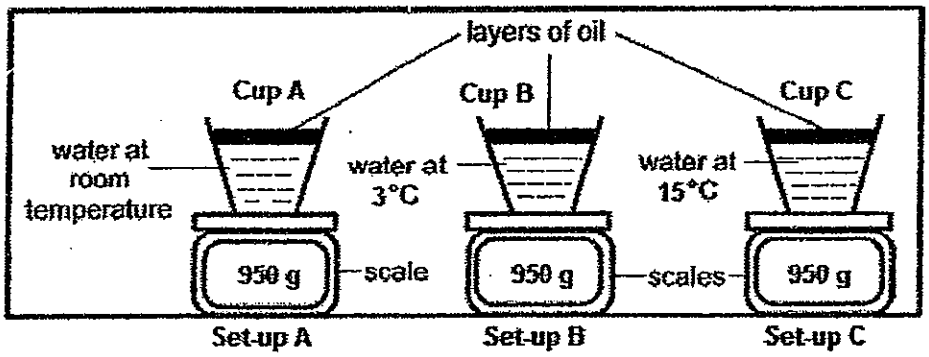
Explain why Adam's skin felt cool when the alcohol was applied.



5

123

40. Sam carried out an experiment using similar cups A, B and C that are filled with an equal amount of water and oil as shown below.
He placed all the cups on identical digital scales as shown below.




He left the three set-ups, A, B and C, in a room. The temperature of the room was kept at 30°C.
After 10 minutes, he recorded the masses of cups A, B and C in the table shown below.

| Set-ups | A | B | C |
|---|---|---|---|
| Readings on digital scale (g) | 950 | 975 | 960 |

(a) Explain the difference in the readings recorded by the digital scales in set-ups B and C. [2]

_____

_____

_____

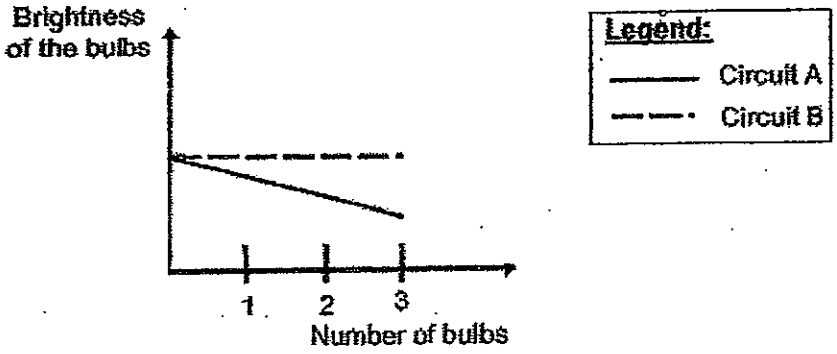
(b) Based on Sam's observations, how does the temperature difference between water and its surrounding affect the mass recorded after 10 minutes? [1]

_____

_____

3

41. Jason used identical batteries and light bulbs in two different electrical circuits. He set up the two circuits, A and B, using the same number of batteries. As he added more bulbs to the circuits, he observed the brightness of the light bulbs. He then plotted a graph to compare the brightness of the bulbs in the two circuits.




(a) Based on the graphs above, draw the circuit diagrams to represent circuits A and B. Use 2 batteries and 3 bulbs in each circuit. [2]

Circuit A

Circuit B

(b) Based on your answer in (a), explain what would happen to the rest of the bulbs in Circuit A if one bulb was removed? [1]

_____

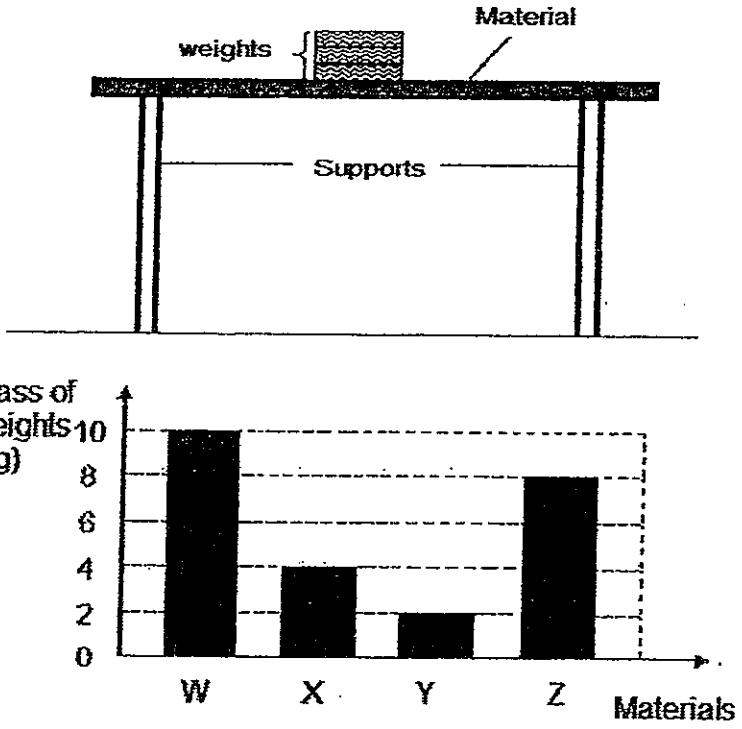
_____

3



125

42. Mr Tan wanted to test the strength of four different materials, W, X, Y and Z. Each piece of material was of the same size and thickness. He placed weights on each material as shown below and noted the minimum number of weights needed to cause the material to break. He recorded the results in the bar graph below.




(a) What was the aim of Mr Tan's experiment? [1]

_____

_____

(b) Arrange the materials according to their strength, starting from the weakest to the strongest. [1]

_____

(c) Which materials, W, X, Y or Z, would be the best for making a book shelf? Explain your choice. [2]

_____

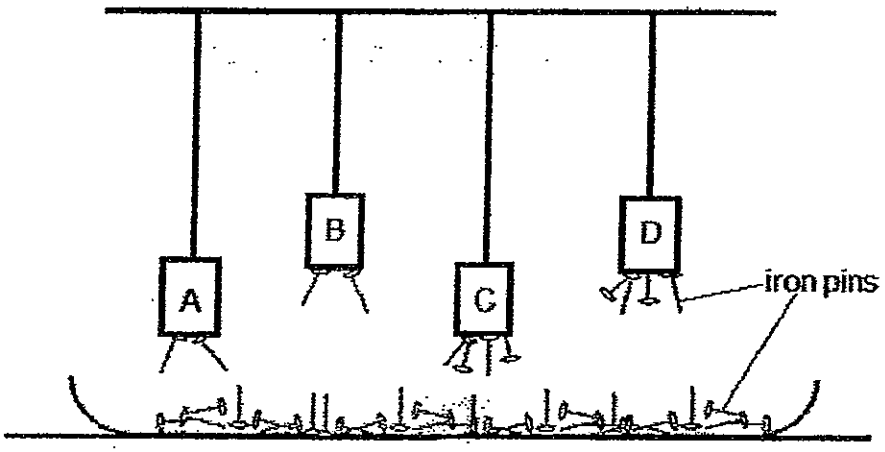
_____

_____



4

43. Ricky used four magnets of the same size, A, B, C and D, to find out which one could attract more iron pins in the set-up below.
A tray of iron pins was placed below the magnets and Ricky observed that different numbers of pins were attracted to the magnets.




(a) Based on Ricky's observation, which magnet was the strongest? Explain your answer. [1]

_____

_____

(b) Ricky's teacher saw his set-up and told him it was unfair to compare the strengths of magnet B and magnet C. Why was Ricky not able to make a fair conclusion? [2]

_____

_____

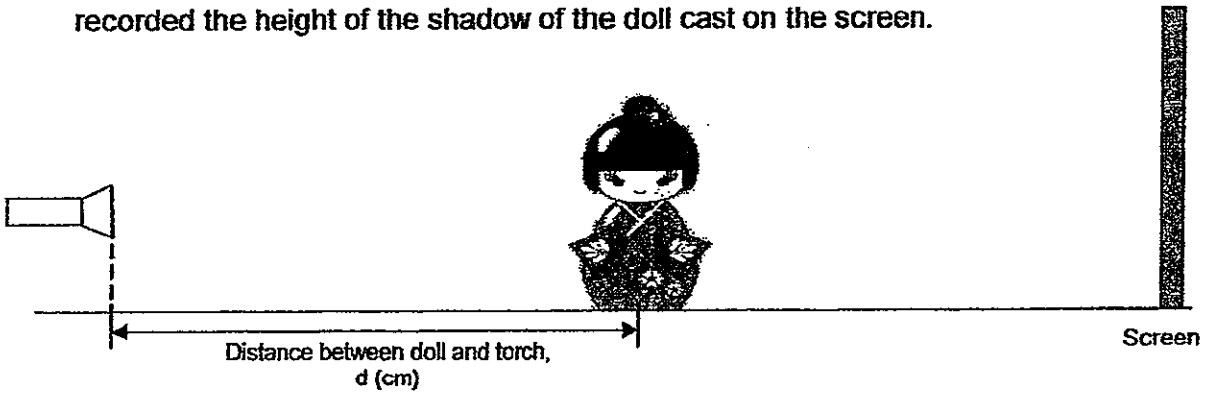
_____

3

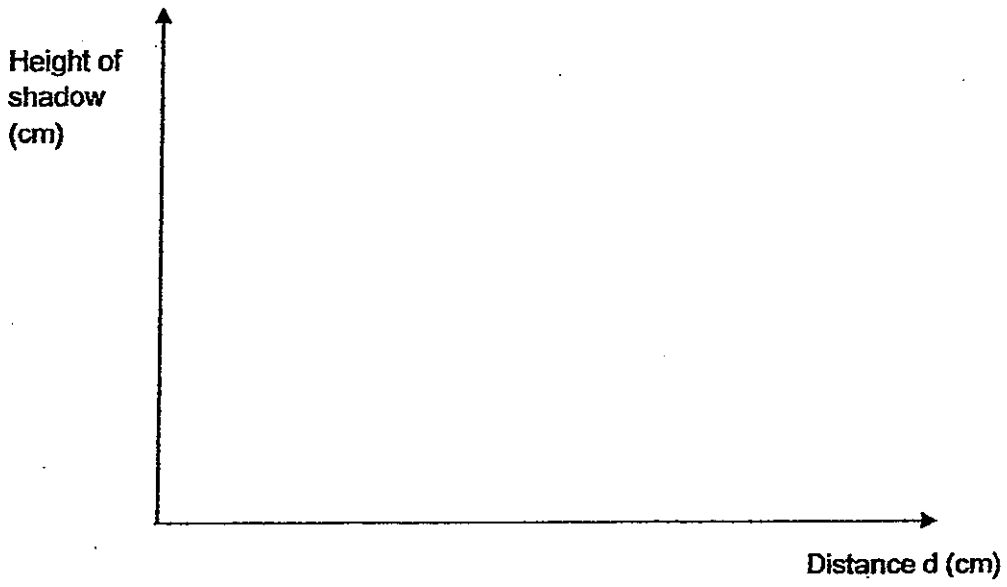


127

44. Suzy has a doll that is 40cm tall. She placed the doll between a torch and a screen. As she changed the distance between the doll and the torch, she measured and recorded the height of the shadow of the doll cast on the screen.




(a) In the space below, draw a line graph to show the changes in the height of the shadow of the doll when distance 'd' changes. [1]




(b) Explain how the shadow of the doll is cast on the screen. [2]

_____

_____

_____

End of Paper

# ANSWER SHEET

**EXAM PAPER 2012**

**SCHOOL : AITONG**
**SUBJECT : PRIMARY 5 SCIENCE**

**TERM : SA2**

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 4 | 2 | 4 | 3 | 1 | 2 | 2 | 2 | 1 |

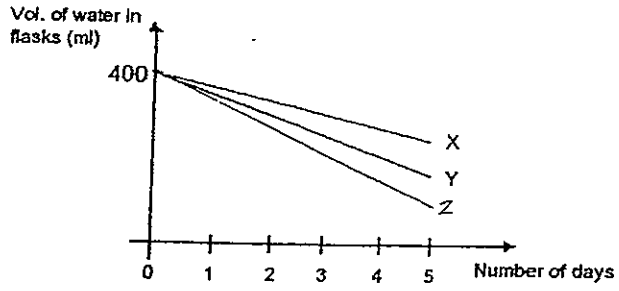
| Q18 | Q19 | Q20 | Q21 | Q22 | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 3 | 2 | 2 | 2 | 4 | 4 | 2 | 3 | 2 | 1 | 1 |

**31)P R Q S**

**32)a)Fine hair**
**b)As the speed of the wind increase, the number of seed Q dispersed remains the same.**

**33)a)B , C , A**
**b)The limewater would turn chalky. Carbon dioxide is produced when the meat decompose, thus the limewater reacts by turning chalky when in contact with carbon dioxide.**
**c)Set-up A. The meat in Set-up A is exposed to most oxygen.**

**34)a)Flask Y. The stem of flask Y was cut inwards, thus there is more of the xylem tubes exposed than compared to that in flask X which help to increase the rate of absorbing the water, leaving less water in flask Y.**
**b)**



35)a)Q: oxygen Z: photosynthesis

b)The brightness of each bulb was different, thus all the set-ups had a different rate of process Z, giving out different amount of gas Q.

c)During photosynthesis, oxygen is produced. Most oxygen would be collected when the rate of photosynthesis was the fastest.

36)a)Towards the test-tube.

b)Respiration took place and the plant took in oxygen and gave out carbon dioxide. Carbon dioxide is absorbed by the liquid below the seedlings, thus the drop of oil moved towards the test-tube to take in the remaining space.

37)a)i)type of food used.

ii)the difference in size of food X and Y.

b)Cut the food into smaller pieces.

38)a)Measure the water level with both the marble and pebble in it, remove both the pebble and marble out of the water, then measure the water level again and see which had a greater drop, repeat the experiment three times.

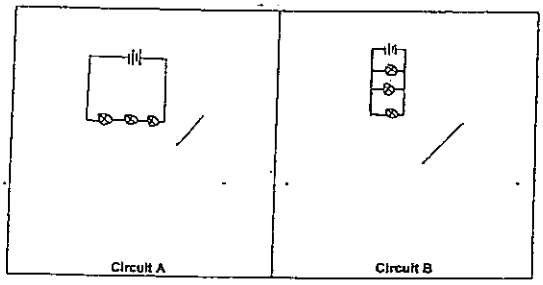
b)All matter takes up space.

39)Alcohol evaporates very quickly, thus the alcohol conducts, heat from the body quickly, thus Adam's skin felt cool as it lost heat to the alcohol at a very fast rate.

40)a)Set-up B shows a higher reading. More condensation has taken place on Cup B. More water droplets are formed on Cup B as more water vapour condensed on it as Cup B is coldest.

b)When the temperature difference between water and its surroundings increases, the mass recorded after 10 minutes also increases.

41)a)




b)All the rest of the bulbs would not light up.

42)a)To find out which material was the strongest.

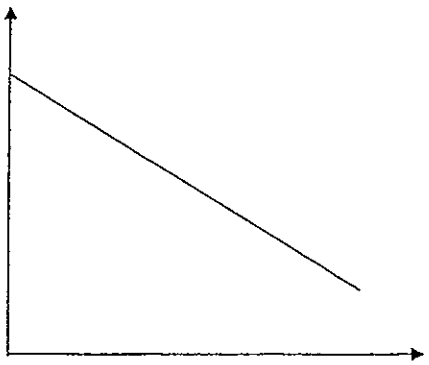
b)Y, X, Z , W

c)The mass of the weight on the material before breaking was the greater. The material is the strongest.

43)a)Magnet D. It is further from the tray of iron pins than magnet C but attracted the same number of pins as C. It attracted more pins than A and B.

b)Magnet B and C are not at the same distance from the tray of iron pins. They should be placed at the same distance from it to make a fair conclusion.

44)a)



b)Light from the torch shines onto the doll. The opaque object prevented light from passing through. Light travels in a straight line and cast the shadow of the doll on the screen.



END
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