

**Primary Four
Science
Semestral Assessment Two**

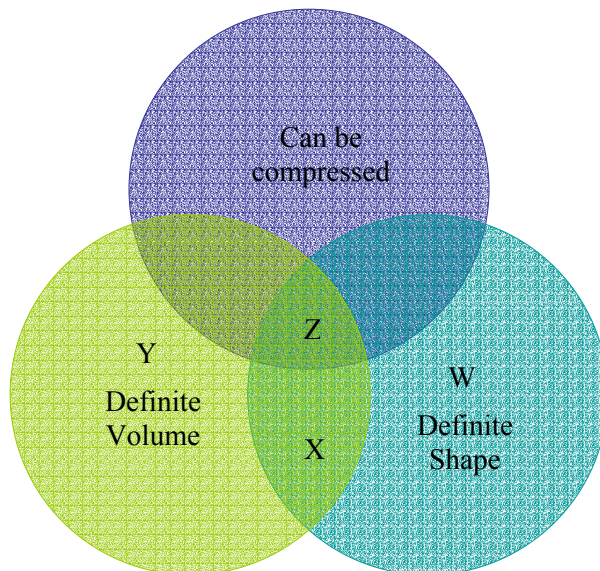
Section A : (50 marks)

For each of the following items, choose the correct answer and shade it on the OAS (Optical Answer Sheet provided)

1. When matter is changed from one state to another, _____.

- 1) heat is gained
- 2) heat is lost
- 3) heat is either gained or lost
- 4) heat is neither gained nor lost

2.



Sand would best be classified in the group

_____.

- 1) Z
- 2) X
- 3) Y
- 4) W

3. Ice is added to a cup of hot coffee and stirred with a metal spoon. How does the coffee get cooler?

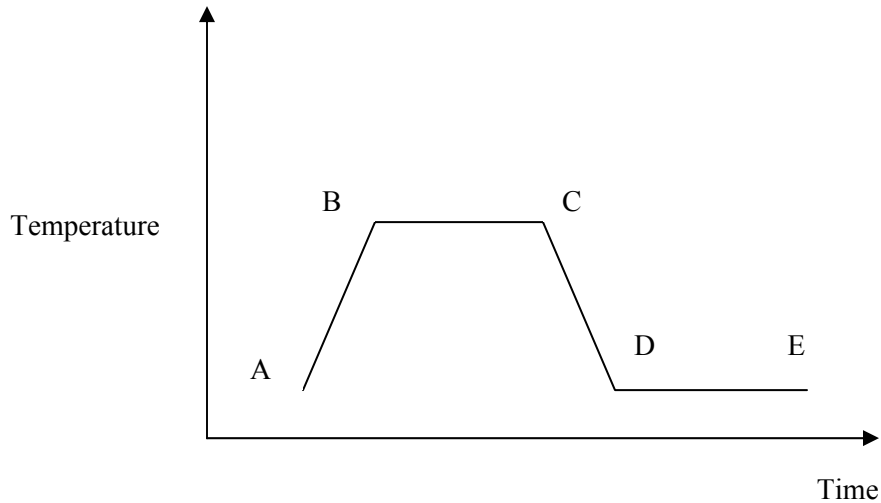
- A) Cold travels from the ice to the spoon.
- B) Cold travels from the ice to the hot coffee.
- C) Heat travels from the hot tea to the ice.
- D) Heat travels from the hot tea to the spoon.

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

4. If a source of light can be clearly seen through a particular type of object, that object is called _____.

- 1) luminous
- 2) opaque
- 3) translucent
- 4) transparent

5. Some water is brought to boiling point and then allowed to cool to room temperature. The part of the graph below that shows that the water is boiling is _____.



- 1) CD
- 2) BC
- 3) AB
- 4) DE

6. When a can of coca cola is taken out of the fridge, droplets of water can be seen on its outer surface after a while. This change happens because of _____.

- 1) boiling
- 2) sweating
- 3) condensation
- 4) evaporation

7. Our respiratory system includes our _____.

- A) lungs
- B) chest
- C) windpipe
- D) back muscles

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

8. We can see objects because _____.

- 1) light passes through the objects
- 2) light brightens up the place surround the object
- 3) light travels from the objects to our eyes
- 4) light travels from our eyes to the objects

9. When a plant is manufacturing food, carbon dioxide enters the plant through openings found in the _____.

- 1) branches
- 2) stem
- 3) leaves
- 4) fruit

10. Our hearts get their energy to pump from _____.

- 1) the food we eat
- 2) the electric signals in nerves
- 3) the air we breathe
- 4) the water we drink

11. In the following table, which combination of activity and energy source is *incorrect*?

Activity	Energy source
1. Tiger running	Food
2. Plants making food	Sun
3. Windmill turning	Wind
4. Crocodile swimming	Sun

12. Which of these statements does **not** help to explain how thermometers work?

- 1) Some Liquids expand uniformly when heated.
- 2) Liquids expand when they are heated.
- 3) Liquids contract when they are cooled.
- 4) Liquids can form droplets unlike solids and gases.

13. Which statement best describes what happens to our chest and diaphragm when we inhale?

Chest	Diaphragm
1. Moves downward and outwards	Moves upwards
2. Moves upwards and outwards	Moves downwards
3. Moves upwards and outwards	Moves upwards
4. Moves downward and outwards	Moves downwards

14. When an empty bottle is put near a fire, its cork stopper pops out because _____.

- 1) the air in the bottle warms up and expands
- 2) the glass of the bottle warms up and contracts
- 3) the air in the bottle warms up and contracts
- 4) the glass of the bottle warms up and expands

15. When a seminar room is full of people, the air inside the room changes because _____.

- A) less water vapour is produced
- B) more water vapour is produced
- C) the amount of nitrogen increases
- D) the amount of carbon dioxide increases

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

16. When wax is heated, there is a change from _____.

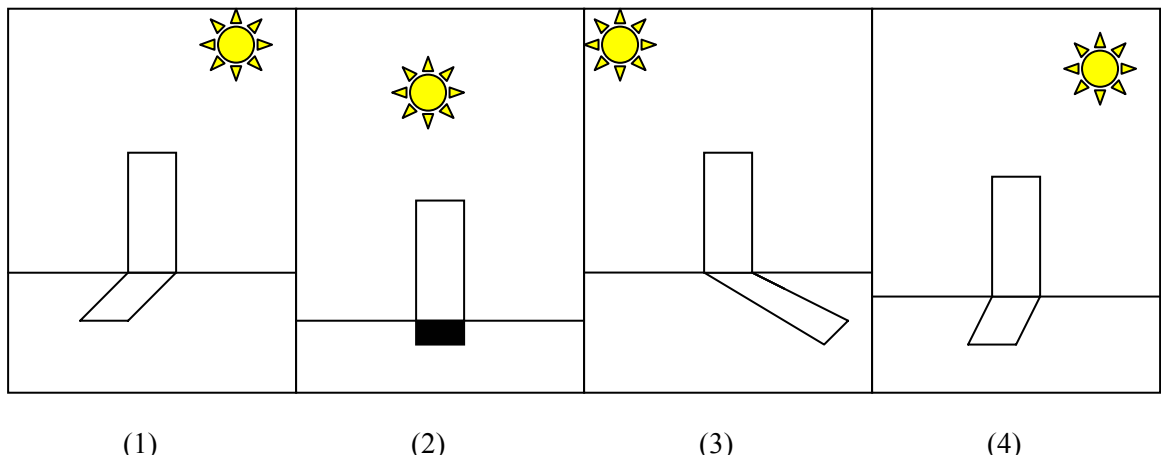
- 1) solid state to gaseous state
- 2) solid state to liquid state
- 3) liquid state to solid state
- 4) liquid state to gaseous state

17. Arrange the sentences below in order to show the changes in a kettle of water as it is being heated from room temperature until the water boils.

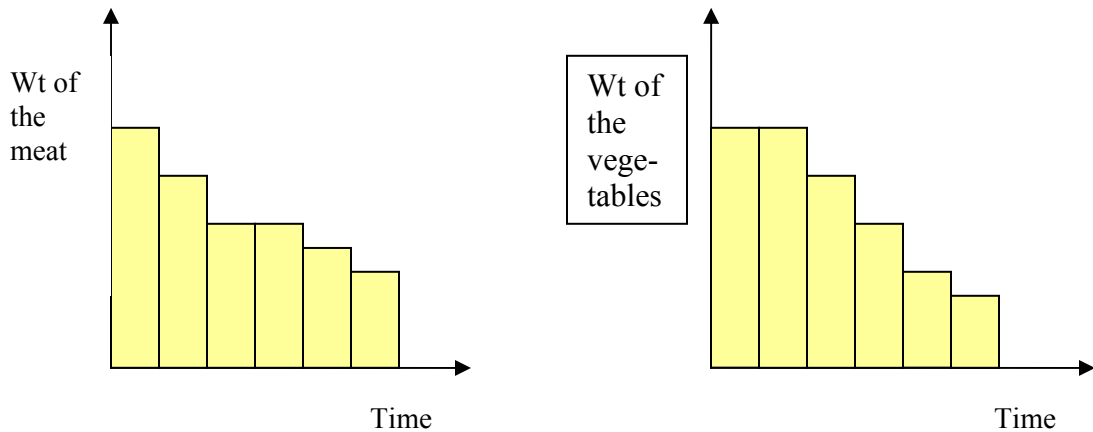
- A) Steam escapes
- B) Air bubbles escape
- C) Water vapor escapes
- D) Water currents circulate

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

18. Which of the following pictures best shows a shadow cast in the late afternoon?



19. Some vegetables and meat are placed in a cage with an animal. The changes in the weight of the vegetables and meat are shown in the following graphs.



From the bar graphs, we can tell that the animal is a/an _____.

- 1) voracious eater
- 2) herbivore
- 3) carnivore
- 4) omnivore

20. An example of a sea mammal is a _____.

- 1) penguin
- 2) whale
- 3) crab
- 4) starfish

21. A substance X melts at 15°C and boils at 87°C . At which one of the following temperature is substance X a solid?

- 1) 12°C
- 2) 55°C
- 3) 86°C
- 4) 100°C

22. If carbon dioxide gas is sprayed over a fire, we would expect the fire to _____.

- 1) die out
- 2) remain the same
- 3) get bigger
- 4) get smaller then continue to burn

23. Our heartbeat rate changes according to _____.

- A) our age
- B) our height
- C) the activity we are doing
- D) the state of our health

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

24. The tiny openings in leaves are similar to the gills of a fish because they allow _____.

- 1) excess water vapour to be released freely
- 2) carbon dioxide to be released
- 3) oxygen to be released
- 4) oxygen to be released more easily during photosynthesis

25. When an electric fan in a room is switched on, electrical energy is converted to _____.

- A) heat energy
- B) wind energy
- C) sound energy
- D) cooling energy

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

Section B : (30 marks)

Read the questions carefully and write the answers in the spaces provided.

26.a) Classify the following substances into 3 groups and fill in the table below.

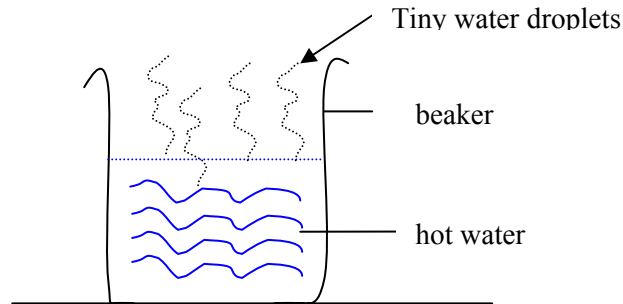
Honey	Sponge	Steam
Mercury		

Group A: _____	Group B: _____	Group C: _____

b) In the table above, write down the suitable headings for the three groups. (3 marks)

27. Explain how a shadow is formed. (2 marks)

28. Diana watched some hot water being poured into a beaker and observed that tiny water droplets were appearing above it.



Explain clearly how these tiny droplets were formed. (2 marks)

29. Three basins of water A, B and C are at different temperatures. Nemo dips his right hand into Basin A and his left hand into Basin C. 35 seconds later, he dips both of his hands into Basin B. He finds that the water in Basin B feels warm to his right hand but feels cold to his left hand.

a) Based on Nemo's observation, match the basins with the temperature readings given below. (1½ marks)

	Temperature of Water (°C)	Basin
1.	5	
2.	25	
3.	50	

b) What can we conclude from this experiment? (1 mark)

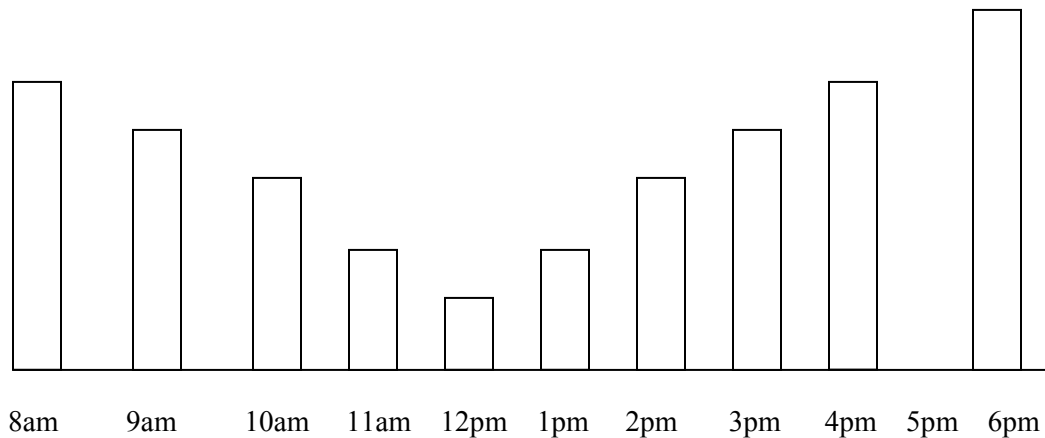
30. Bell split some water on her kitchen floor. Five hours later, the puddle of water has disappeared. What has happened to it? Explain the whole process clearly.

(2 marks)

31. The following chart shows the lengths of the shadow of a pole at different times of the day.

a) Draw in the length of the shadow at 5 p.m.

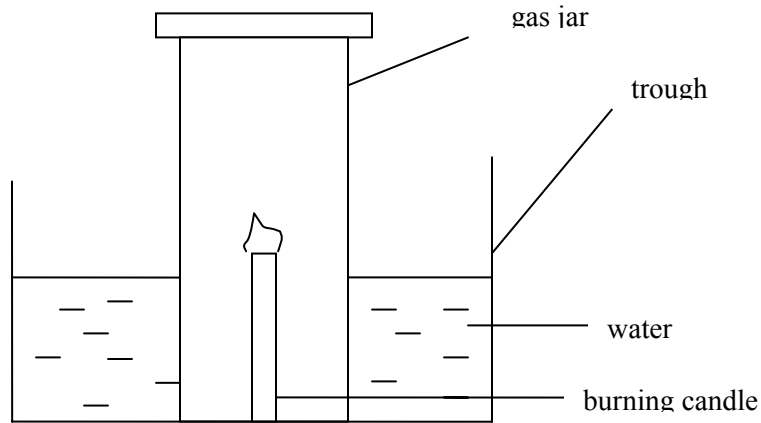
($\frac{1}{2}$ mark)



b) Describe the pattern of the shadows on the chart.

(2 marks)

32. An experiment was conducted to find out if the burning time of a candle is affected by the size of the gas jar used as shown in the diagram below.



Tick (✓) the variables to be kept constant and those that need to be changed to make the experiment a fair test.

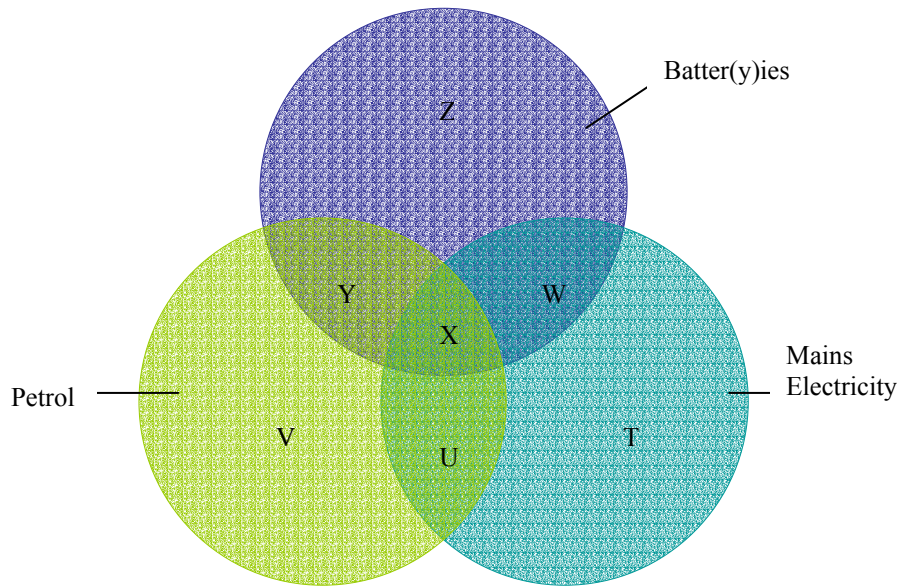
(3 marks)

Variables	Change	Constant
Size of gas jar		
Size of candle		
Length of candle		
Amount of water in trough		
Type of trough		
Method of Timing		

33. When we exercise, our rate of breathing _____ as our bodies need more _____ for the muscles to burn. A waste product from breathing is _____.

(3 marks)

34. In the Venn diagram shown below, T, U, V, W, X, Y and Z represent different things that use energy to operate.



Identify the energy sources of these items by writing down the identifying alphabet of each of the items below in the spaces provided. (3 marks)

- a) Car : _____
- b) Torchlight : _____
- c) Classroom radio cassette player : _____

35. For each of the following statements, write a 'T' if it is true or an 'F' if it is false in the brackets provided. (3 marks)
- a) Seawater freezes at 0°C ()
 - b) Plants still breathe during photosynthesis ()
 - c) People get their body heat from the sun's energy ()
 - d) Adding salt to ice makes it freeze at a higher temperature ()
 - e) The nearer an object is to a light source, the larger is its shadow ()
 - f) We can see the stars because they reflect the light from the sun ()

36. Three solid objects, A, B and C were placed in a measuring cylinder and the water filled to 200cm³ as shown in Figure 1. When object A is removed, the water level drops to the level shown in Figure 2.

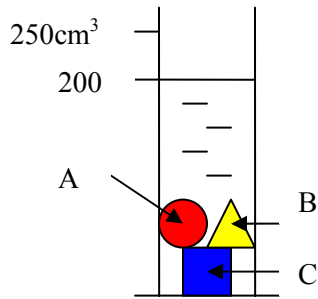


Figure 1

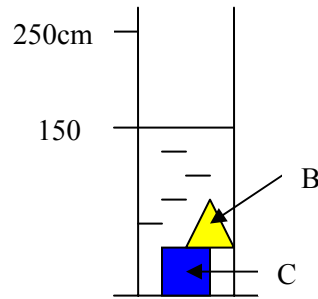


Figure 2

- a) Why does the water level drop in Figure 2? (1 mark)

- b) What is the volume of Object A? (1 mark)

37. State one similarity and one difference between the circulatory systems of human beings and plants. (2 marks)

Similarity:

Difference:

☺End of Paper☺