Primary Five
Science
Semestral Assessment One

Section A
For each question from 1 to 30, four options are given. One of them is correct. Make your choice (1, 2, 3 or 4) and write your answer in the boxes provided.

---

1. Which one of the following results in a change of state?

   (1) Adding orange syrup to water
   (2) Putting ice cream in the sun
   (3) Burning a piece of paper
   (4) Chopping a candle into pieces

2. Which of theses changes follows a pattern?

   (1) The changes in our environment
   (2) The life cycle of the frog
   (3) The amount of rainfall
   (4) The movement of the clouds

3. Look at the table below. Which one of the following is placed in the wrong group?

	Reversible		Irreversible
(1)	Blowing a balloon	(3)	Dissolving salt
(2)	Melting wax	(4)	Heating sugar

4. Which statement is true?

(1) The earth's rotation give rise to the motion of the sun, the moon and starts across the sky.
(2) The rotation of the earth gives rise to the four seasons.
(3) The speed of the sun varies from place to place.
(4) The earth rotates from West to East direction.

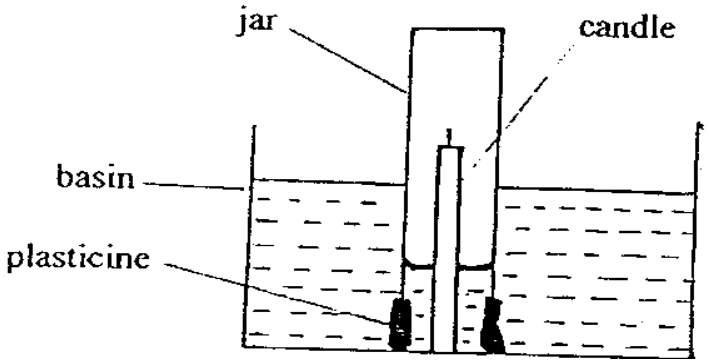
5. What causes the change when solid wax becomes liquid wax?

(1) Light
(2) Air
(3) Heat
(4) Water

6. Which one of the following shows a change with a regular pattern?

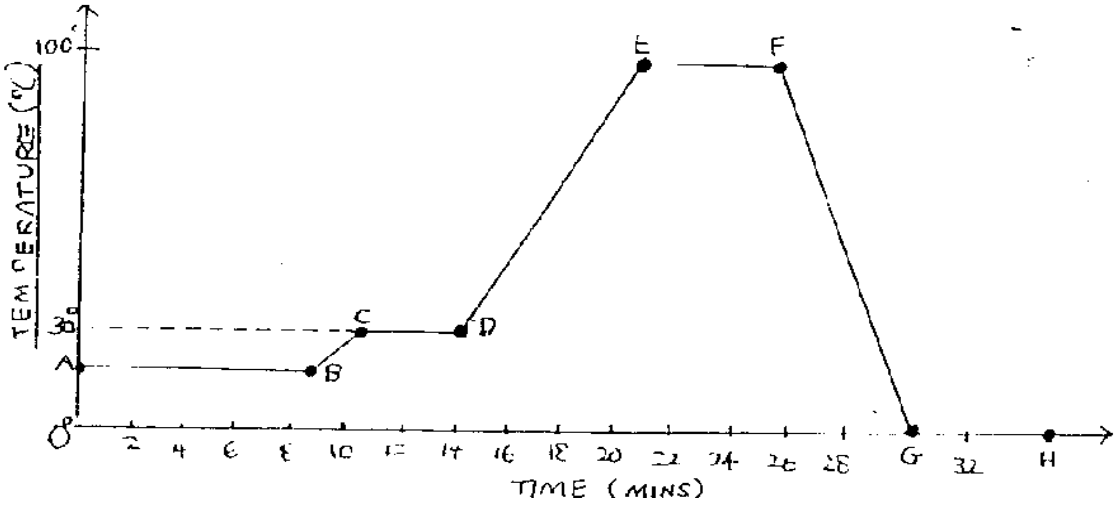
(1) revolution of the earth
(2) cracking an egg
(3) kicking a ball
(4) burning a paper

7. Tracy set up an experiment as shown below. What will happen when the candle in the jar is lighted up?



(1) There will be more oxygen in the jar than before the heating.
(2) The water level in the jar will fall and then rise.
(3) The water level in the jar will fall.
(4) The water begins to boil and forms into water vapour.

8. Study the graph below. At which stage is the water a solid?



(1) FG
(2) GH
(3) AB
(4) CB

9. After stirring several spoonfuls of sugar in a beaker of tap water, Pat realized that the sugar did not dissolve easily after some time. He can dissolve more sugar by _____.

A: reducing the amount of water
B: increasing the size of the beaker
C: heating the water in the beaker containing the sugar
D: stirring it more vigorously

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

10. Which one of the following flowers opens at noon?

(1) Passion flower
(2) Mimosa
(3) Sunflower
(4) Water-lily

11. The difference between high tide and low tide is about _____ hours.

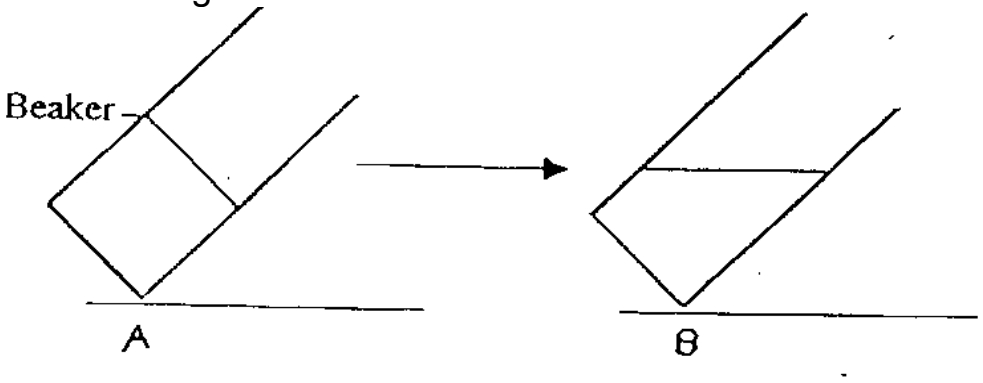
(1) 24
(2) 12
(3) 6
(4) 4

12. Which one of the following is/are true of both sand and water?

A. They have a definite volume.
B: They have a definite shape.
C: They have weight.
D: The occupy space.

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

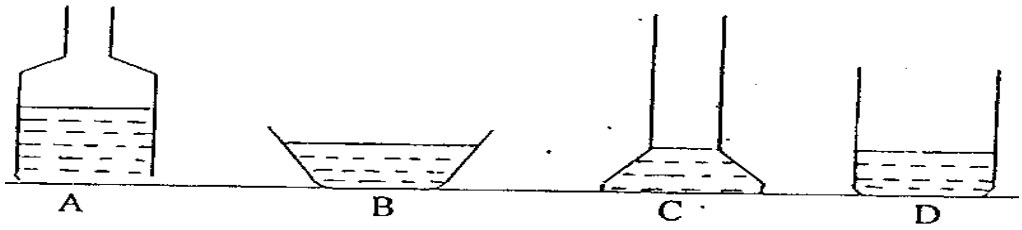
13. The diagram below shows water in a beaker that is tilted at different angles.



What process could have taken place to cause the change from A to B?

(1) condensation
(2) freezing
(3) evaporation
(4) melting

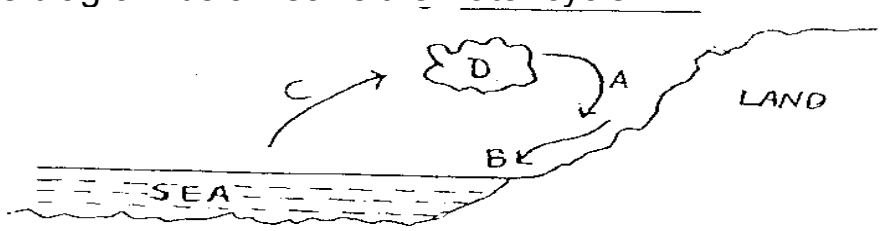
14. Sherry poured equal amounts of water into four containers shown below and placed them under the hot sun for a few hours.



From which container will the water evaporate the fastest?

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

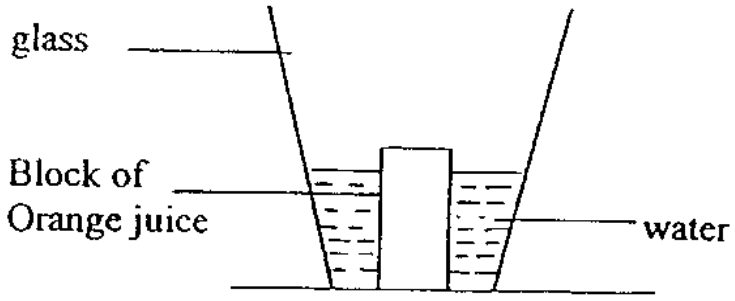
15. The diagram below sows the water cycle.



Most of the condensation takes place at stage _____.

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

16. Stacy froze some orange juice into a block. She put the block in a glass and filled it with a little water as shown in the diagram below.

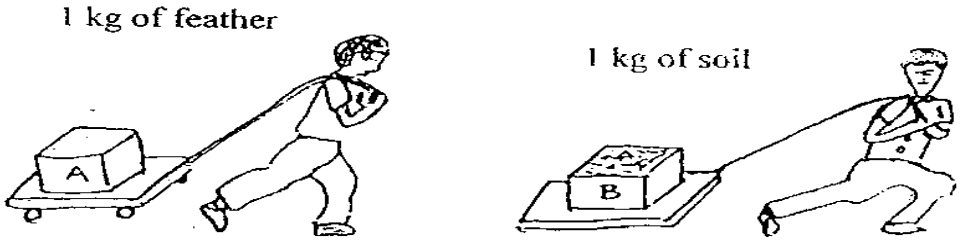


Half an hour late, which one of the following would she observe?

(A) The water level in the glass would have risen slightly.
(B) The liquid in the glass would become orange in colour.
(C) The block of orange juice would change its size and shape.
(D) Water droplets would form on the outside surface of the glass.

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

17. Study the diagram below.



When Peter was asked to drag Cart A and Cart B as shown above, he found it easier to drag the feathers than the soil because _____ .

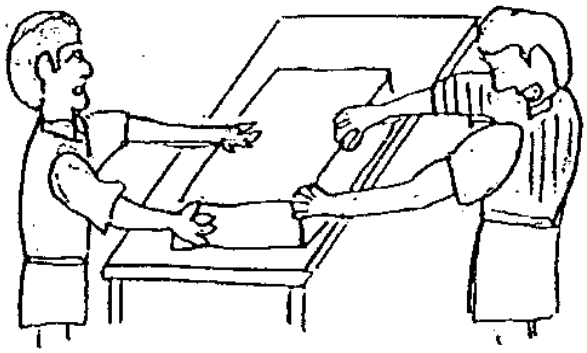
(A) The feathers are lighter
(B) He needed more force to drag the soil
(C) There is less friction between Cart A and the ground.

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

18. When a force is applied to an object and in the same direction as the moving object, the object will _____.

(1) Change direction
(2) Move slower
(3) Move faster
(4) stop

19. Samy and Jason are standing opposite each other. The are pushing a box between them as shown below. The box remains in the same position as it was before they it. What do you think has happened?



(1) Both are pushing as hard as each other
(2) Samy is pushing harder than Jason
(3) One of them is not pushing at all
(4) Jason is pushing harder than Samy

20. Which of these is NOT an effect of a force?

(1) A plasticine is flattened.
(2) Drying wet clothes.
(3) A box moves faster.
(4) Stopping a ball from rolling down a slope.

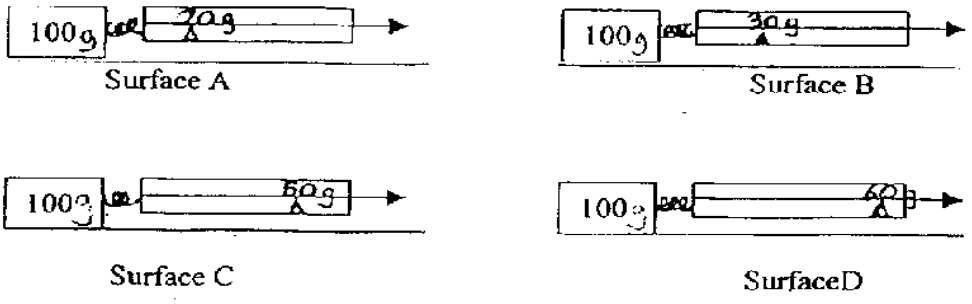
21. Mr. Tan throws a ball up into the sky. After reaching a certain height, the ball falls back to the ground. What causes the ball to fall to the ground?

(1) The wind blows the ball down
(2) The ball has no force
(3) The shape of the ball
(4) Gravity pulls the ball down

22. Which of the following objects would take the longest time to reach the ground when all the objects are pushed from the top of a building at the same time?

(1) Notebook
(2) Apple
(3) Feather
(4) Ball

23. The following figures show the forces required to just move a 100-gran object over different surfaces.



The friction is greatest over surface _____.

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

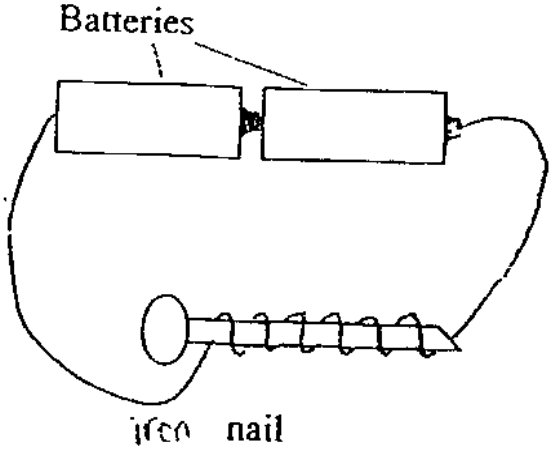
24. Which of the following processes is irreversible?

(1) Hitting a baseball with a bat
(2) Melting a piece of ice
(3) Dissolving salt in water
(4) Burning a piece of charcoal

25. For a piece of ice to melt it must interact with _____.
This interaction will result in a change in _____.

(1) temperature, state
(2) sun, substance
(3) heat, state
(4) fire, substance

26. Andrew wanted to find out if the greater the number of coils around the nail, the stronger the electromagnet would be in the set-up below. He repeated the experiment below a few times making some changes each time. Which one of the following set-ups should be use to compare with set-up A?



Set-up A

Set-up	Type of nail	No. of coils	No. of batteries
(1) P	Iron	6	1
(2) Q	Iron	12	2
(3) R	Copper	6	2
(4) S	Copper	20	1

27. The movement of the moon around the earth does cause a change in _____.

(1) Bird migration
(2) seasons
(3) tides
(4) climate

28. A force is needed to _____.

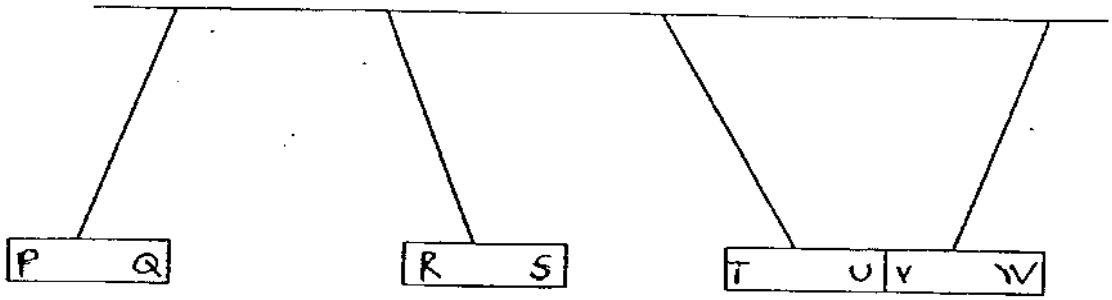
A: slow sown a moving object
B: stop a moving object
C: change the direction of a force
D: make an object move faster

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

29. Which of these is a poor conductor of heat?

(1) bakelite
(2) copper
(3) nichrome
(4) tungsten

30. The diagram below shows 4 magnets hung from a support.



Which one of the following in the table shows the correct poles of the magnet?

North	South	North	South
(1) R	T	S	V
(2) R	S	U	T
(3) Q	R	S	T
(4) Q	R	U	T

Section B
Write your answers in the spaces provided. (40 marks)

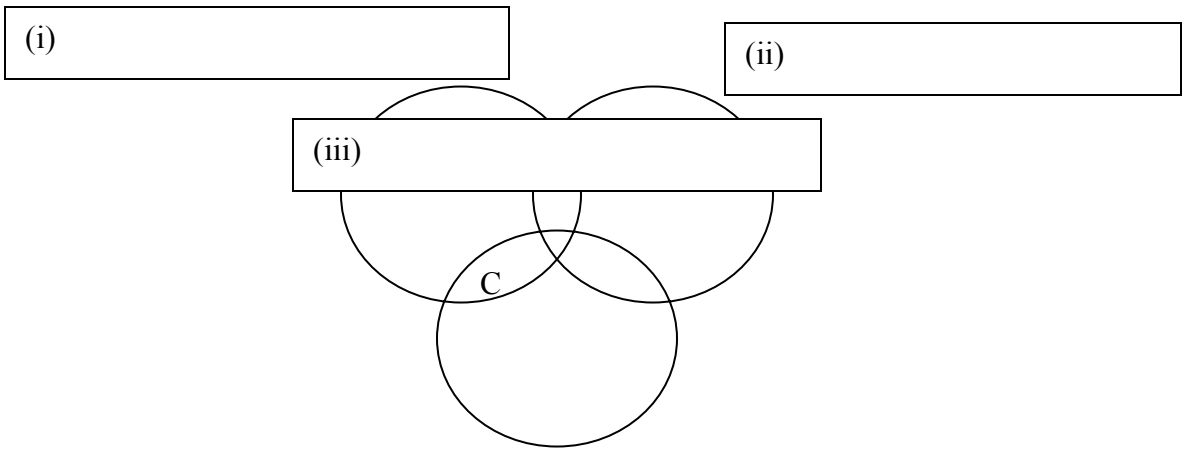
31. In the Venn diagram below, each circle represents one of these groups of changes.

Slow changes
Pattern of changes
Reversible changes

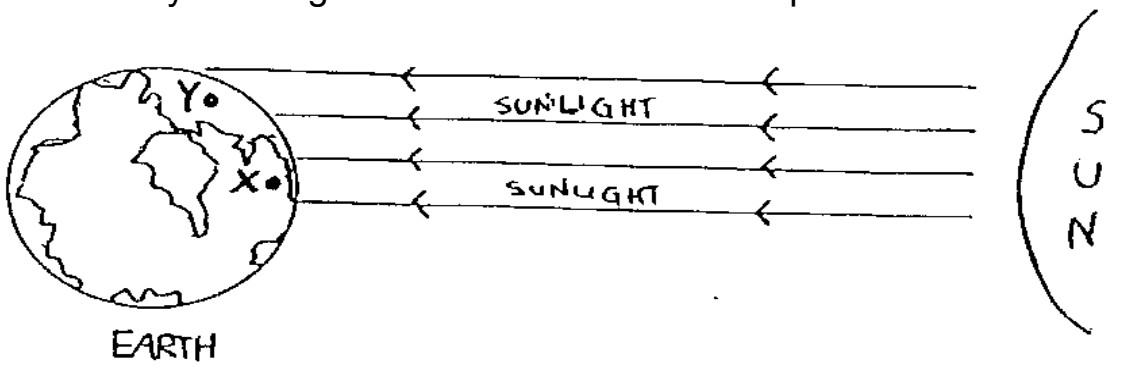
A, B and C in the diagram below represent different kinds of changes.
Examples of A, B and C are given in the table.

A: A puppy growing into a dog
B: Ice-cream melting
C: Erosion of mountain

Fill in the boxes correctly with the 3 groups of changes.
[3 marks]



32. Study the diagram below and answer the question.



Which point is hotter? Explain your answer.

_____

_____

_____

[2 marks]

33. The owl sleeps during the day and hunts fro food in the night.

(a) Suggest a reason why it has an advantage over its prey.

_____

[1 mark]

(b) What is the term used to describe animals that are active at night?

_____

[1 mark]

34. An empty flask with an attached tube was inverted into a basin of water and then heated for ten minutes by a flame as shown in figure 1. The heating was then stopped and the flask was allowed to cool. When the flask had cooled it was noted that one-third of the flask was filled with water as shown in figure 2 below.

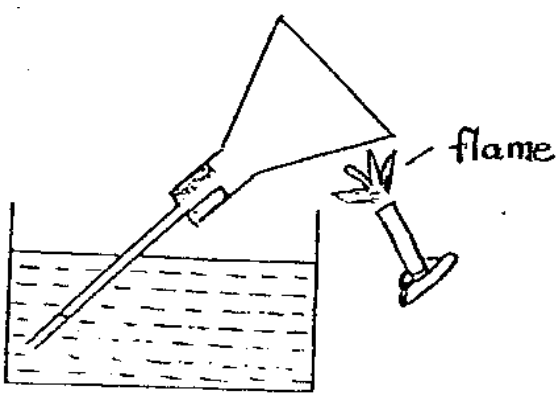


Figure 1

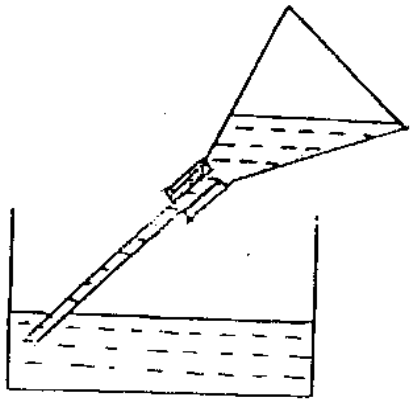


Figure 2

(a) What would you observe about the level of water in the tube when the flask is heated?

_____

[1 mark]

(b) What caused the water to rise as shown in figure 2 above?

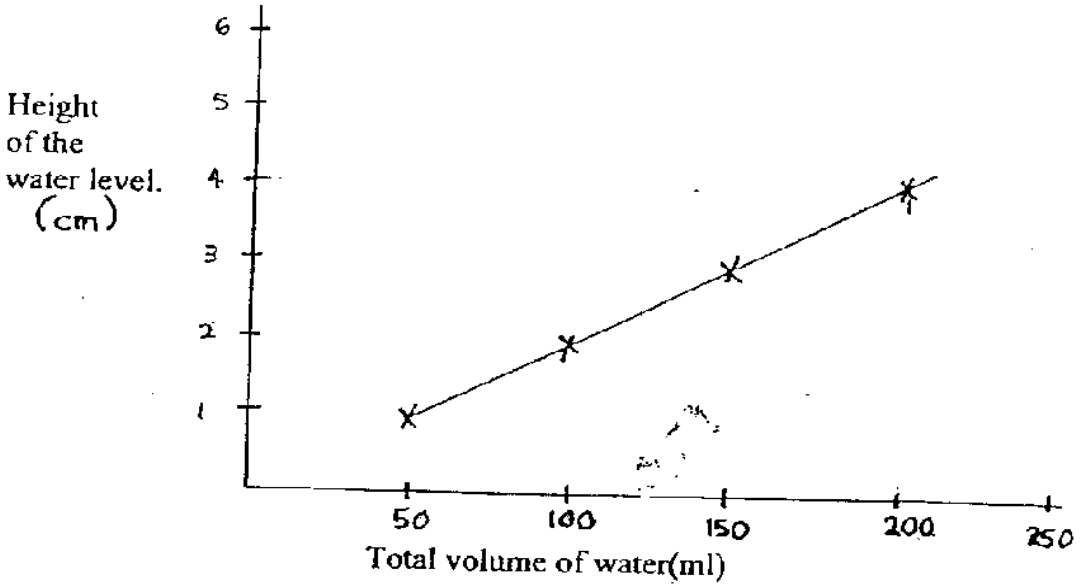
_____

_____

_____

[2 marks]

35. Each time Peter poured 50ml of water into a container, he recorded the height of the water level. He drew a graph as shown below.



(a) What will be the height of the water level if there is 250ml of water in the container?

_____

[1 mark]

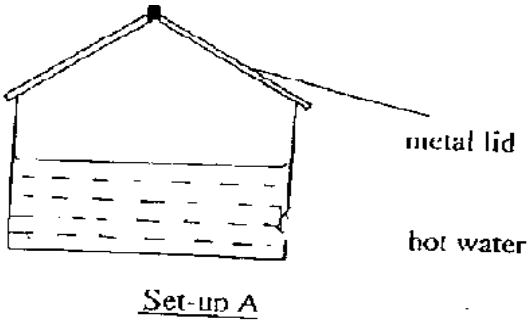
(b) What pattern do you notice about the volume of the water in the container and the height of the water level?

_____

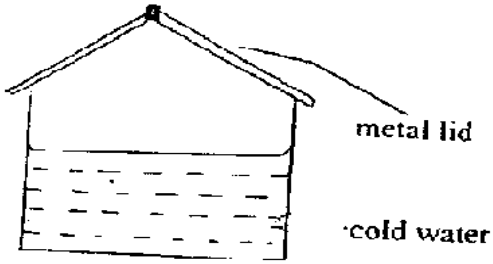
_____

[2 marks]

36. Two identical plastic basins of water were half filled with water. Set-up A had very hot water and Set-up B had very cold water as shown in the diagram below. They were then each covered with an identical metal lid.



Set-up A



Set-up B

(a) What would you observe in Set-up A and Setup B after 20 minutes? [2 marks]

Set-up A: _____

_____

_____

Set-up B: _____

_____

_____

(b) Explain your observation made for Set-up B. [2 marks]

_____

_____

_____

37. (a) How will each of the following factors affect the evaporation of water? [2 marks]

wind speed: _____

surface area: _____

(b) What is the relationship between the rate of evaporation and the temperature of water? [2 marks]

_____

_____

38. The diagram below shows two sets of magnets.

Set-up A Set-up B

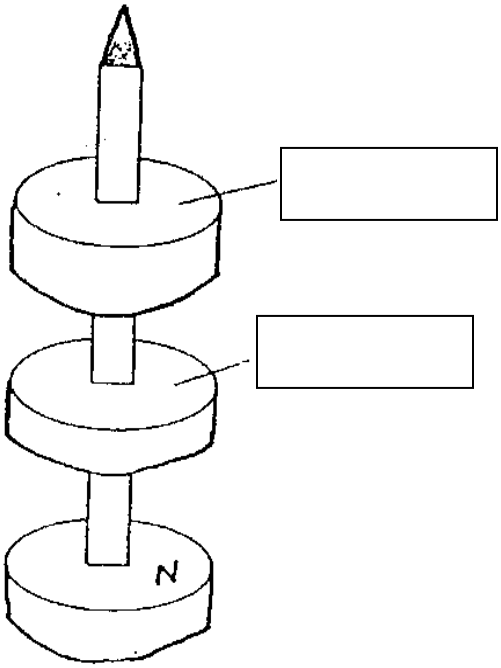
(a) Which set-up will experience a pulling force? [1 mark]

_____

(b) In which set-up are the magnets experiencing a pushing force? [1 mark]

_____

(c) Study the diagram of the ring magnets around the pencil. He
3 magnets are floating above each other.
Label the poles of the ring magnet. [1 mark]



39. An experiment was carried out to determine whether the length of the string would affect the number of swings a pendulum would make in a minute. The results were in the table below.

Length of string (cm)	Number of swings in a minute
10	65
30	50
50	40
70	35

(a) To make it a fair test state if these variables should be kept constant or changed. Put a tick in the right column. [2 marks]

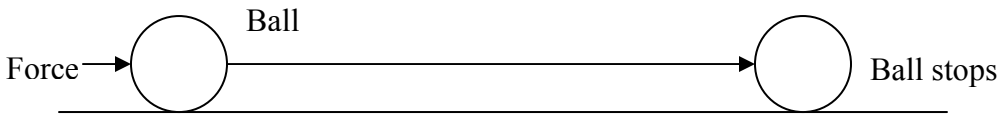
Variable	constant	changed
Length of string		
Size of bob		
Weight of bob		
Angle of swing		

(b) From the data given, what is the relationship between the length of the string and the number of swings? [1 mark]

_____

_____

40. A ball is placed on a level surface and a force pushes it.



(a) The ball stops moving after a distance of 80 cm. What causes the ball to stop? [1 mark]

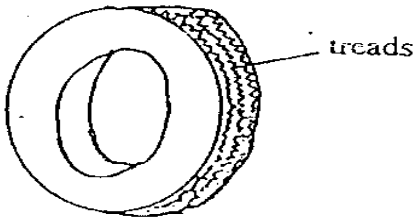
_____

(b) The ball is placed on a different surface and pushed with the same force as before. It moves a distance of 50 cm before it comes to a stop. Why does it move a shorter distance than before? [1 mark]

_____

_____

41. Look at the tyre below.



(a) How do the threads on the tyre help the driver of the car ? [1 mark]

_____

(b) Name a disadvantage of having these threads. [1 mark]

_____

_____

42. The diagram below shows Peter kicking a ball.

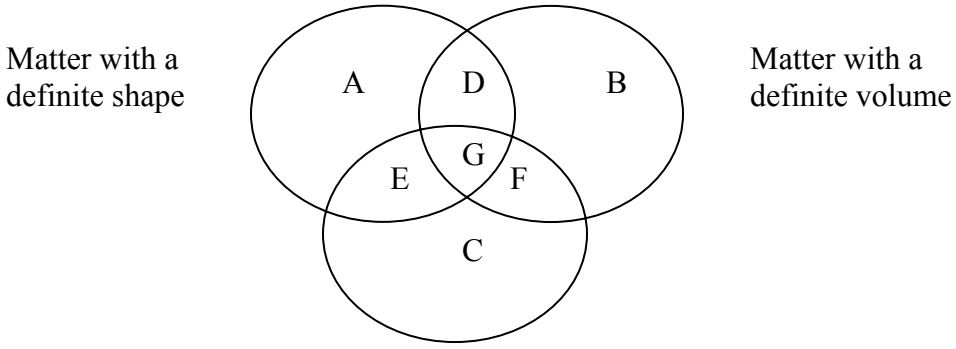
(a) What will happen if Peter kicks it harder? [1 mark]

_____

(b) What will happen to the ball after some time? [1 mark]

_____

43. The Venn diagram shows three properties of matter.



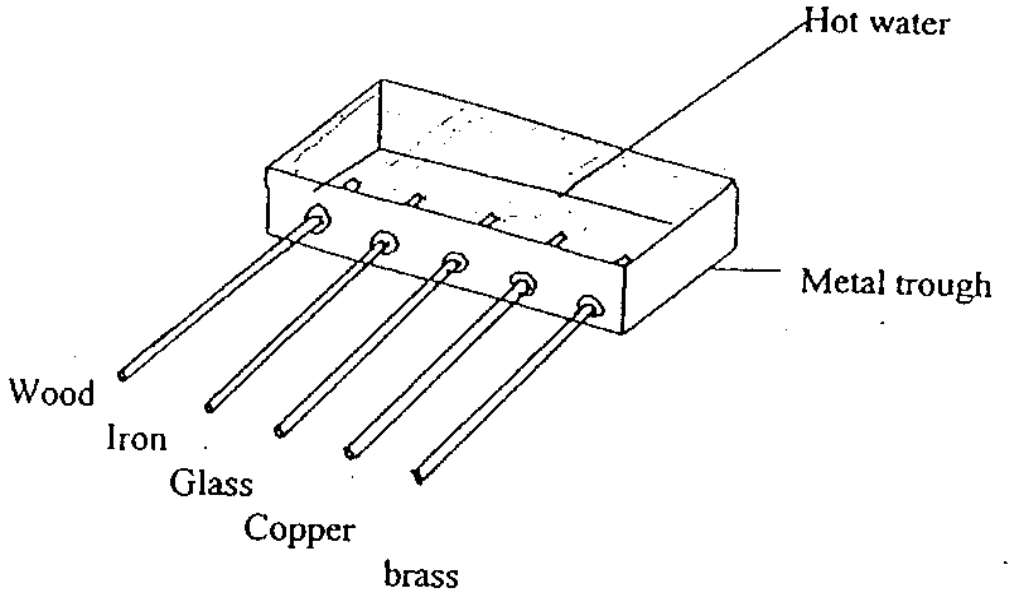
(a) At which section of the Venn diagram should each of the following things be placed? [1 mark]

(i) ice cube: _____

(ii) water vapour: _____

(b) If the ice cube melts completely it would fit in Section _____ of the Venn diagram. [1 mark]

44. An experiment is set up as shown below.



The rods are coated with wax. After 3 minutes, it is seen that some wax has melted along the rods.

Material of rod	Length of wax melted
Brass	6 cm
Glass	1 cm
Iron	3 cm
Wood	Unmelted
Copper	8 cm

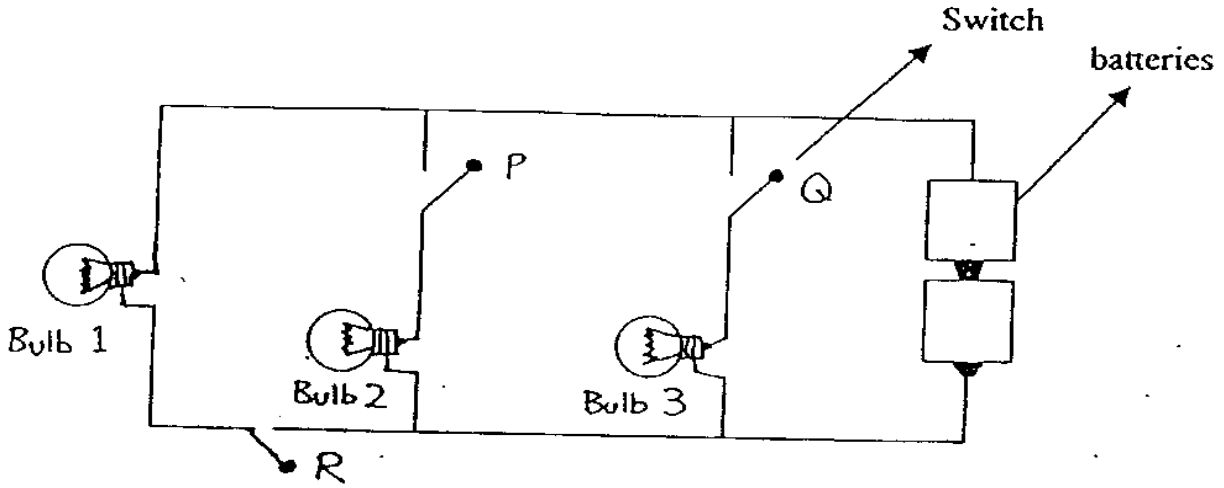
(a) Which of the above materials should we use to make boxes for storing ice to reduce melting? [1 mark]

_____

(b) Which material is best used for cooking utensils? Explain your answer. [2 marks]

_____

45. Study the diagram and answer the questions. [2 marks]



Fill in the table with 'closed' (C) or 'opened' (O)

Condition	Switch P	Switch Q	Switch R
Bulb 1 (lights up)	O	O	
Bulb 2 (lights up)	C		O
Bulb 3 (lights up)		C	O
All 3 bulbs light up	C		C