

SAR

AI TONG SCHOOL

2005 SEMESTRAL ASSESSMENT 2

PRIMARY 4 SCIENCE

DURATION : 1hr 20min

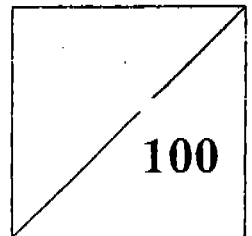
DATE: 27th October 2005

INSTRUCTIONS

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

Name : _____ ()

Marks :



Class : Primary _____

Parent's Signature : _____

Date : _____

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Section A (60 marks)

Questions 1 to 30 carry 2 marks each. For each question, four options are given. Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. A characteristic of water which is similar to all matter is that

_____.

- (1) it takes up space
- (2) it can be compressed
- (3) it is in the liquid state
- (4) it has a definite volume

2. Ravi pumped a deflated basketball till it was round again. He then measured the volume and weight of the basketball. After measuring, he continued to pump air into the basketball. He measured the volume and weight of the basketball again. Which of the following statements would be true?

- (A) The volume of air in the basketball was the same for both measurements.
- (B) The volume of air in the basketball increased at the second measurement.
- (C) The mass measured the first time was greater than the mass measured the second time.
- (D) The mass measured the second time was greater than the mass measured the first time.

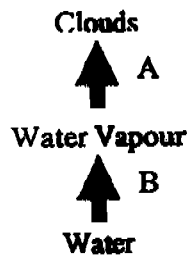
- (1) A and B
- (2) B and C
- (3) A and D
- (4) C and D

3. What happens when water changes to ice?

- A) it loses heat
- B) It changes its state.
- C) It has a definite shape.
- D) It goes through the process of condensation.

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

4. The diagram below shows how clouds are formed in the water cycle.



Which one of the following processes is correct?

- | A | B |
|------------------|--------------|
| (1) Evaporation | Evaporation |
| (2) Evaporation | Condensation |
| (3) Condensation | Evaporation |
| (4) Condensation | Condensation |

5. Which of the following statements about the water cycle is false?

- (1) Clouds are actually water in its gaseous state.
- (2) The water cycle is continuous and does not stop.
- (3) The process of evaporation is present in the water cycle.
- (4) Water can fall down from the sky in its solid or liquid state.

6. Which one of the statements below does not show the usage of water being reduced?

- (1) Taking a shower instead of a bath.
- (2) Building more reservoirs to collect water.
- (3) Collecting rain water to wash the family car.
- (4) Water the plants using water used to wash vegetables.

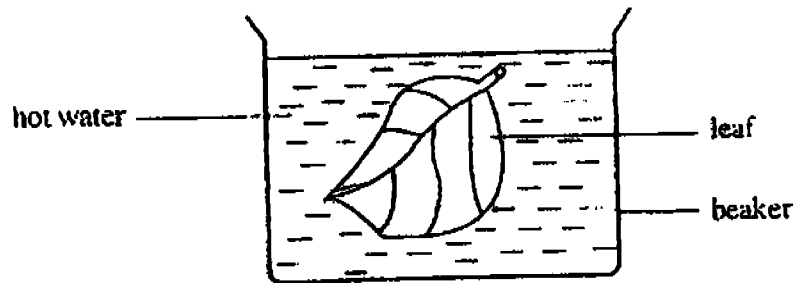
7. Why does our body need oxygen? Oxygen _____.

- (1) helps us to fight diseases.
- (2) gets rid of waste material.
- (3) transports food and other substances to our body.
- (4) interacts with food to release energy to our body.

8. Which of the following organs does not help in the process of respiration?

- (1) Nose
- (2) Gullet
- (3) Lungs
- (4) Windpipe

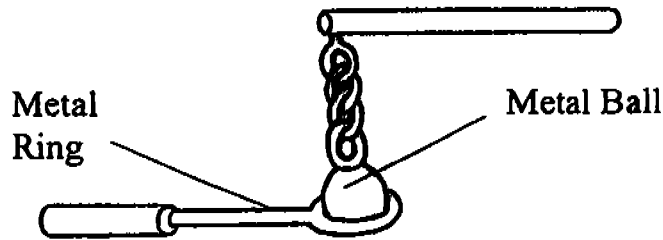
9. Siti plucked a leaf from a plant and dipped it into a beaker of **hot** water as shown below. She observed bubbles in the beaker.



Where did the bubbles come from?

- (1) The water.
 - (2) The leaf stalk.
 - (3) The surface of the leaf.
 - (4) The underside of the leaf.
10. Which one of the following statements about light is **incorrect**?
- (1) Light can be reflected.
 - (2) All materials give out light.
 - (3) Light travels in a straight line.
 - (4) A shadow is formed when an object blocks light.

11. Alex placed a metal ball on a metal ring as shown in the diagram below. The ball could not pass through the ring.



What could he do to make the metal ball pass through the ring?

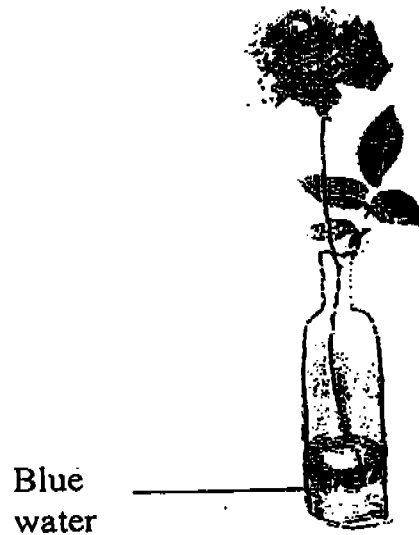
- A) Cool the metal ball.
- B) Cool the metal ring.
- C) Heat up the metal ball.
- D) Heat up the metal ring.

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

12. Which statement about our heart is not true?

- (1) Our heart is a muscular organ.
- (2) Our heart is pumping all the time.
- (3) Our heart is about the size of our fist.
- (4) Our heart expands when we breathe out.

13. Yan Hui puts a stalk of white rose into a beaker of blue water for a day, as shown below.



The _____ absorbs the blue water and carries it to the flower.

- (1) root
 - (2) stem
 - (3) leaf
 - (4) phloem tube
14. Which one of the following statements explains how the circulatory system in a plant works?
- (1) Xylem tubes transport oxygen to all parts of the plant.
 - (2) Phloem tubes transport food from the leaves to all parts of the plant.
 - (3) Phloem tubes transport water and mineral salts from the roots to the leaves.
 - (4) Xylem tubes transport water and mineral salts from the leaves to the roots.

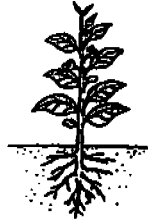
15. Which of the following organisms need light energy from the Sun to make food?

A



mushroom

B



balsam plant

C



earthworm

D



hydrilla

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

16. Four pupils each gave a statement on the importance of the Sun.

Amy: It provides light for the plant to make food.

Bryan: It provides heat for the evaporation of water in the seas.

Cathy: It provides heat to the rice-cooker for cooking.

Dennis: It provides light to dry our clothes.

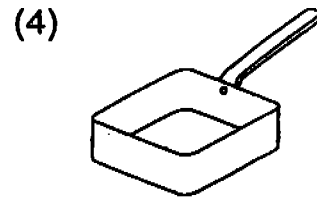
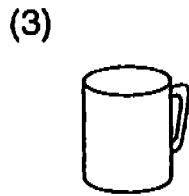
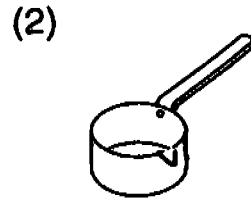
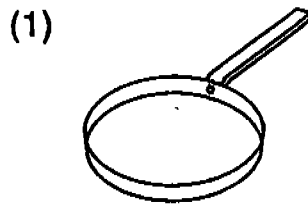
Which of the pupils gave a correct statement?

- (1) Bryan and Cathy
- (2) Bryan and Dennis
- (3) Amy and Dennis
- (4) Amy and Bryan

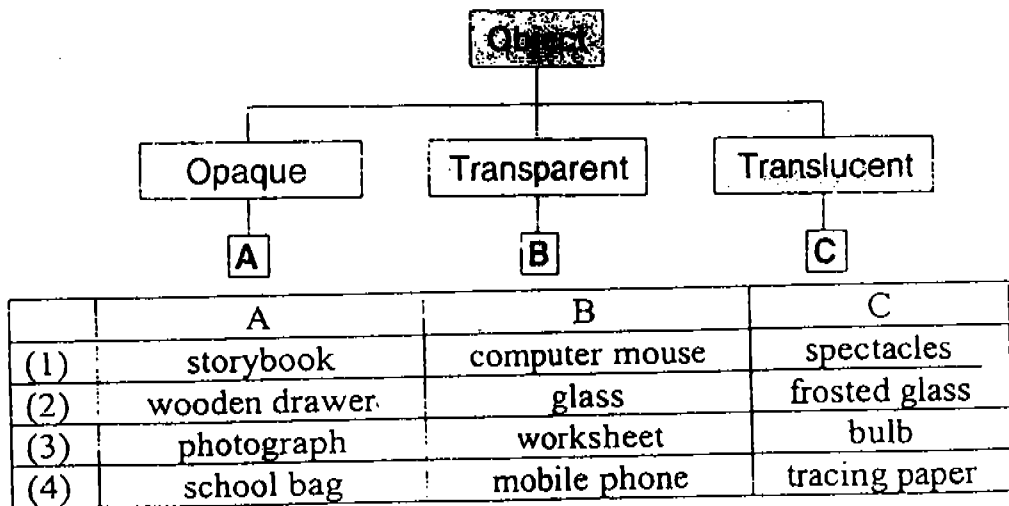
17. Jason shone a torchlight at an object from 2 directions. The shadows formed are shown below.



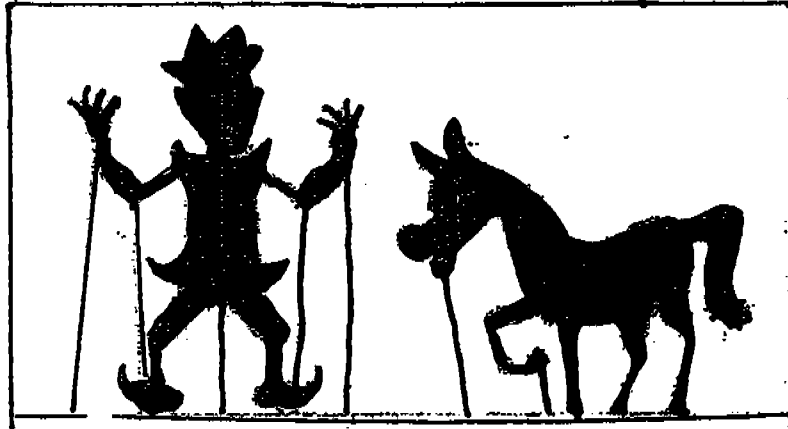
Which one of the following objects can form the 2 shadows shown above?



18. In the chart shown below, what do A, B and C represent?



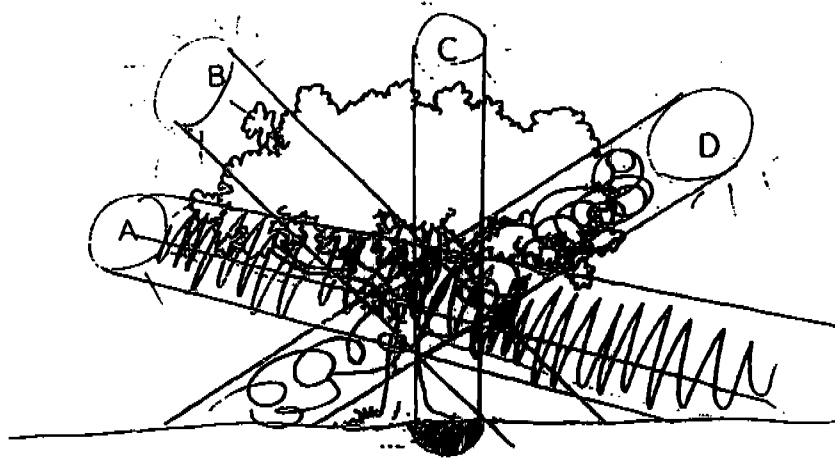
19. Benny watched a wayang kulit performance during his holidays. He could not see the performance but only dark shadows of figures on a cloth screen.



Which of the following statements best explains how the dark shadows are formed?

- (1) The puppets are too colourful so their shadows are dark.
- (2) The puppets are dull in colour so they form dark shadows.
- (3) Light shining on the puppets casts their shadows on the screen.
- (4) Light shining in front of the screen makes the shadows appear dark.

20.



A, B, C and D represent the positions of the Sun at different times of the day. The shadow of the tree would be the longest when the Sun is at _____.

- (1) A
 - (2) B
 - (3) C
 - (4) D
21. The temperature of a glass of water was measured and found to be at 50°C . It was left on the table for 10 minutes. The temperature of the water was read again. The temperature of the water would be about _____.

- (1) 18°C
- (2) 35°C
- (3) 50°C
- (4) 70°C

22. Which one of the following takes place when an iron rod contracts?

- It gets longer.
- It gains heat.
- Its mass increases.
- Its volume decreases.

23. Look at the information given in the table.

| Beaker | Volume of water | Starting temperature of water |
|--------|-----------------|-------------------------------|
| A | 200ml | 10°C |
| B | 200ml | 20°C |
| C | 500ml | 10°C |
| D | 500ml | 20°C |

If the water in the beakers is boiled using the same kettle, which beaker of water will be the first to boil?

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

24. Heat energy is useful as it can _____.

- A bake a cake
- B sterilize surgical equipment
- C make ice
- D keep us warm

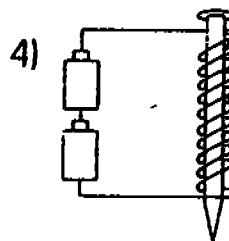
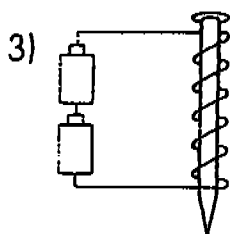
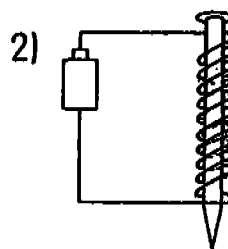
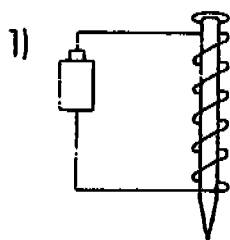
- (1) B and D only
- (2) B and C only
- (3) A, B and D
- (4) All of the above

25. Jane found that her magnet attracted a package wrapped up with aluminium foil. She opened it and found paper clips inside. This shows that _____.
- (1) magnetism can pass through paper clips
 - (2) magnetism can pass through aluminium foil
 - (3) the magnet is a strong magnet
 - (4) the aluminium foil is magnetic
26. Which of the property is the least important when choosing a metal to make a wok?
- (1) It is hard and durable.
 - (2) It is shiny.
 - (3) It does not break easily.
 - (4) It conducts heat.
27. Which one of the following things is made of 2 materials?
- (1) Eraser
 - (2) Balloon
 - (3) Paper
 - (4) Sharpener
28. We can use a magnet to hold a piece of paper onto the door of a refrigerator because the door is made of _____.
- (1) copper
 - (2) glass
 - (3) steel
 - (4) plastic

29. Which of the following statements about magnets is **incorrect**?

- (1) Magnetic force is able to act from a distance.
- (2) Magnets attract magnetic materials.
- (3) An iron rod coiled with wire becomes magnetized when an electric current flows through it.
- (4) A large magnet is always stronger than a small magnet.

30. Which magnetised iron nail in the following set-ups will attract the greatest number of paper clips?



End of Section A

Name: _____

Date: _____

Class: _____

Section B (10 x 2 marks)

Complete Questions 31 to 40. Fill in the blanks with the correct answers.

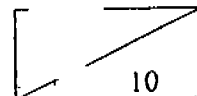
31. The process whereby water changes from a _____ state to a _____ state is called melting.

32. A metal object _____ heat while a rubber object _____ heat.

33. Plants take in _____ and give out _____ during photosynthesis.

34. The _____ is a muscle which is part of the respiratory system while the _____ is a muscle which is part of the circulatory system.

35. Temperature is a measure of how _____ or _____ an object is.



1

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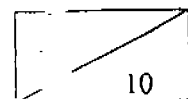
36. A _____ is an area of darkness where little or no light can reach.

37. _____ is the flow of heat from one object to another when they come into contact.

38. An object can cast 3 shadows if we shine a light at it from three

39. Like poles of two magnets _____ but unlike poles _____

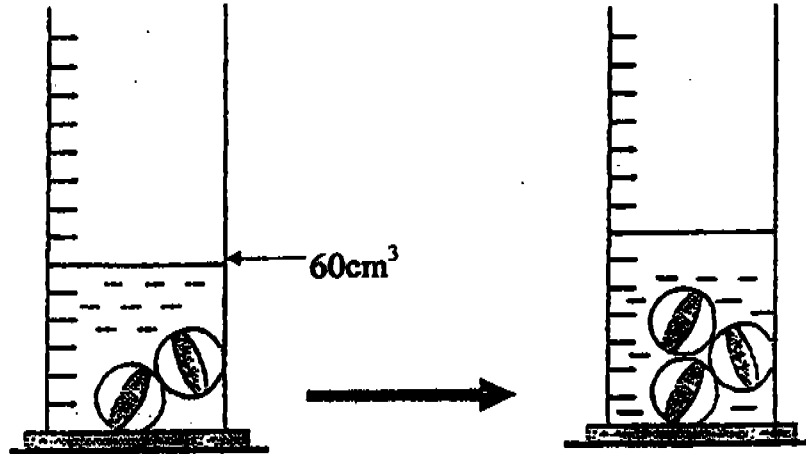
40. Children's cutlery is usually made of plastic because _____



Section C (20 marks)

Answer all the questions in this section. Marks for each question are stated in the brackets.

41. Alex fills a glass cylinder with some water. He places two marbles into the cylinder and the water level rises to 60cm^3 . He then adds 1 more marble and the water level rises as shown in the drawing below.

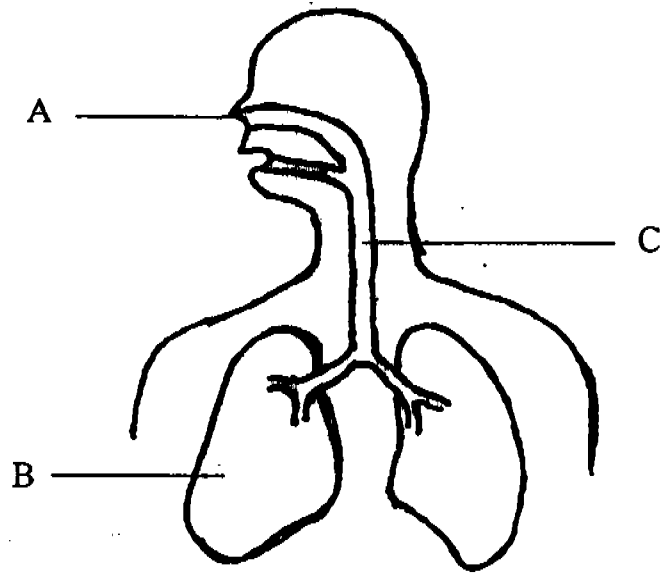


- (a) From the drawing above, what is the new water level? [1]

- (b) What is the volume of the water in the cylinder? [1]

- (c) What does this experiment tell Alex about the volume of solids? [2]

42. The diagram below represents the respiratory system of a human being.

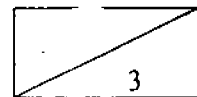


(i) Name the organs represented by the letters in the diagram above.

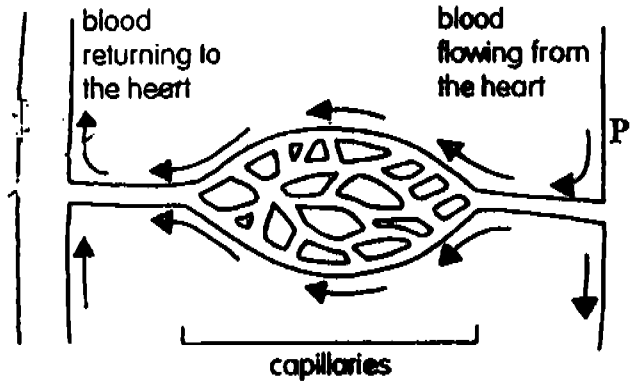
A: _____ [1]

B: _____ [1]

C: _____ [1]



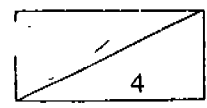
43. The diagram below shows part of the circulatory system.



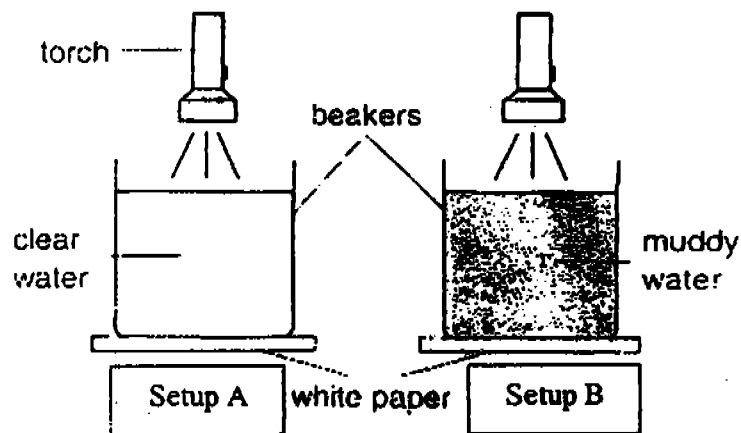
(a) Put an X on the diagram above to show blood which is rich in carbon dioxide. [1]

(b) What is the name of the blood vessel marked with the letter P? [1]

(c) What is the function of the capillaries? [2]



44. Devi conducted an experiment shown below. She made observations on the brightness of the patch of light that fell on the white paper.



- (a) What were Devi's observations on the white paper in: [2]

(i) Setup A : _____

(ii) Setup B : _____

- (b) What can we conclude from Devi's observations for: [2]

(i) Setup A : _____

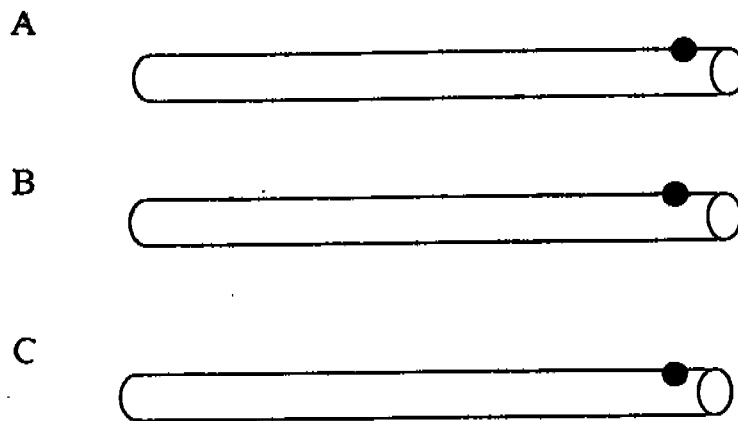
(ii) Setup B : _____

45. Felicia baked some cookies for her friends. While she was packing the cookies into the container, she felt that the metal tray was hotter than the cookies. Explain why the baking tray was hotter than the cookies.

[2]

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46. Peter has 3 rods of similar size but made of different metals. He placed a drop of wax at the end of each rod as shown in the diagram below.



He then held the other end of each rod over a fire until the drop of wax melted. He noted the time taken for each drop to melt and recorded it in a table as shown below.

| Rod | Heating Time (minutes) |
|-----|------------------------|
| A | 2 |
| B | 7 |
| C | 3 |

- (a) When the drop of wax melts, what does this tell you? [1]

- (b) Which rod is the worst conductor of heat? [1]

- (c) Explain why you chose the answer in (b). [1]

