METHODIST GIRLS' SCHOOL ( PRIMARY )
CONTINUAL ASSESSMENT 1 - SCIENCE
PRIMARY 6 , 2008

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NAME : _____( )

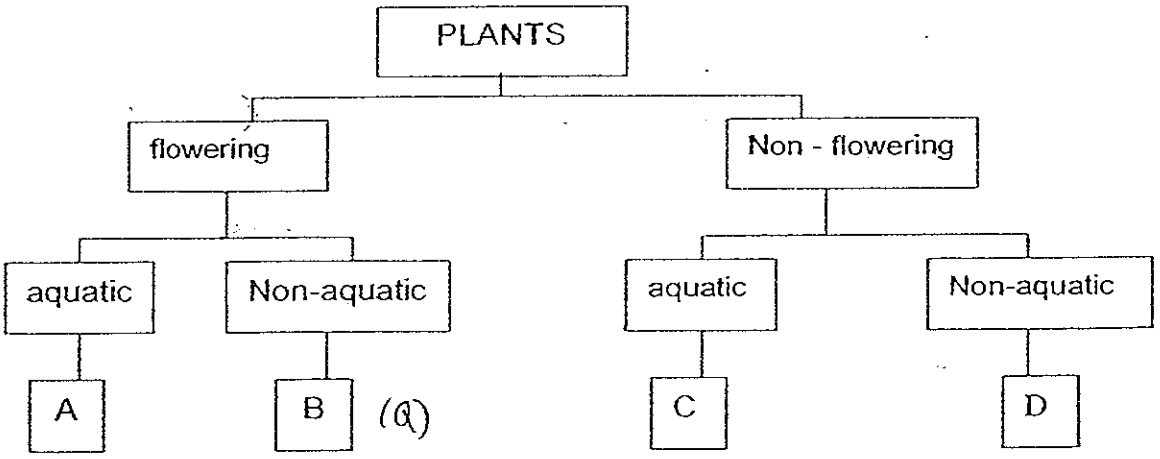
Date : _____

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval ( 1, 2, 3 or 4) on the Optical Answer Sheet.

1. The table below provides information on four plants, P, Q, R and S, based on two characteristics. A tick (√) shows that the plant has the characteristics.

| | PLANTS | | | |
|---|---|---|---|---|
| CHARACTERISTICS | P | Q | R | S |
| Bears fruits | | √ | √ | |
| Grows in water | √ | | √ | |

From the information above, where do plants Q and S belong in the following classification table.




| | PLANT Q | PLANT S |
|---|---|---|
| (1) | A | C |
| (2) | B | D |
| (3) | C | B |
| (4) | D | A |



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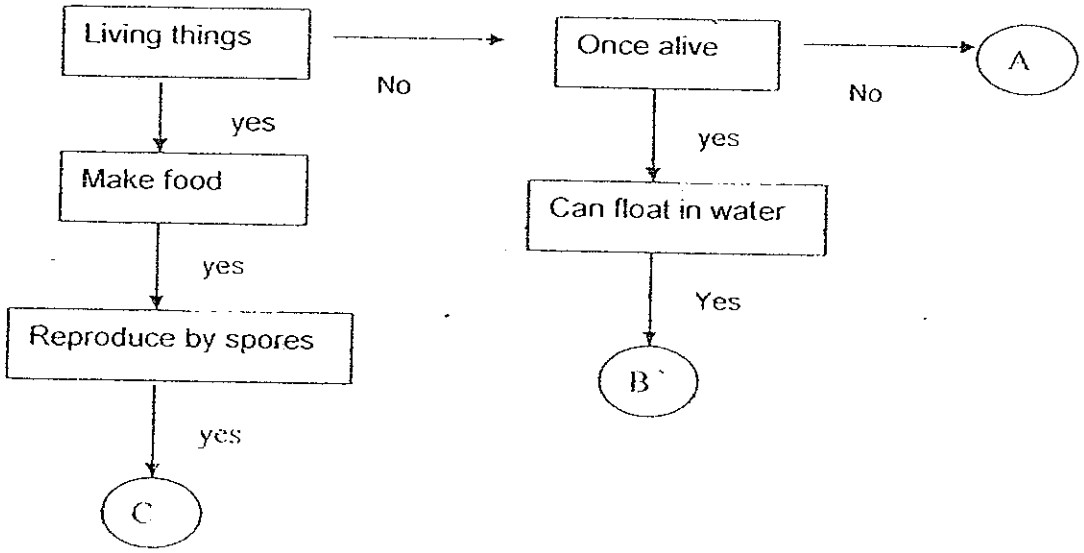
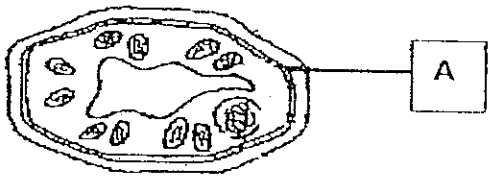
2. Study the flow chart below and decide which items can be A, B and C




| | A | B | C |
|---|---|---|---|
| (1) | Plastic tray | Steel needle | moss |
| (2) | Small stone | Rubber tube | Bird's nest fern |
| (3) | Grass | Paper | Bracket fungus |
| (4) | Drawing block | Plastic cup | algae |

3. The diagram below shows the cell of a green plant.




What is the function of A?

(1) It gives the cell a fixed shape.
(2) It controls the activities in the cell.
(3) It allows substances to move around within the cell.
(4) It controls the substances moving in and out of the cell.



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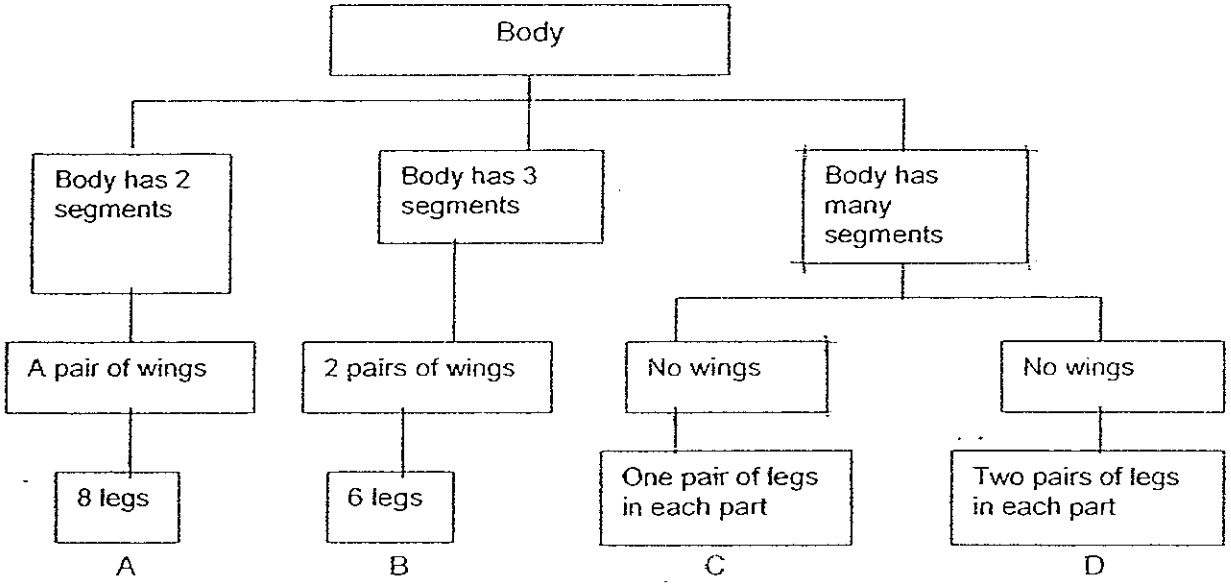
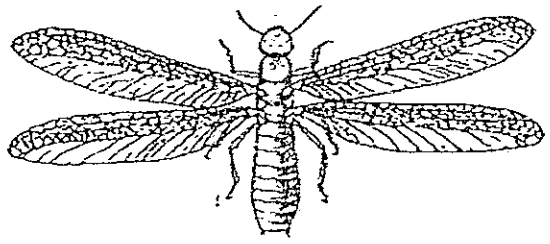
4. Study the classification table below.




Danny found an animal in the garden.



Which group A, B, C or D, does this animal belong to?

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



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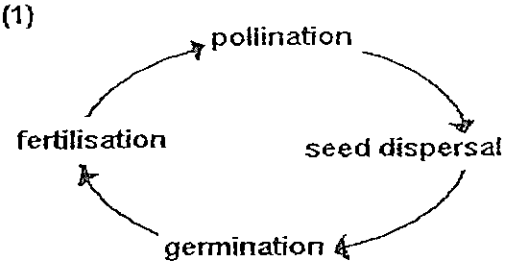
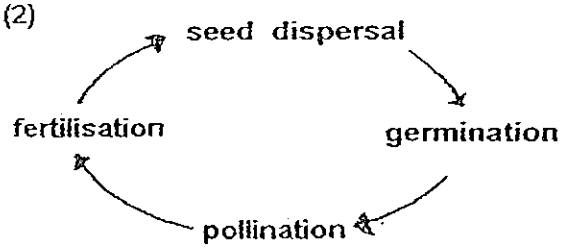
5. Which of the following shows the correct sequence of reproduction of a flowering plant.

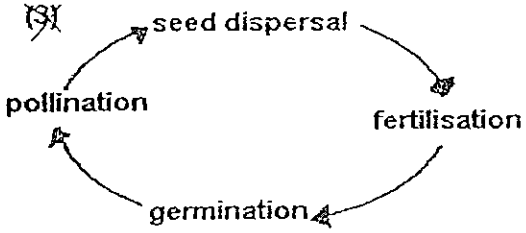
(1)



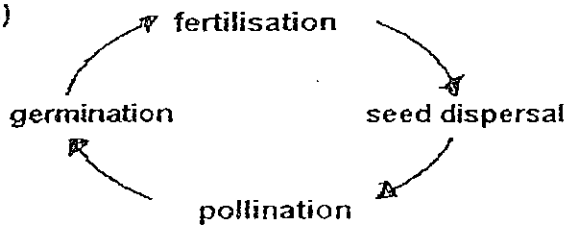

(2)



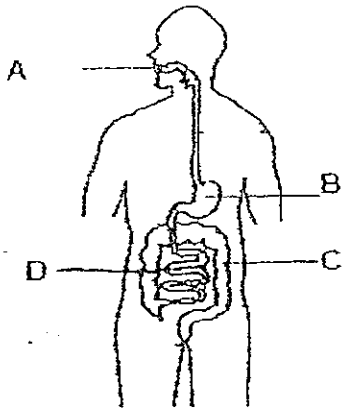

(3)




(4)




6. The diagram below shows the digestive system of a human body.




In which part/s, A, B, C or D is digested food being absorbed into the body?

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



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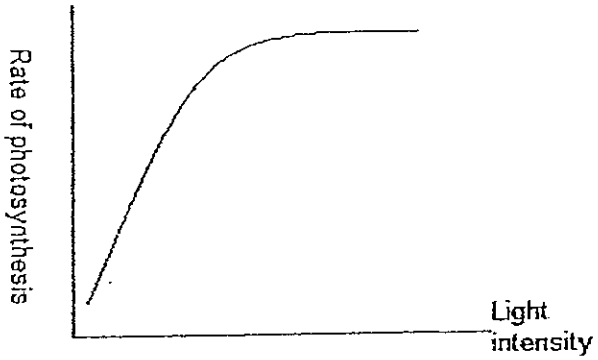
7. The graph below shows the effect of light energy on the rate of photosynthesis. Four children observed the graph and made some comments.



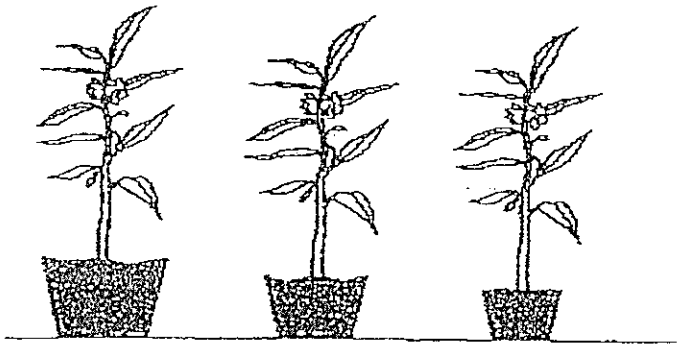

Andy : Rate of photosynthesis increases as light intensity increases.
Benny : Rate of photosynthesis decreases as light intensity increases.
Cathy : Light intensity has no great effect on the rate of photosynthesis.
Dan : The rate of photosynthesis slows down when light intensity reaches a certain point.

Who have made the right statements?

(1) Andy and Benny
(2) Andy and Dan
(3) Benny and Cathy
(4) Cathy and Dan

8. Jean wanted to find out if the amount of water will affect the growth of balsam plants. She planted 3 balsam plants of similar size in three pots, P, Q and R. The three pots of plants were placed in the same location in the garden .

| | POT P | POT Q | POT R |
|---|---|---|---|
| Material of pot | Plastic | Plastic | Plastic |
| Type of soil | Garden soil | Sandy soil | Clayey soil |
| Size of pot | 1500cm$^3$ | 1000cm$^3$ | 500cm$^3$ |
| Amount of water | 200cm$^3$ | 100cm$^3$ | 250cm$^3$ |




Jean's teacher told her that her experiment was not a fair one. Why was the experiment not a fair one?

A : The amount of soil in the pot was different.
B : The type of soil in each pot was different.
C : The amount of water for each pot was different.
D : The amount of sunlight for each pot was different.

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



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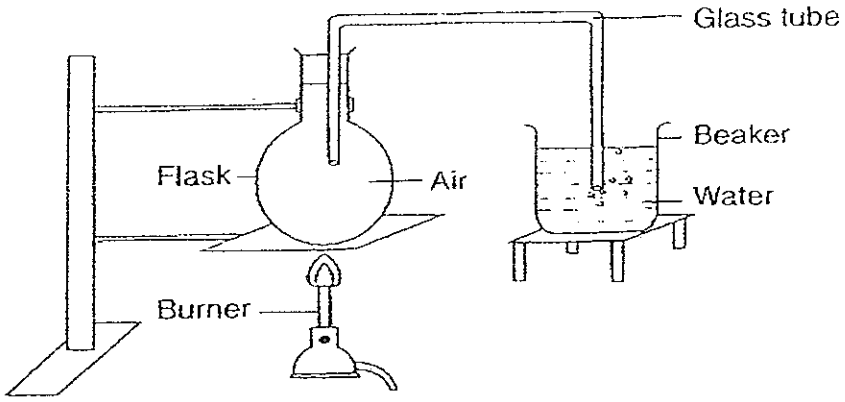
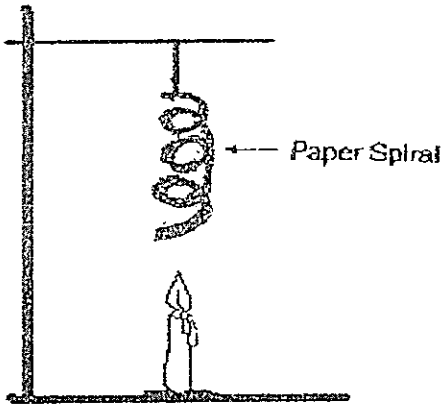
9. Study the diagram below.




When the flask is warmed, bubbles will appear at the mouth of the glass tubing in the beaker of water. This is because _____.

(1) the air in the beaker expands.
(2) the air in the flask expands.
(3) the water in the beaker contracts
(4) the water in the beaker expands

10.

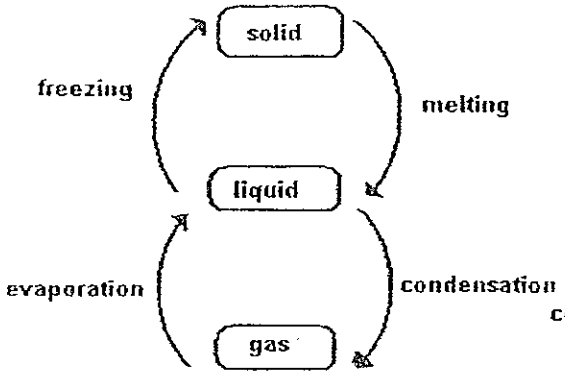



The above diagram shows a burning candle and a paper spiral. After some time, it was observed that the spiral spin. What energy changes had taken place?

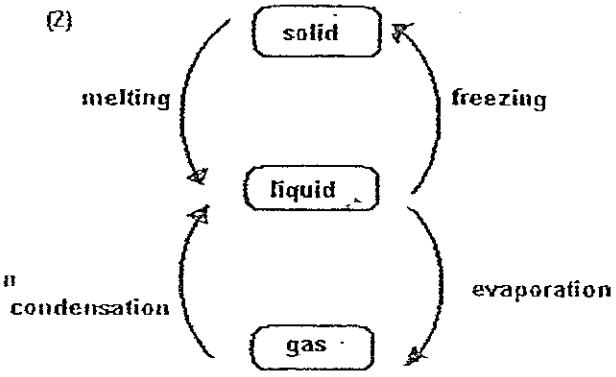
(1) Heat energy of flame → Heat energy of air → Kinetic energy of air particles
(2) Electrical energy of flame → kinetic energy of air particles → Kinetic energy of spiral
(3) Heat energy of candle → kinetic energy of flame → gravitational potential energy of spiral
(4) Chemical potential energy of wax → heat energy of flame →kinetic energy of air particles

11. Which one of the following diagrams shows the process of melting, freezing, evaporation and condensation correctly?

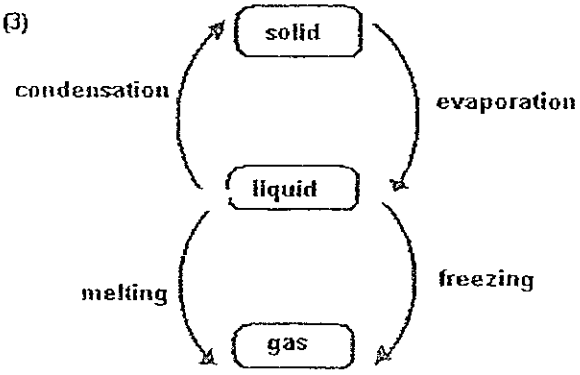
(1)



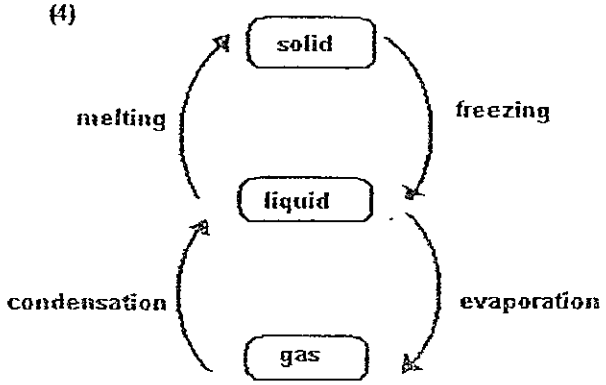

(2)




(3)




(4)



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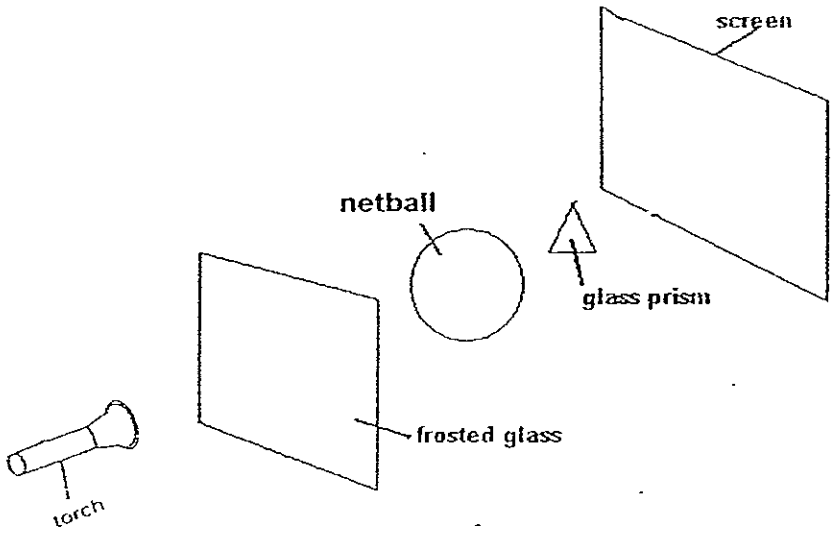
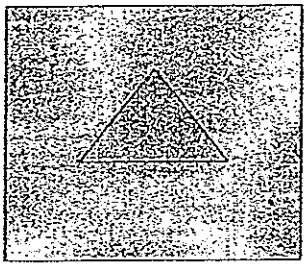
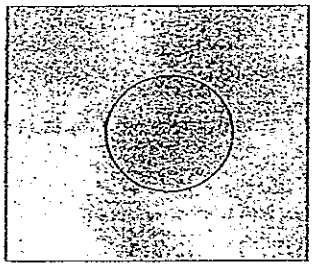
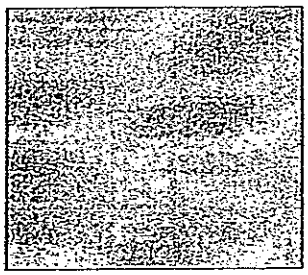
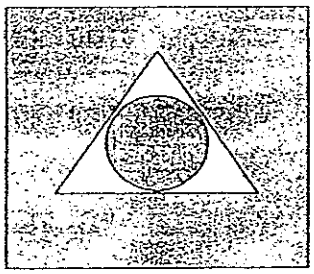
12 Julie shines a torch on three objects, a piece of frosted glass, a netball and a glass prism. What image will Julie see on the screen?




(1) 

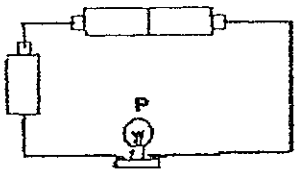
(2) 

(3) 

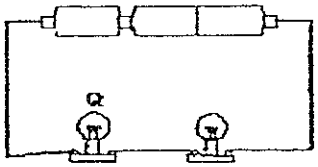
(4) 

13. The diagram below shows four circuits with different arrangements of identical batteries (1.5v) and bulbs(3.8v).

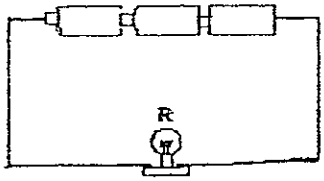
(1)



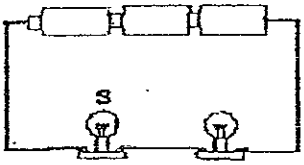

(2)




(3)




(4)




Which one of the following shows the brightness of the bulbs P, Q, R and S?

| | Brightness of bulb | | |
|---|---|---|---|
| | Bright | Brighter | Brightest |
| (1) | P | R | Q |
| (2) | Q | S | R |
| (3) | R | Q | P |
| (4) | S | P | Q |



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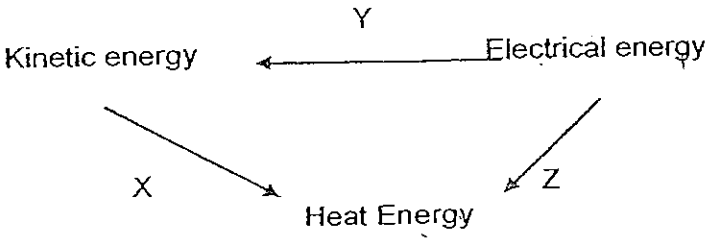
14.

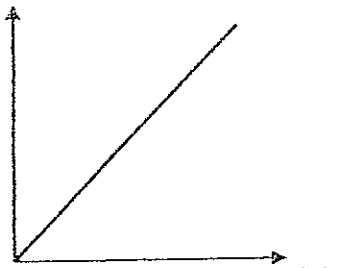



In the diagram above, the energy changes brought about by different activities are represented by arrows X, Y and Z. Which of the following activities brought about the energy changes?

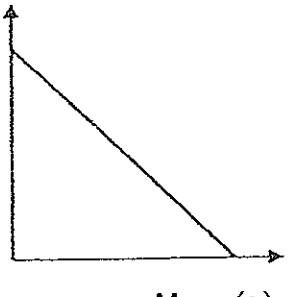
| | X | Y | Z |
|---|---|---|---|
| (1) | Switching on toy car | Striking a matchstick | Switching on a toaster |
| (2) | Switching on toy robot | Switching on a turbine | Generator generates electricity |
| (3) | Rubbing 2 stones together | Generator generates electricity | Switching on an iron |
| (4) | Rubbing a bottle cap on the floor | Switching on a hair dryer | Switching on an oven |

15. Which of the following graphs shows the relationship between mass of an object and gravitational potential energy of that object given the height of the object from the ground is the same?

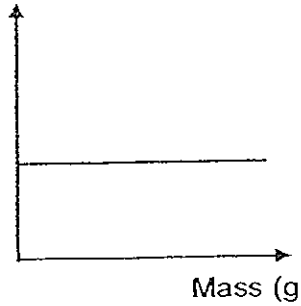
(1) potential energy



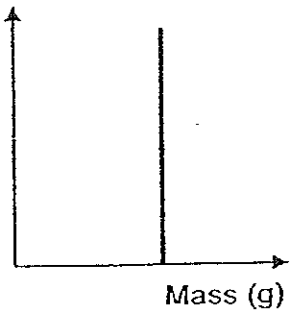

(2) potential energy




(3) potential energy

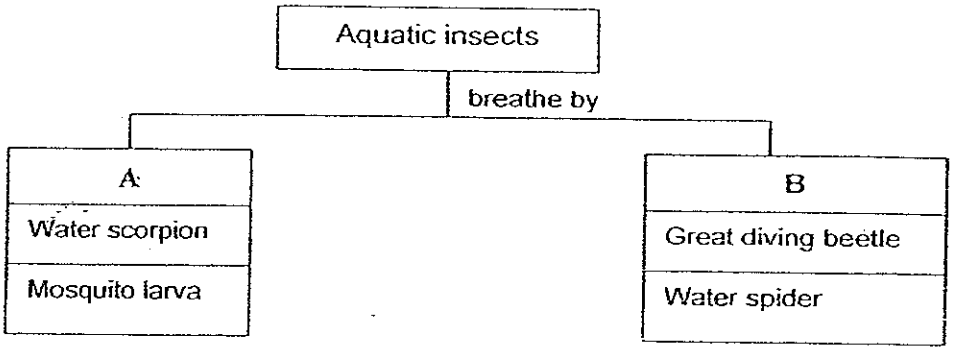



(4) potential energy



Section B ( 20 marks)
**For questions 16 – 23, write your answers in the blanks provided.**

16. Study the classification table below.




((a)) Give the correct heading for :

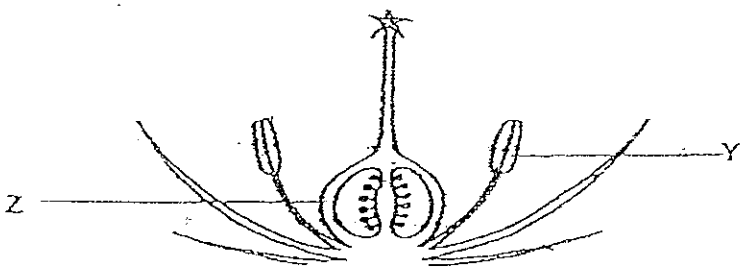
A :_____ B : _____

(b) Where do the above insects get their oxygen? (1m)

_____

_____

17. The diagram below shows a flower.




(a) Which organs in the human reproductive system perform similar functions as Y and Z in the flower? ( 2m)

Y :_____

Z :_____

(b) Which two processes must occur before the formation of a fruit? (1m)

_____



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18. A fish was placed in water with an air pump which provides oxygen at different rates. The amount of oxygen dissolved in the water was measured and the number of gill beats was counted by carefully observing the fish. The results are shown in the table below.

| Amt of dissolved oxygen per $cm^3$ of water | Number of gill beats per minute. |
|---|---|
| 9.25 | 20 |
| 8.05 | 28 |
| 7.23 | 33 |
| 6.28 | 36 |
| 6.08 | 41 |

(a) Describe the relationship between the amount of dissolved oxygen in the water and the number of gill beats. (1 m)

_____

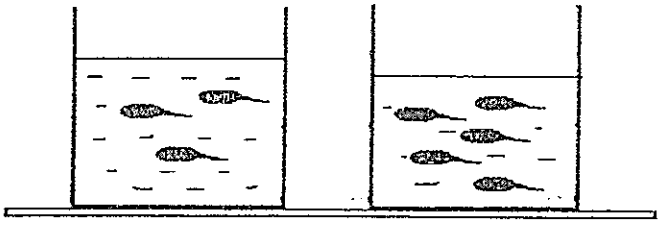
_____

(b) Give an explanation for your answer in (a) (1m)

_____

_____

19. Jenny saw many tadpoles in a pond in her school eco-garden. She wanted to find out which type of water, pond water or tap water, is more suitable for the tadpoles to grow healthily. She caught the tadpoles and placed them in 2 identical containers as shown below. She placed the containers in the same room.



Pond water Tap water

Her teacher told her that her experiment was not a fair test.

(a) Give two reasons why her test was not a fair one. ( 2m)

_____

_____

(b) What should she do to ensure that her tadpoles survive to become baby frogs? (1m)

_____

_____

_____

20. David designed a spring wound-up talking robot. He decided to test his robot by carrying out an activity. His results are shown as follows.

| Number of winds | 5 | 10 | 15 | 20 | 25 | 30 |
|---|---|---|---|---|---|---|
| Distance traveled (cm) | 3 | 7 | 10 | 14 | 17 | 21 |

(a) What is the relationship between the number of winds and the distance travelled? (1m)

_____

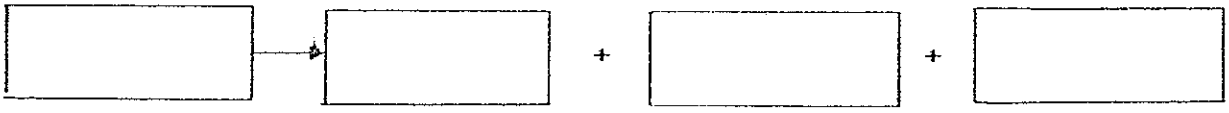
_____

(b) Where is the energy stored in David's toy? (1m)

_____

_____

(c ) Complete the energy conversions below when the robot was all wound-up and released. (1m)





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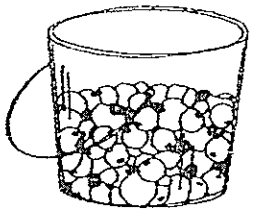
21. A mixture of glass marbles and cork pieces is placed in a plastic bucket. All the marbles have the same size and shape. The cork pieces have different sizes and shapes.



The table below shows the properties of the glass marbles and the cork pieces.

| Property | Glass marbles | Cork pieces |
|---|---|---|
| Texture | Hard & smooth | Soft & squishy |
| Shape | Round | Different shape |
| Size | 1.5 cm diameter | From 0.5 – 4 cm in diameter or length |
| Buoyancy | Sink in water | Float in water |

(a) Using the information provided, do you think a filter can be used to separate the mixture? Provide an explanation for your answer. (1m)

_____

_____

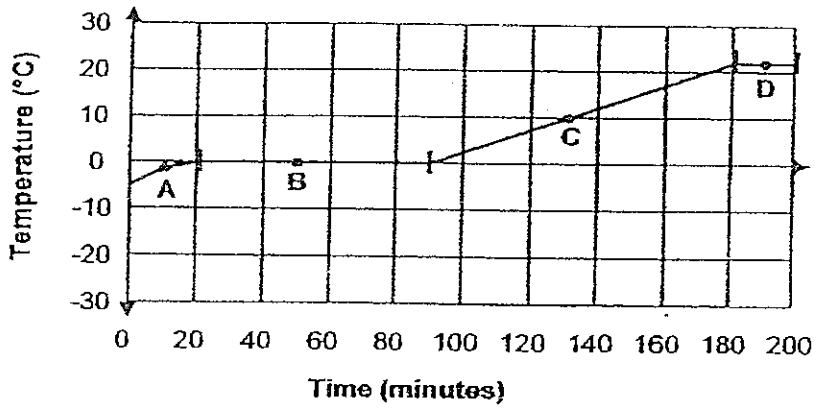
_____

(b) Using some or all of the following apparatus, suggest a way to separate the mixture. (2m)

a filter, a beaker of water, an empty container

| |
|---|
| Step 1 : |
| Step 2 : |
| Step 3 : |

22. Mathew took a few ice cubes from the freezer and put them into a beaker. He measured the temperature of the contents of the beaker every 10 minutes and made a graph of his results.




Look at the time periods labelled B and D on the graph. During these periods, the temperature remained constant. Explain why the temperatures did not change at B and D? (2m)

(a) At B : _____

_____

(b) At D : _____

_____



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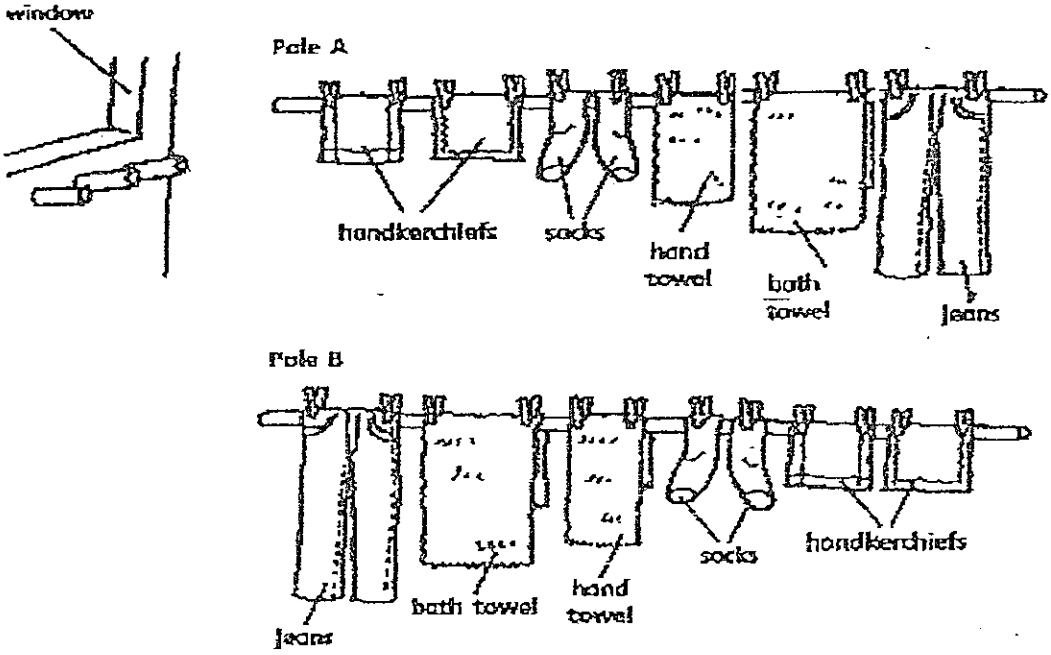
23. Fiona was helping her mother put out some clothes to dry on a bamboo pole outside their flat one day. She arranged the clothes as shown in Pole A. However, her mother suggested that she should arrange the clothes as shown in Pole B with the heavier ones inside. ( Both poles are of the same length and weight.)




(a) Do you agree with Fiona's mother and why? (2m)

_____

_____

_____

MGS Primary School

Primary 6 Science CA1 Exams (2008)

Answer Keys

| Qo. | Ans |
|---|---|
| 1 | 2 |
| 2 | 2 |
| 3 | 4 |
| 4 | 2 |
| 5 | 2 |
| 6 | 2 |
| 7 | 2 |
| 8 | 3 |
| 9 | 2 |
| 10 | 4 |

| Qn no. | Ans |
|---|---|
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 4 |
| 15 | 1 |

16a. A : Air tube B : bubble

16b. The above insects get their oxygen from the air outside the water.

17a. Y : Penis Z : ovary

17b. Pollination and fertilization

18a. The more dissolved oxygen in the water, the less the gill beats.

18b. When there is less oxygen, the fish beat its gills faster in order to get more oxygen and air.

19a. 1) The tank with the tap water has two more tadpoles than the one with pond water. More tadpole means there is less oxygen in the water.

2) The tank with the pond water has become water, and therefore has more oxygen.

19b. Jenny should put her tadpoles in pond water and ensure that they have enough food and air to survive.

20a. The more the number of winds the further it travelled.

20b. In the wound up spring.

20c. Potential energy → kinetic energy + sound energy + heat energy

21a. A filter cannot be used. As the cork pieces have many different sizes they cannot be filtered in one go.

21b. Step 1 : Fill the empty container with the water in the beaker.
Step 2 : Pour in the mixture of glass marbles and cork pieces into the container filled with water.
Step 3 : Remove the cork pieces floating at top followed by the glass marbles which have sunk to the bottom.

22a. The ice cubes were melting. Only when all the ice cubes have finished melting, then it started gaining heat.

22b. The water had reached room temperature, the highest possible temperature it could reach.

23a. Yes. Lesser effort is needed to raise the pole if the heavier load is nearer to the fulcrum.