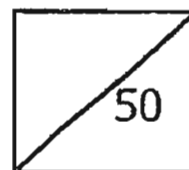




**Rosyth School**  
**Second Continual Assessment for 2007**  
**SCIENCE**  
**Primary 4**

Name: \_\_\_\_\_

Total  
Marks:



Class: Pr 4 \_\_\_\_\_ Register No. \_\_\_\_\_ Duration: 1 h 15 min

Date: 23 August 2007 Parent's Signature: \_\_\_\_\_

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 sections, Section A and Section B.
4. For questions 1 to 15, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces provided in Section B.

	<b>Maximum</b>	<b>Marks Obtained</b>
<b>Section A</b>	<b>30 marks</b>	
<b>Section B</b>	<b>20 marks</b>	
<b>Total</b>	<b>50 marks</b>	

\* This booklet consists of 19 pages. (pg. 1 to 19)

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3. The table below shows the amount of energy that can be released from four types of food when they are broken down through the process of respiration.

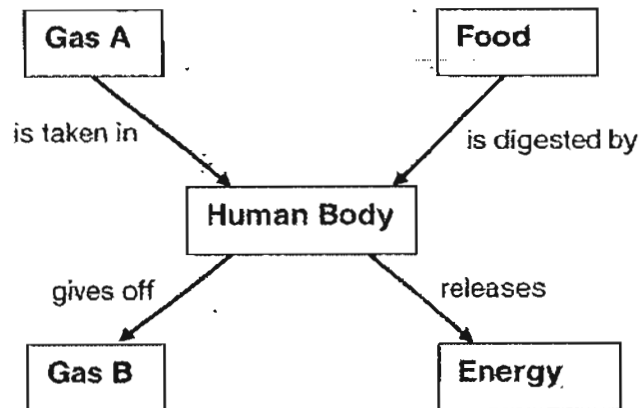
Type of food	Amount of energy released per 100g (kcal)
Bread	473
Wheat biscuit	525
Chicken	217
Fish	154

Based on the information above, which of the following deductions are correct?

- A: Food is a source of energy.
- B: Food from plants has more energy than animals.
- C: There is more energy in bread than in wheat biscuit.
- D: Fish has less energy than chicken because it is smaller in size.

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

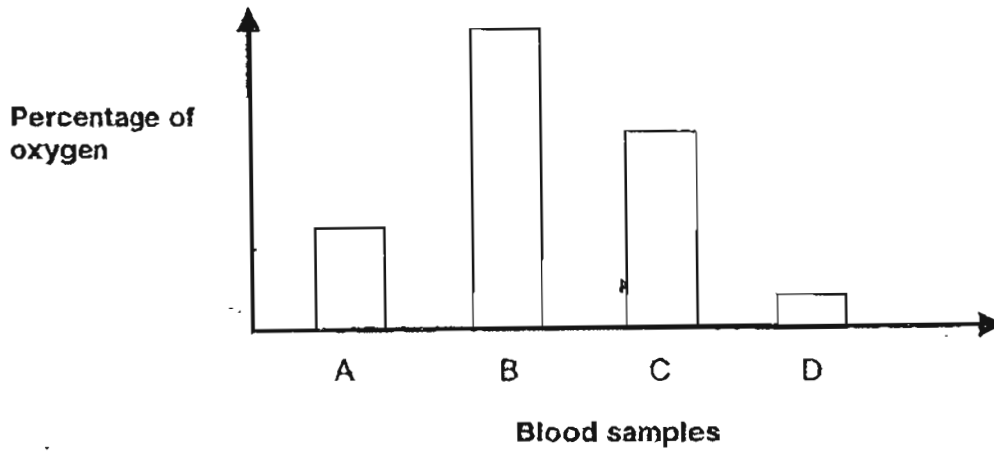
4. Study the diagram below.



What are gases A and B?

	Gas A	Gas B
(1)	Oxygen	Carbon dioxide
(2)	Oxygen	Oxygen
(3)	Carbon dioxide	Oxygen
(4)	Carbon dioxide	Carbon dioxide

5. The bar chart below shows the percentage of oxygen in four blood samples taken from different blood vessels at the same time in a human circulatory system.



Which one of the following pairs likely represents the percentage of oxygen in the vein and artery respectively?

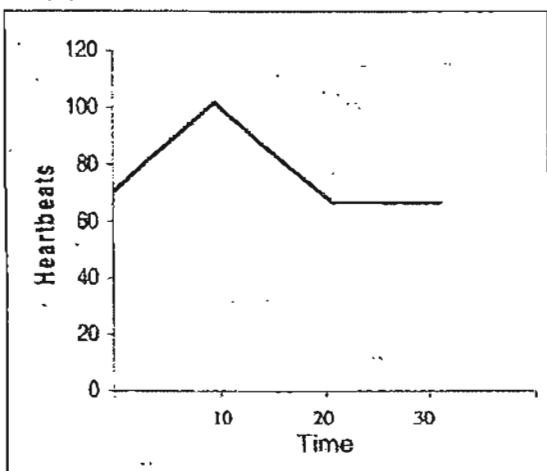
	Vein	Artery
(1)	A	B
(2)	A	D
(3)	C	D
(4)	C	A

6. Kevin started to do the following activities for the next 30 minutes continuously.

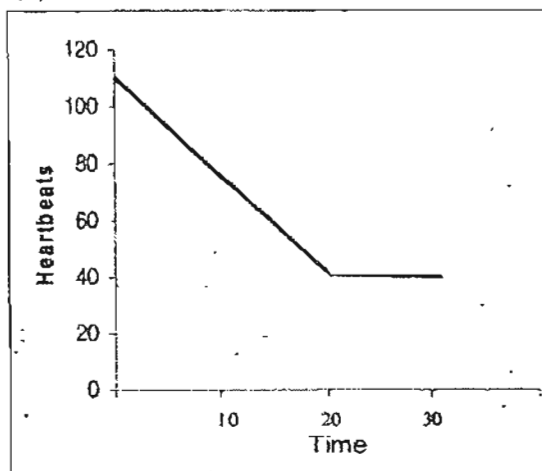
- 10 minutes: Jog along the park**
- 10 minutes: Cool down exercise**
- 10 minutes: Lie on the mat and gaze at the stars**

His heartbeat was measured during the activities. The results were represented in a graph. Which one of the graphs correctly represents Kevin's heartbeat during those activities?

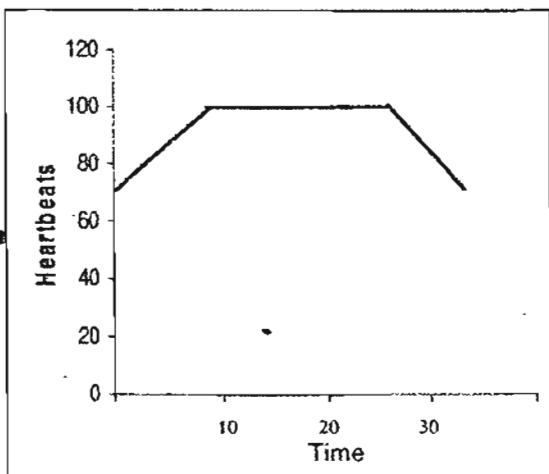
(1)



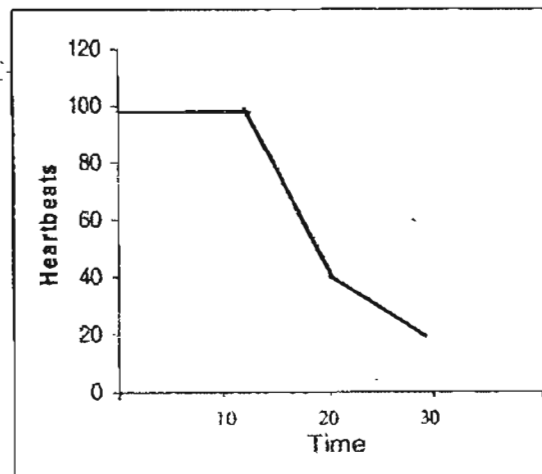
(2)



(3)



(4)



7. Allison put some fishes in two bowls. She wanted to find out if the number of fishes in a bowl would affect the number of times the fishes go to the surface to breathe.

Which of the following variables should be left unchanged in both bowls for a fair experiment?

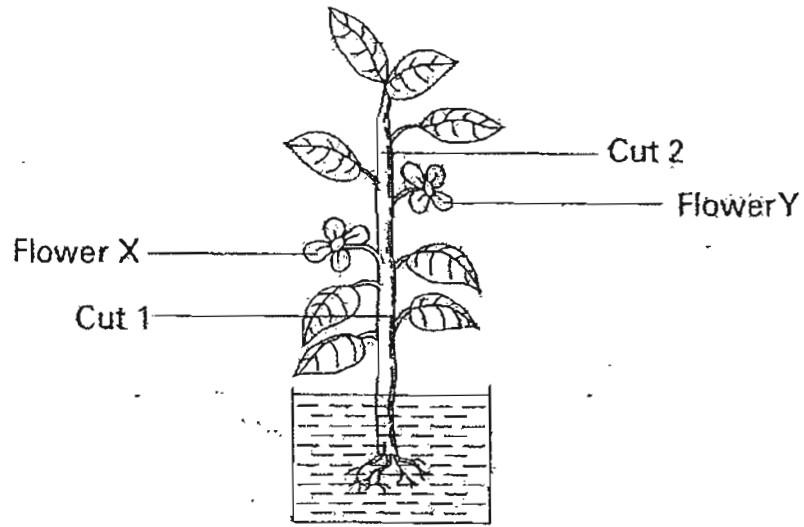
- A: Size of bowls
- B: Volume of water
- C: Type of fish
- D: Number of fish in each bowl
- E: Location

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

8. Which one of the following correctly represents the path that water travels through a rose plant?

- (1) leaf → phloem tubes in stems → root hairs → roots
- (2) leaf → xylem tubes in stems → root hairs → roots
- (3) root hairs → roots → phloem tubes in stems → leaf
- (4) root hairs → roots → xylem tubes in stems → leaf

9. Vivian placed a plant with two white flowers, X and Y, into a container containing blue-coloured water. After a short while, Flower X had turned blue while Flower Y remained white.

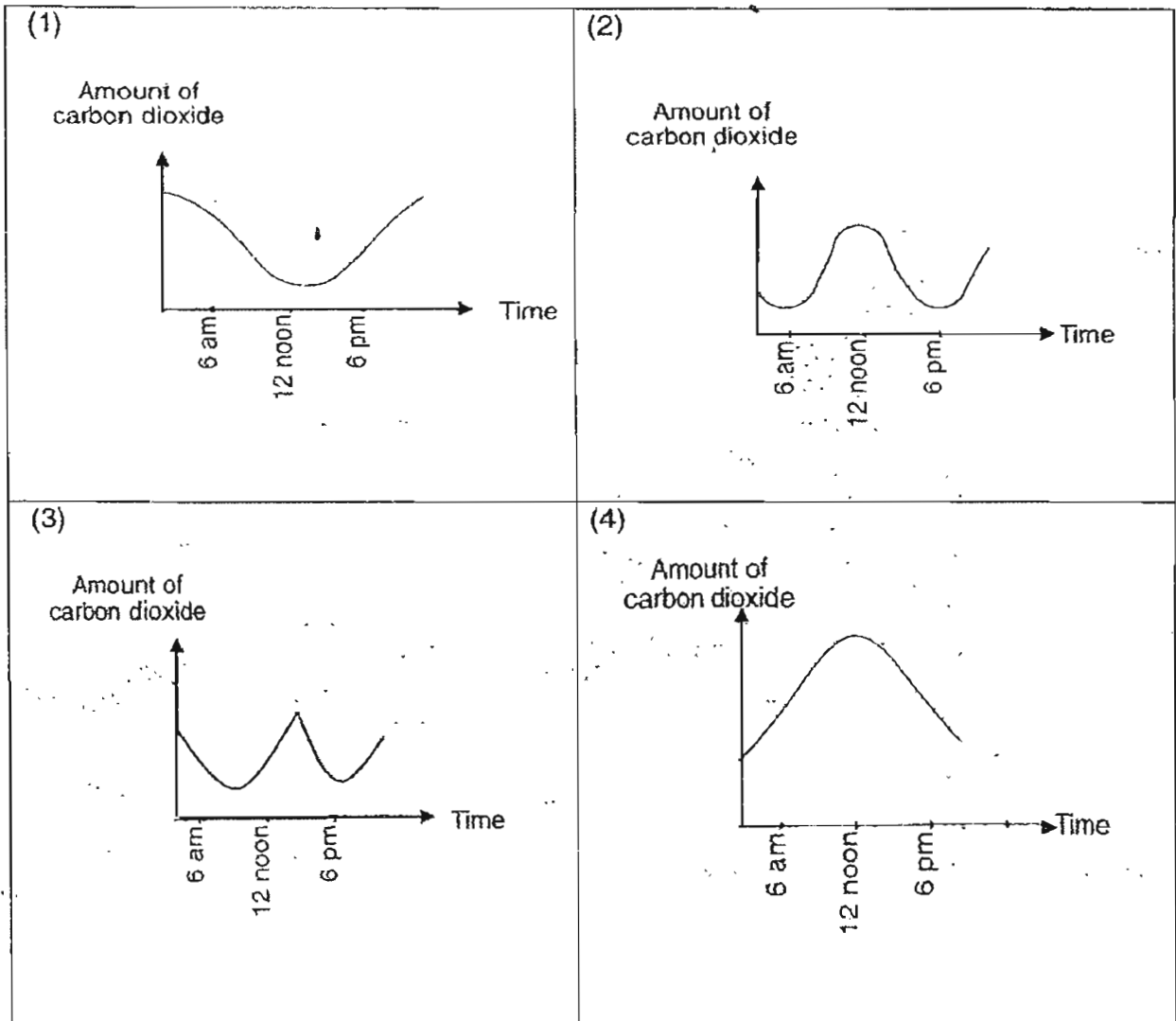


She made two cuts as shown in the diagram above.

Which one of the following pairs shows the correct cross-section of the stems made at cuts 1 and 2 respectively?

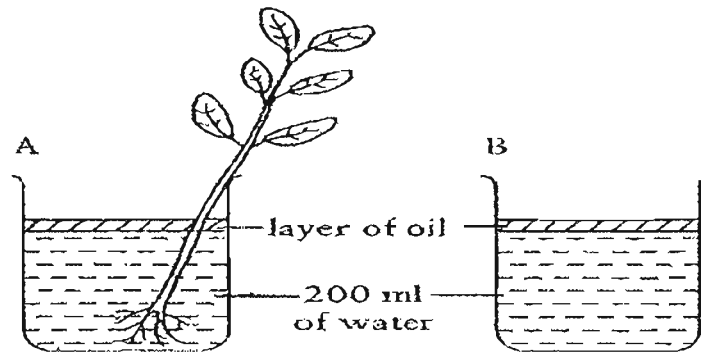
<p>(1)</p> <p>Cut 1                  Cut 2</p>	<p>(2)</p> <p>Cut 1                  Cut 2</p>
<p>(3)</p> <p>Cut 1                  Cut 2</p>	<p>(4)</p> <p>Cut 1                  Cut 2</p>

10. The amount of carbon dioxide in the air above a group of trees was measured over a period of 24 hours. Which one of the following graphs shows the amount of carbon dioxide in the air?





Study the set-up below carefully to answer questions 11 and 12.



Marcus placed two beakers, A and B, on a table near a window. Both beakers contained the same amount of water. He then poured an equal amount of oil into both beakers.

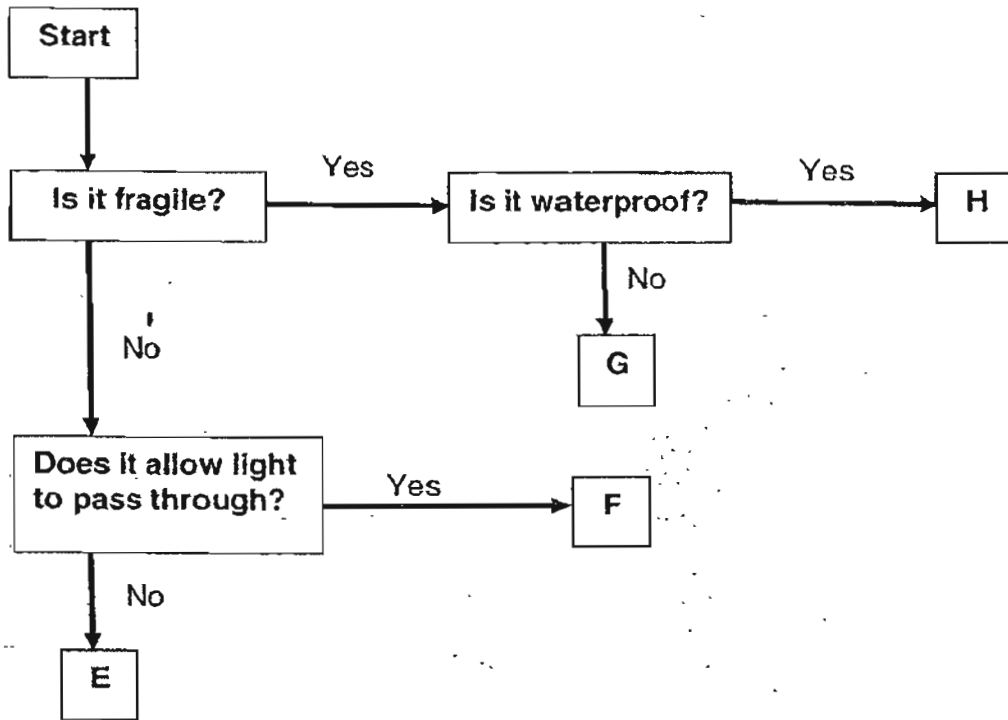
11. What was Marcus trying to find out?

- (1) To find out if oil affects the amount of water taken in by the plant.
- (2) To find out if plants take in water.
- (3) To find out if oil affects the rate of evaporation.
- (4) To find out if oil affects the rate at which water is taken in by the plant.

12. Which of the following correctly shows the amount of water left in beaker A and beaker B after 5 days?

	Amount of water left (ml) in Beaker A	Amount of water left (ml) in Beaker B
(1)	200	200
(2)	180	200
(3)	200	180
(4)	180	180

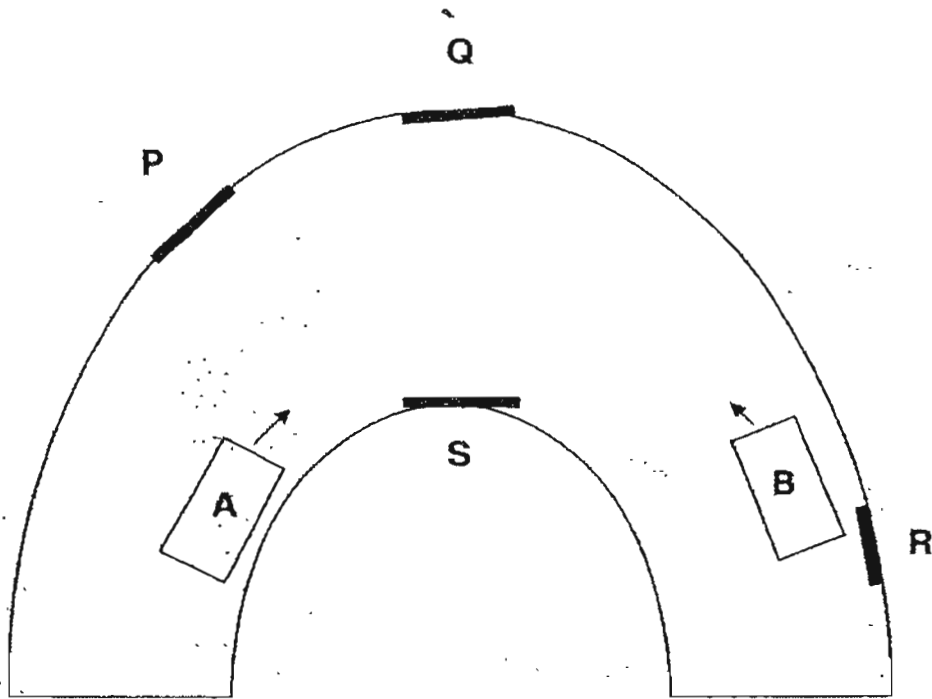
13. Study the flow chart carefully.



Which one of the following correctly represents the objects, E, F, G and H?

	E	F	G	H
(1)	Clear plastic sheet	Eraser	Glass bowl	Clay pot
(2)	Glass bowl	Clay pot	Clear plastic sheet	Eraser
(3)	Eraser	Clear plastic sheet	Clay pot	Glass bowl
(4)	Clay pot	Glass bowl	Eraser	Clear plastic sheet

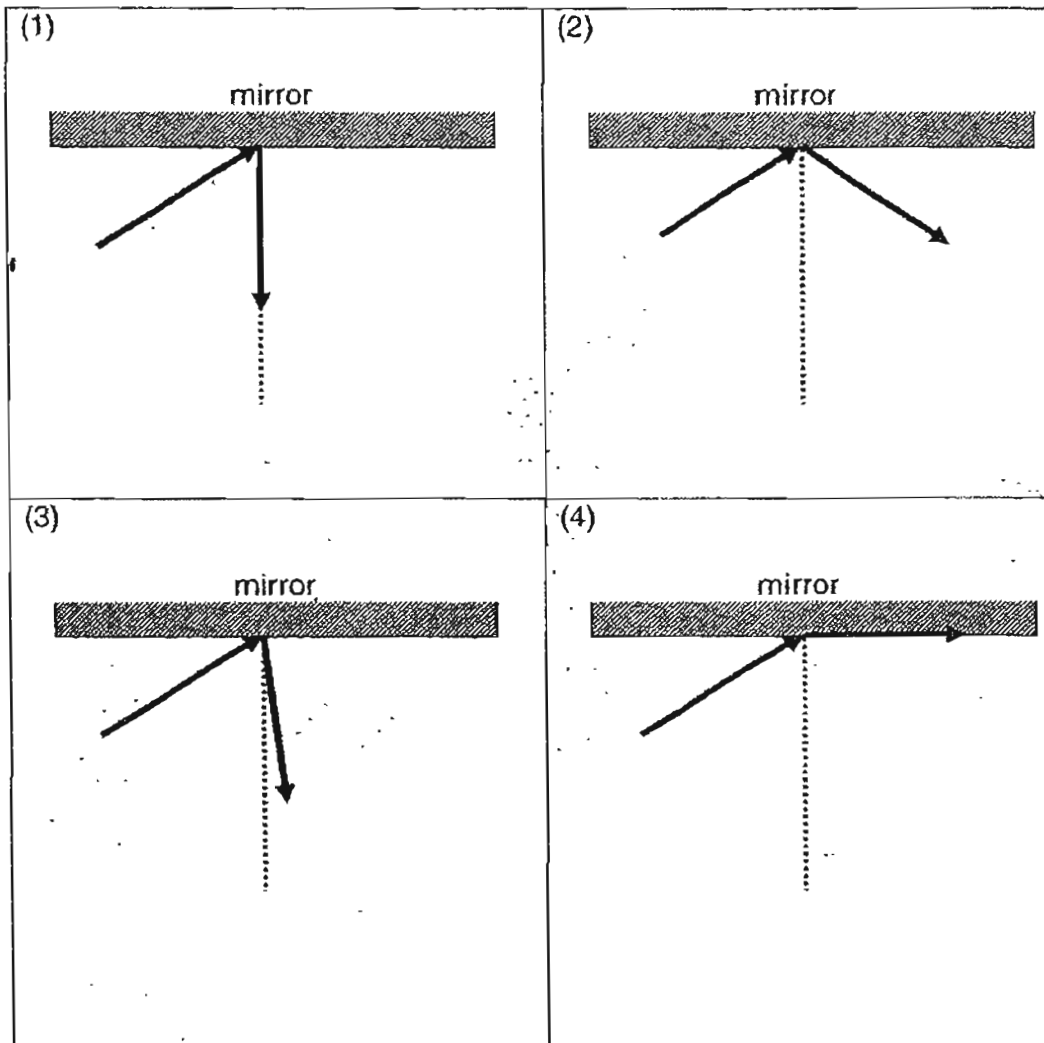
14. The diagram below shows two cars, A and B, and four mirrors, P, Q, R and S.



Which mirror(s) would allow the two drivers to see each other from the positions they were at?

- (1) P only
- (2) R only
- (3) P and Q only
- (4) R and S only

15. Which one of the following diagrams show how a ray of light is reflected by a plane mirror?

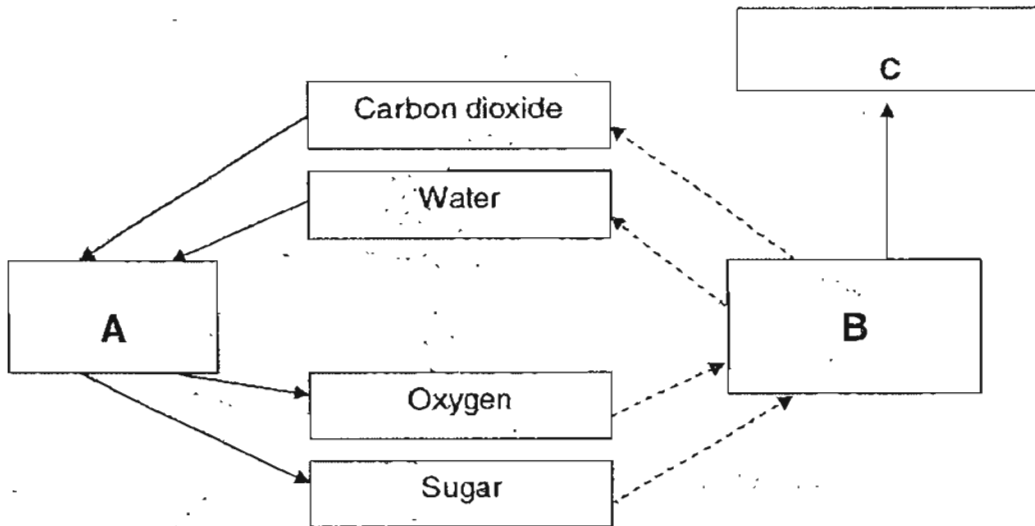


End of Section A

**Section B (20 MARKS)**

For questions 16 to 23, write your answers in this booklet.

16. The diagram below shows two processes that occur in a plant.



(a) Name the two processes, A and B, in the blanks provided below. (2m)

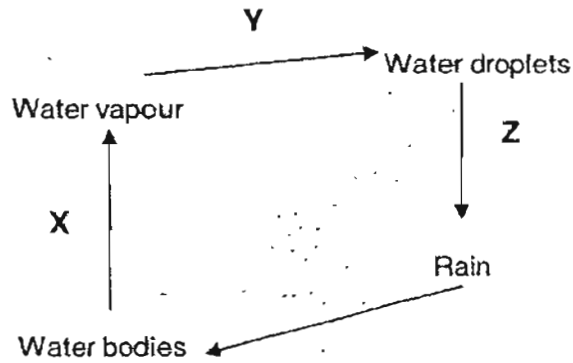
A: \_\_\_\_\_

B: \_\_\_\_\_

(b) Identify another product (labelled as C in the above diagram) that is produced during process B. (1m)

C: \_\_\_\_\_

17. The diagram below shows the three processes X, Y and Z that occur in a water cycle.



(a) During which process, X, Y or Z is the Sun important? (1m)

(b) How is the Sun useful during the process mentioned in part (a)? (1m)

18. Kelly tested four different materials, P, Q, R and S, for the amount of light that can pass through the materials. She used a light sensor as shown below.



The table below shows the results she recorded after the test.

Materials	Amount of light (lux)
P	30
Q	120
R	0
S	60

(a) Which of the above materials is the most suitable for making the lens of a magnifying glass? (1m)

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(b) Explain your choice in part (a). (2m)

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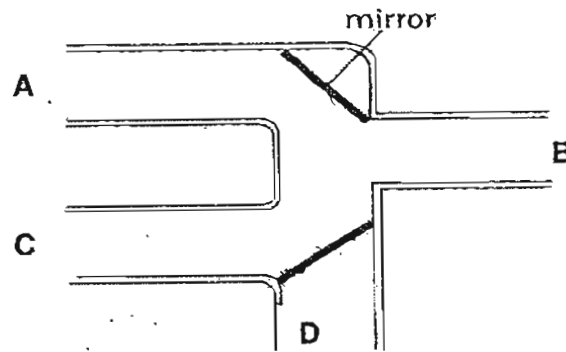


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19. The diagram below shows a connection of pipes. Two mirrors are placed inside the pipes.



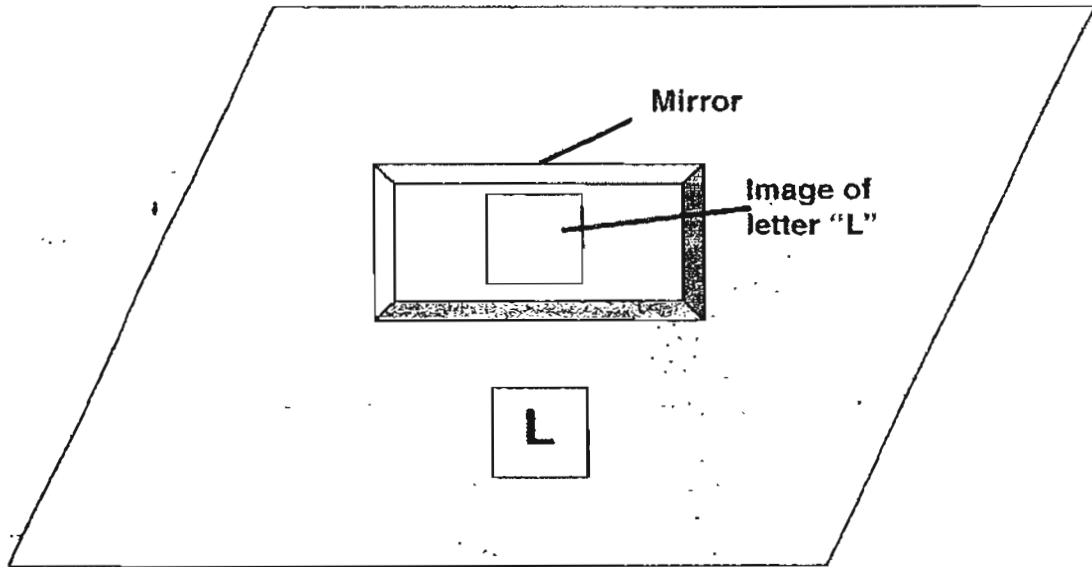
(a) In order to see an object positioned at C, where should the eye be positioned - A, B or D? (1m)

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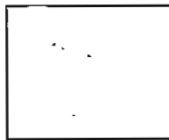
(b) Draw the pathway of light that allows the object to be seen in the diagram above. (1m)



20. A mirror is placed on a table as shown below. A card with the letter "L" is placed in front of the mirror.

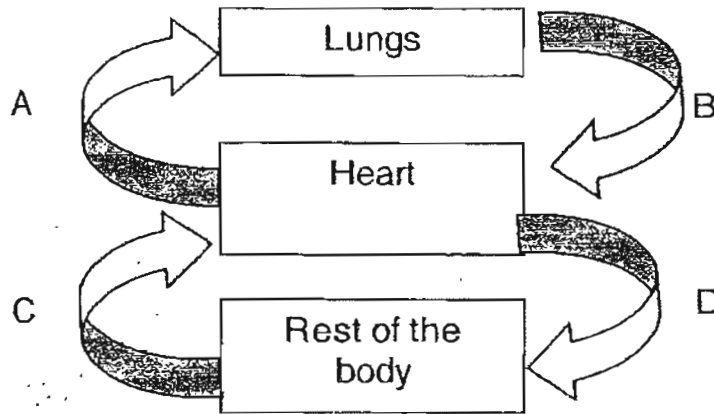


(a) Draw the image in the box below that would be observed in the mirror? (1m)



(b) In which mirror, smooth or rough will the image formed be clearer? (1m)

21. The diagram below is a simplified way of showing how our blood travels in the body through the blood vessels.



(a) In the above diagram, which of the blood vessel(s) above is/are vein(s)? (1m)

---

(b) During a vigorous activity, what change will take place in a blood vessel?

Put a tick ( ✓ ) to indicate the change in the box below. (1m)

(i) The amount of blood flowing in the blood vessel will increase.

(ii) The speed of blood flowing in the blood vessel will increase.

(c) Explain how the change in part (b) would enable a person to carry out a vigorous activity. (1m)

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# ANSWER SHEET

ROSYTH PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007  
CONTINUAL ASSESSMENT (2)

1.3

2.4

3.1

4.1

5.1

6.1

7.3

8.4

9.1

10.1

11.2

12.2

13.2

14.3

15.

16) a) A: photosynthesis

B: respiration

b) C: energy

17) a) X

b) It provides heat to change water into water vapour.

18) a) Q.

b) Q allows the most light to pass through so that the object can be seen clearly.

19) a) A

b)



20) a) A: smooth

21) a) A and B.

b) i) ✓

c) More blood carries more oxygen to the body to produce more energy.