Primary Four
Science
Semestral Assessment Two

For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write it in the box provided.

1. Which of the following is water in the gaseous state?

A ice
B steam
C rain water
D water vapour

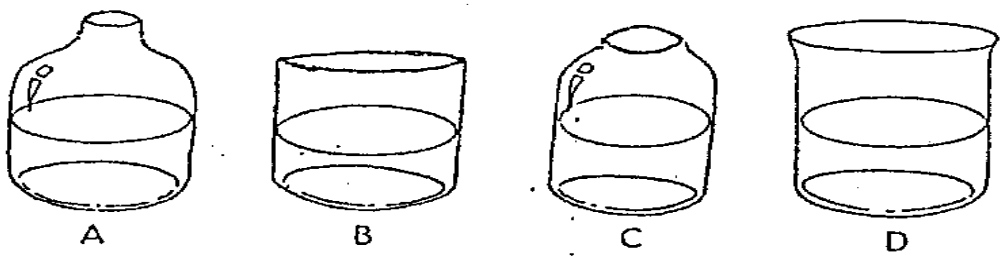
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

2. What happens when water changes to ice?

A It loses heat.
B Its state changes.
C It is not matter anymore.
D It no longer has a definite shape.

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

3.



The four containers shown above are of different shapes. The same amount of water was poured into them. The containers were left in a room. What can be observed about the water in these containers after some time?

A The water in A evaporated faster than the water in C.
B The water in D evaporated faster than the water in C.
C The water in B evaporated at the same rate as the water in C.
D The water in A evaporated at the same rate as the water in B.

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

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

A Clouds are made of tiny droplets of water
B The changes in the water cycle is a continuous process
C When seawater evaporates, the salt and water both rise to the sky
D For water to change to water vapour, the temperature of the air must be 100°C

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

5. Which of the following processes make the continuous movement of water from, the Earth to the atmosphere and from the atmosphere back to the Earth possible?

A Boiling
B Evaporation
C Condensation

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

6. Which of the following statements about our heart are true?

A It is protected by the ribs.
B It is a muscular organ.
C It beats at the same rate all the time.
D It pumps blood to other parts of our body.

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

7. Which of the following statements about blood vessels are true?

A Blood vessels have walls of different thickness.
B Blood vessels have different diameters.
C Blood vessels carry oxygen and nutrients.
D Blood vessels transport blood only from the heart to other parts of the body

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

8. Which one of the following happens when John is exercising?

A His heartbeat rate increases.
B His leg muscles are relaxed.
C His intake of oxygen increases.
D The amount of carbon dioxide in his lungs increases.

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

9. Which of the following is most likely to be the heartbeat per minute of a boy who has just rushed to catch a bus?

(1) 10-20
(2) 40-50
(3) 50-60
(4) 100-120

10. Which of the following is **not** a function of blood?

(1) To send signals to the hand muscles.
(2) To fight and kill foreign particles in the blood.
(3) To transport waste materials to be removed from the body.
(4) To transport dissolved gases to other parts of the body.

11. Which of the following activities can cause the heart to beat faster?

A Taking a nap in the afternoon.
B Taking a slow walk in the park.
C Doing an hour of aerobic exercises.
D Going on a frightening roller-coaster ride.

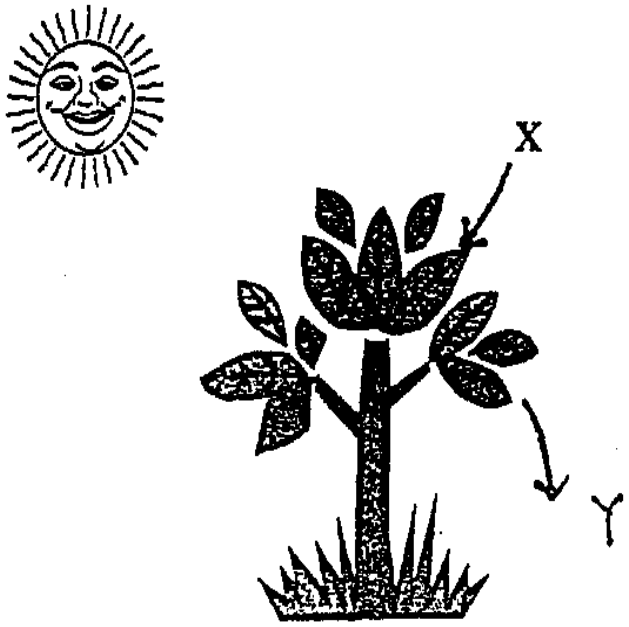
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

12. The human circulatory system consists of the _____.

A heart
B lungs
C blood
D blood vessels

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

13. The diagram below shows the exchange of gases in a leaf on a sunny day.



What are the Gases X and Y?

	X	Y
(1)	Carbon dioxide	oxygen
(2)	Oxygen	Carbon dioxide
(3)	Water vapour	Carbon dioxide
(4)	Nitrogen	oxygen

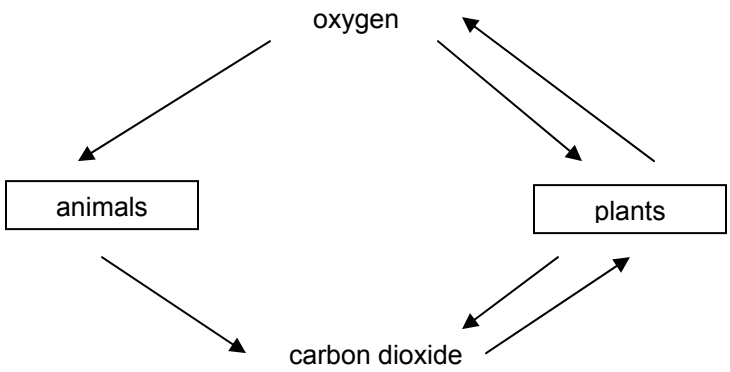
14. Breathing through our nose is better than breathing through our mouth because _____.

(1) more oxygen is taken in
(2) air is cleaned, warmed and moistened
(3) air will find its way to the lungs faster
(4) dust particles that are breathed in can be removed

15. The table below compares the respiratory systems of the fish and man. Which pair of statements is **<u>incorrect</u>**?

	Fish	Man
1.	Gas exchange takes place in the gills	Gas exchange takes place in the lungs
2.	Gills are protected by the scales	Lungs are protected by the diaphragm
3.	Gill covers enable breathing movement to take place	Rib-cage and diaphragm enable breathing movement to take place
4.	Takes in dissolved oxygen in water	Takes in oxygen from the air

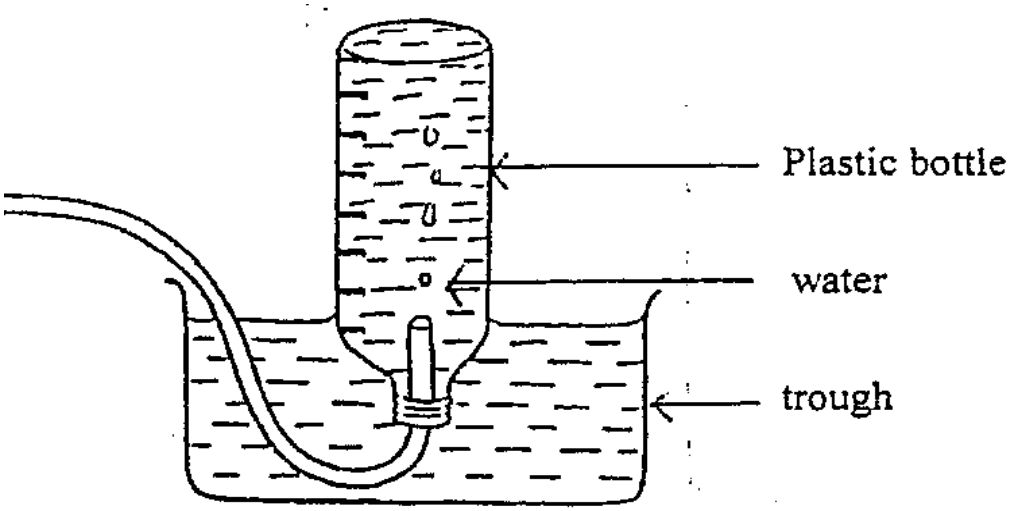
16.



Which of the statements explain the above diagram correctly?

(1) Both plants and animals take in oxygen and give out carbon dioxide.
(2) Only plants take in oxygen and give out carbon dioxide.
(3) Both plants and animals take in carbon dioxide and give out oxygen.
(4) Only animals take in oxygen and give out carbon dioxide.

17.



John set up the apparatus as shown above. Then he blew into the inverted plastic bottle. He observed certain changes. Which of the following were his observations?

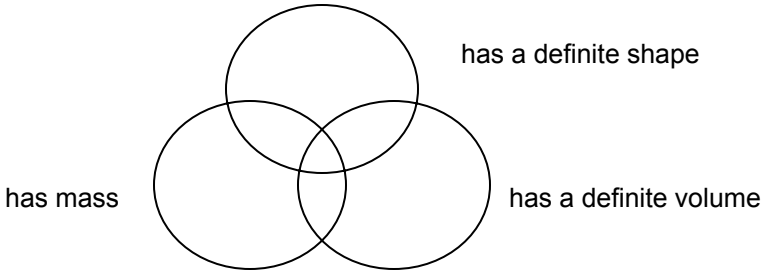
A The water level in the bottle went down.
B The water level in the trough went up.
C The water level in the trough went down.
D The water level in both the bottle and trough remained unchanged.

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

18. The air we breathe in through our nose or mouth must go through our _____ before it reaches our lungs.

(1) ribs
(2) windpipe
(3) heart
(4) blood vessels

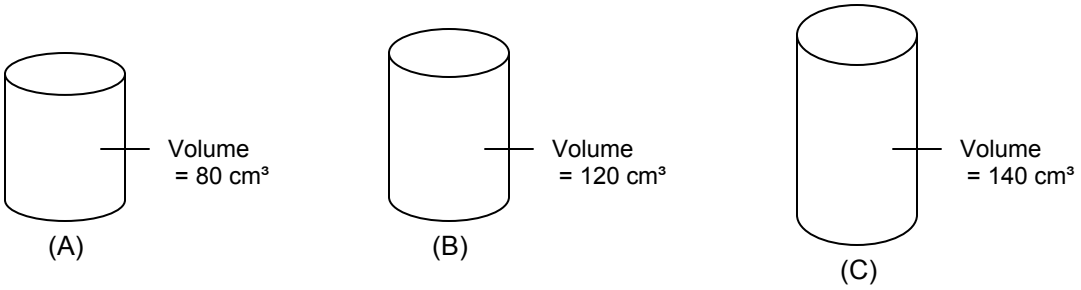
19. Study the Venn diagram below.



Chilli sauce should be placed at _____.

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

20. Alex has 120cm³ of oxygen gas in a tank. He wants to transfer all the oxygen gas in the tank into another container. Which of the following containers would be able to hold all the oxygen gas?



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

21. Linda poured 50 cm³ of fine sand into a beaker which contained 80 cm³ of pebbles. After that she shook the beaker gently. She found that the total volume of the pebbles and sand was less than 130 cm³ because _____.

(1) the pebbles were compressed
(2) some of the sand overflowed
(3) air filled the empty spaces among the sand
(4) some of the sand filled the empty spaces among the pebbles

22. An experiment was set up as shown below. At the start of the experiment the water level was at P.
After a pupil had dropped a metal ball into the beaker of water, the water level rose to Q. What does this show?

(1) The metal ball has mass.
(2) Water can be compressed.
(3) Water does not have a definite volume.
(4) The metal ball has a definitely volume and it takes up space.

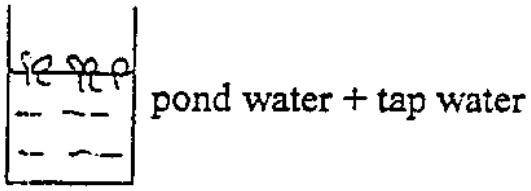
23. Which one of the following is an unsuitable method for increasing Singapore's sources of water supply?

(1) Dig more wells.
(2) Set up desalination plants.
(3) Expand the catchment areas.
(4) Set up water-reclamation plants.

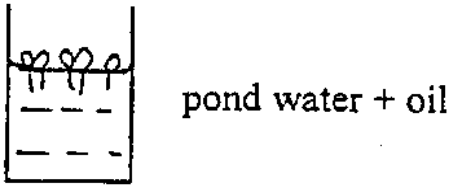
24. Which one of the following is true about water in Singapore?

(1) Water from the tap can be drunk directly without boiling.
(2) Water in the river is unsuitable for fishes.
(3) Water in the swamp contains chlorine.
(4) Water in the reservoir goes directly to our homes.

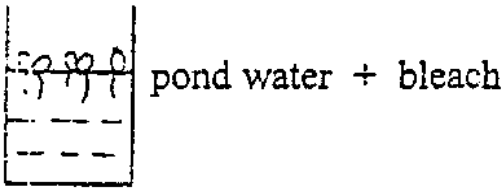
25. An experiment was set up as shown below. An equal number of duckweeds were put in four beakers A, B, C and D. The beakers were placed in a bright place. In which beaker are you most likely to see an increase in the number of duckweeds after 5 days?



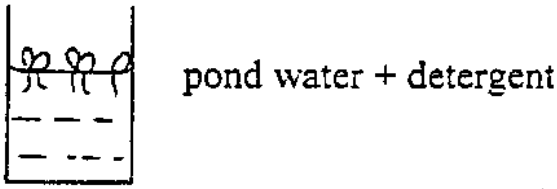
A



B



C



D

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

For questions 26 to 46, write your answers in this booklet. The number of marks available is shown in the brackets ( ) at the end of each question or part-question.

Fill in the blanks with the correct answer from the box. Use the word only **once**. (10 x 2 marks)

arteries	pulse	evaporates	gases	conserving
capillaries	decreases	increases	condenses	volume
typhoons	breeze	veins	consuming	

26. When steam is cooled, it loses heat and _____ to water.

27. The heart pumps blood to all parts of the body through the _____.

28. Smaller blood vessels are called _____.

29. Each heart beat can be felt as a _____.

30. Air is a mixture of _____. Some of these are nitrogen, oxygen, carbon dioxide and water vapour.

31. As an animal grow bigger, its mass _____.

32. When we breathe out, our rib-cage _____ in size.

33. Reducing, reusing and recycling are ways of _____ water.

34. The amount of space occupied by an object is its _____.

35. _____ are violent winds that are accompanied by very heavy rain.

Complete each sentence with a suitable word of your own. (5 x 2 marks)

36. The change of state of water from a liquid to a solid is called _____.

37. When water in a pond evaporates, it changes into _____.

38. In the day, plants taken in carbon dioxide during photosynthesis and oxygen during _____.

39. _____ is the process of removing dissolved salt from the sea water to get fresh water.

40. Jenny wanted to find out the states of three matters A, B and C. she tested on their properties. She then recorded her results in the table below. She puts a tick if the matter showed the property and a cross if it did not.

Matter / Properties	A	B	C
Can be compressed	√	x	x
Flows easily	√	√	x
Takes up space	√	√	√
Some are invisible	√	x	x

From the information she gathered, A is likely to be a _____, and C is likely to be a _____.

41. Write down whether the following statements about the water cycle are True (T) or False (F). (4 x 1 mark)

(a) The water cycle forms clouds, rain and wind. ( )

(b) Water returns from the sky to the Earth only as rain. ( )

(c) Clouds are made of tiny droplets of water. ( )

(d) In the water cycle, water condenses when it changes to water vapour. ( )

42. The table below shows the rate of Jane's heartbeat before and after exercise.

Jane's fitness record	**Heartbeats per minute**
When resting before exercise	68
Immediately after exercise	150
1 minute after exercise	135
2 minutes after exercise	125
3 minutes after exercise	115
4 minutes after exercise	96
5 minutes after exercise	85
6 minutes after exercise	74
7 minutes after exercise	68

(a) What was the rate of Jane's resting heartbeat before exercise? [1]

_____

(b) What was the rate of Jane's heartbeat immediately after she stopped her exercise? [1]

_____

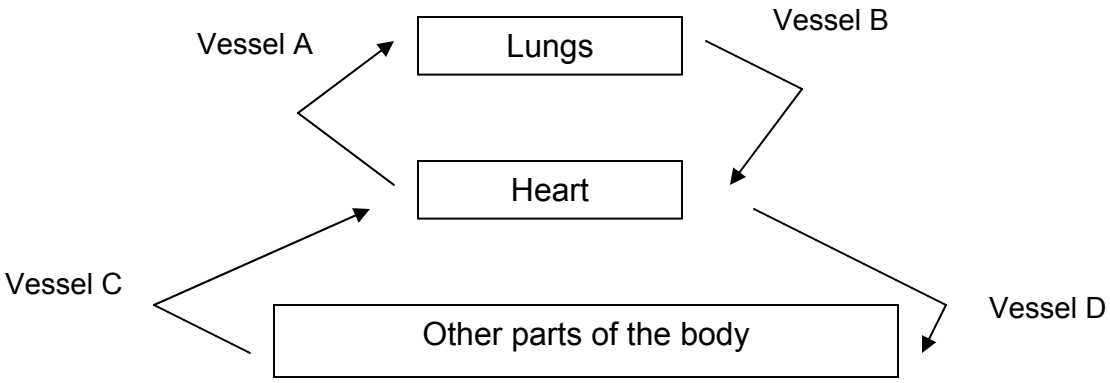
(c) What does this tell you about what happens to your heartbeat when you exercise? [1]

_____

(d) How long did it take for Jane's heartbeat to return to normal? [1]

_____

43. The diagram below shows our circulatory system.



(a) Compare the amount of oxygen in the blood in Vessel A and the blood in Vessel B. [1]

_____

(b) Compare the amount of carbon dioxide in the blood in Vessel A and the blood in vessel D. [1]

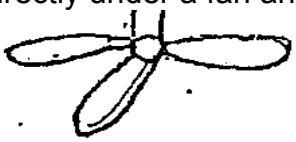
_____

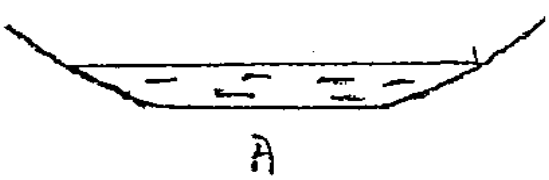
(c) Name the following blood vessels:

i) Vessels B and C _____[1]

ii) Vessels A and D_____[1]

44. Mary carried out an experiment. She poured 10 ml of water into two similar dishes until they are half full. Then she labeled them A and B and marked the water levels in each dish. Next, she placed dish A on a table directly under a fan and dish B on a table in a place with no wind.





Then she compared dish A and dish B

(a) What does Mary want to find out from the experiment? [2]

_____

(b) Which are the variables she has kept the same? Tick the box if they are similar and cross it if they are different.

a) the amount of water	
b) the surface area of the water	
c) the amount of wind	
d) the temperature of the water at the beginning	

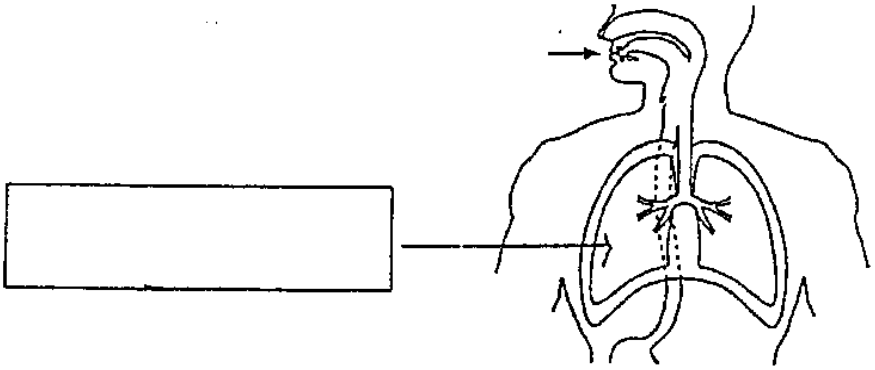
[2]

45. What is the difference between the compositions of exhaled air and inhaled air? [2]

_____

_____

46. The diagram below shows our respiratory system.



a) Label the part marked. [1]

b) Grandma swallowed a meatball and was choked. Put a '**X**' on the diagram to show where the meat ball could be to cause the choking. [1]

THE END