# TAO NAN SCHOOL

## PRIMARY 5 SCIENCE END-OF-YEAR EXAMINATION – 2008

Name: _____ (  ) Date: 23 October 2008

Class: P5 ( K  ) Time: 8 a.m. to 9.45 a.m.

## BOOKLET A

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

| | Score | Marks |
|---|---|---|
| Section A | | 60 |
| Section B | | 40 |
| Total | | 100 |

Parent's signature: _____

**Section A (30 x 2 marks)**

For each question, choose the most suitable answer and shade its correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. In what way is the Earth and Moon similar?

(1) They give off light.
(2) They can support life.
(3) They change their shapes.
(4) They move in regular orbits.

2. Study the table below.

Which of the following is **incorrect**?

| | Event | Is caused by the Earth moving around the Sun? | Is caused by the Earth spinning about its own axis? |
|---|---|---|---|
| (1) | My birthday | Yes | No |
| (2) | Sunrise and sunset | No | Yes |
| (3) | Changes of seasons | Yes | No |
| (4) | National Day | No | Yes |

3. Which of the following statements about the water cycle is **incorrect**?

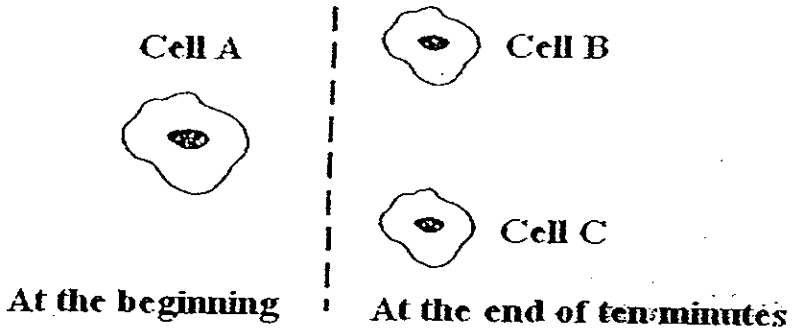
(1) Evaporation takes place all the time.

(2) Rain falls when the clouds get too heavy.

(3) As the water vapour rises, it gets warmer.

(4) The water vapour condenses to form tiny droplets of water.

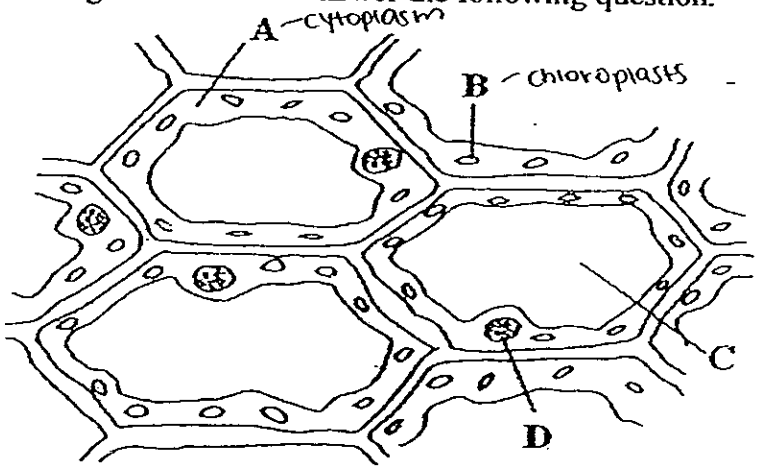
4. Every ten minutes, a cell divides to form two new cells.




In the diagram above, a similar cell A divides to form two new cells, B and C. How many cells are present at the end of twenty minutes, if there is sufficient food and water for all the cells to continue living?

(1) 2
(2) 4
(3) 6
(4) 7

5. Study the diagram below and answer the following question.

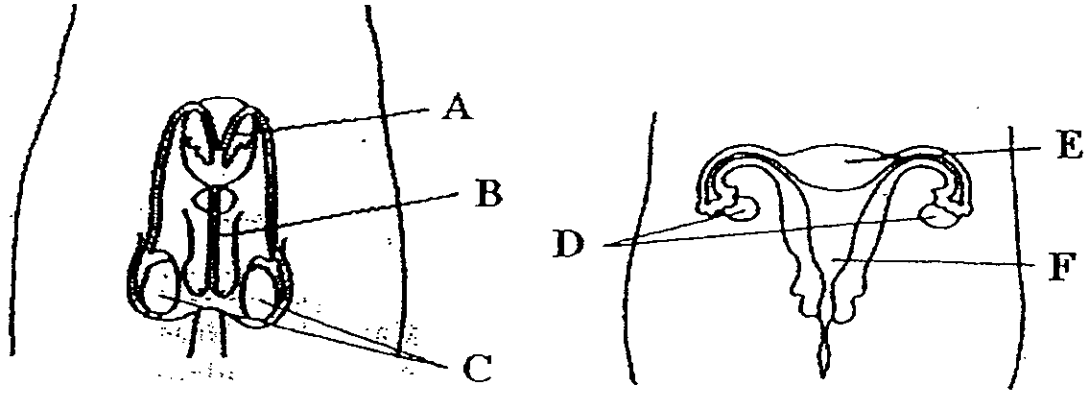



A : It allows some substances to pass through.
B : It is a disc-shaped part which contains a green pigment.
C : It contains waste products and helps to maintain its shape.
D : It controls all the activities within the cell and contains genetic material.

Which of the above statements are **true**?

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

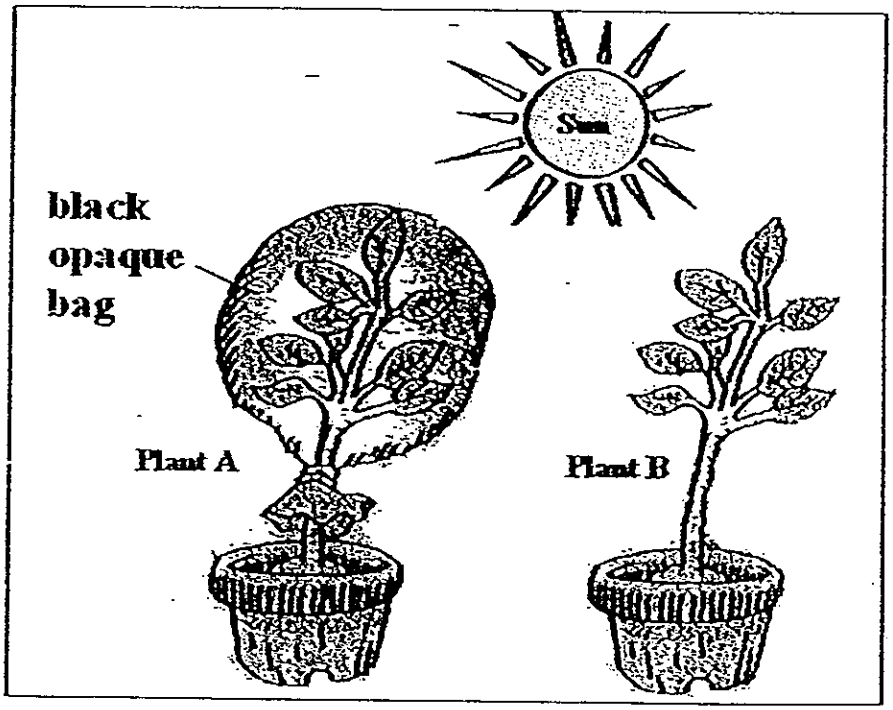
6.




Which parts of the reproductive systems in the diagrams above produce the egg and sperm?

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

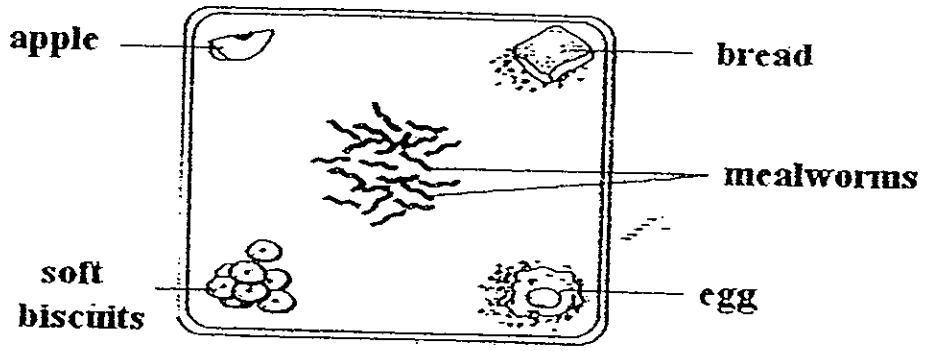
7.




An experiment is set up as shown above. John takes a leaf from Plant A and Plant B after a few days. The leaves are tested with iodine. Which of the following are the results?

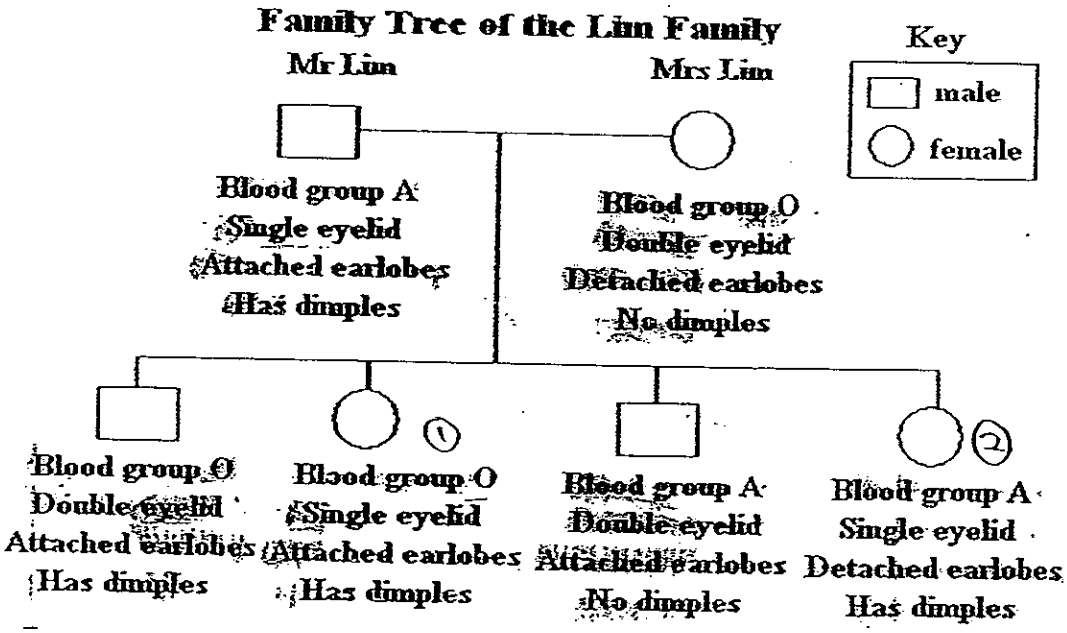
| | Leaf from Plant A | Leaf from Plant B |
|---|---|---|
| (1) | Iodine remains the same | Iodine turns blue black |
| (2) | Iodine turns blue black | Iodine turns brown |
| (3) | Iodine remains the same | Iodine turns brown |
| (4) | Iodine turns blue black | Iodine remains the same |

8. Harry carried out an experiment using 20 mealworms. The mealworms were placed in the centre of a tray as shown in the diagram below. A different type of food was placed at each corner of the tray. What was Harry trying to find out?




(1) Which mealworm eats the most?
(2) Are mealworms attracted to food which man eats?
(3) Do mealworms prefer a certain kind of food more than others?
(4) How do mealworms respond to food placed at different places?

9. Study the family tree of the Lim family below.



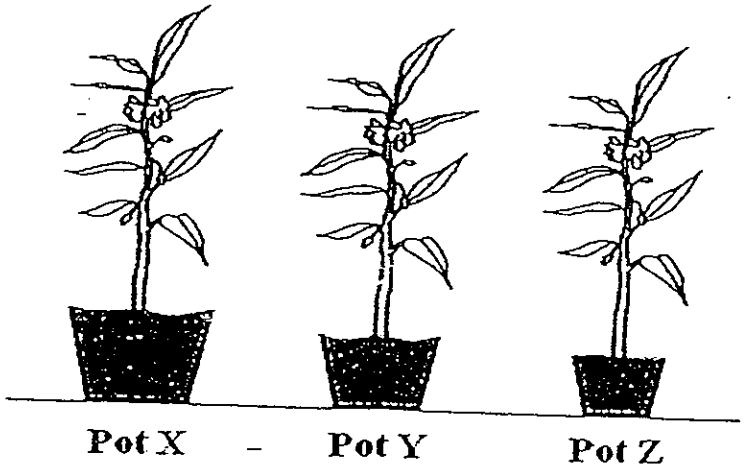

How many children of Mr and Mrs Lim inherited at least three characteristics from one of them?

(1) 1
(2) 2
(3) 3
(4) 4

10. Jean wanted to find out what type of soil was suitable for growing balsam plants. She planted 3 balsam plants of similar size in three pots, X, Y and Z.

| | Pot X | Pot Y | Pot Z |
|---|---|---|---|
| Material of pot | plastic | plastic | plastic |
| Type of soil | garden soil | sand | clay |
| Size of pot | 1500 $cm^3$ | 1000 $cm^3$ | 500 $cm^3$ |
| Amount of water used every day | 200 $cm^3$ | 200 $cm^3$ | 200 $cm^3$ |

The three pots were placed in the garden as shown below.




Why was the experiment **not** a fair one?

(1) The amount of soil in each pot was different.
(2) The type of soil used in each pot was different.
(3) The three pots were given the same amount of water.
(4) The balsam plant in Pot X obtained more sunlight than the others.

11. Which of the following are required for respiration to take place?

A : Oxygen
B : Carbon dioxide
C : Glucose
D : Energy

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

12. Clancy was given some seeds and fruits as shown below. She grouped them according to the way they are dispersed. Which of the following is grouped **wrongly**?

(1)


**mimosa**


**lalang**


**shorea**

(2)


**pong pong**


**attap**


**sea almond**

(3)


**papaya**


**mango**


**love grass**

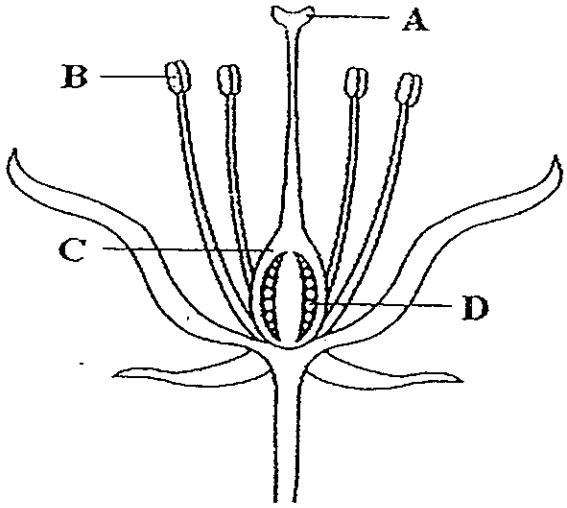
(4)


**balsam**


**rubber**


**saga**

13. The diagram below shows a cross section of a flower.




Which parts of the flower are necessary for pollination?

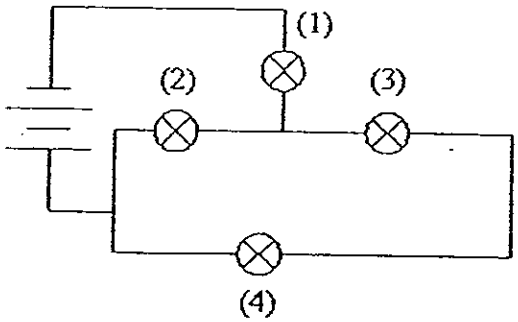
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

14. Which of the following are **correct**?

A : A light bulb is a source of electrical energy.
B : The chemicals in a battery produces electricity.
C : Electric current can flow through an open circuit.
D : Wires are used to connect the components in a circuit.

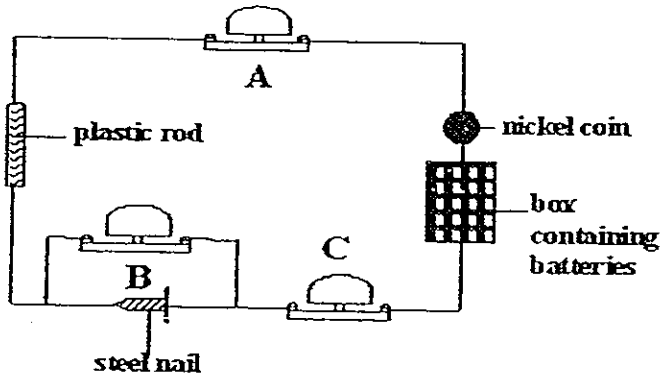
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

15. The circuit diagram below shows four bulbs connected to two batteries.




When one particular bulb fuses, the other three bulbs will still light up. Which bulb is that?

16. The diagram below shows three buzzers, A, B and C, in a circuit. Which of these buzzer(s) will sound?




(1) None of the buzzers
(2) B only
(3) A and C only
(4) All of the buzzers

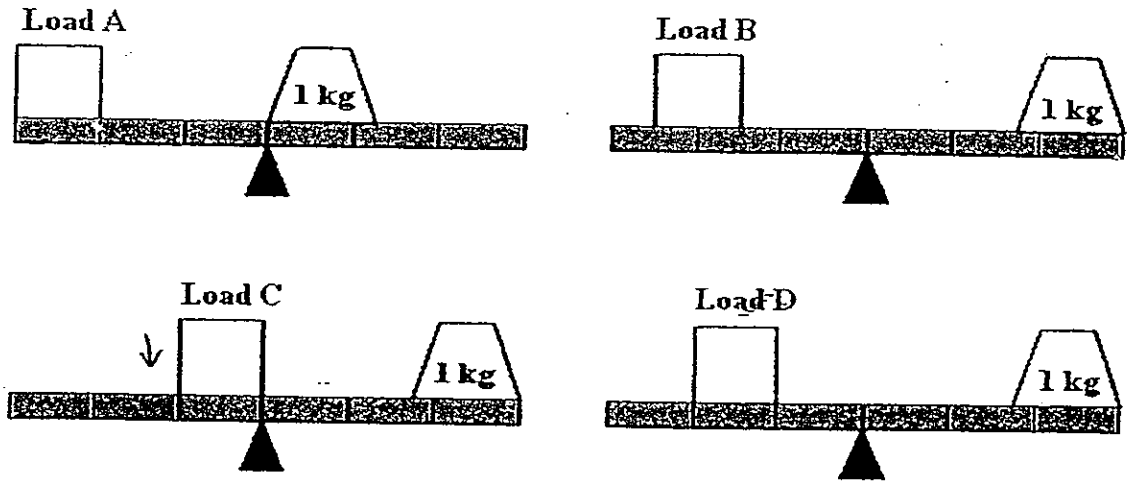
17. Which of the following **does not** help to conserve electricity?

(1) Leave the computer on standby mode for 24 hours.
(2) Use energy-saving bulbs instead of florescent lamps.
(3) Use electrical appliances that switch off automatically.
(4) Open the door of the refrigerator only when it is needed.

18. Which of the following actions requires pushing?

(1) Wearing socks.
(2) Getting rid of weeds.
(3) Closing the refrigerator door.
(4) Dragging a parcel on the floor.

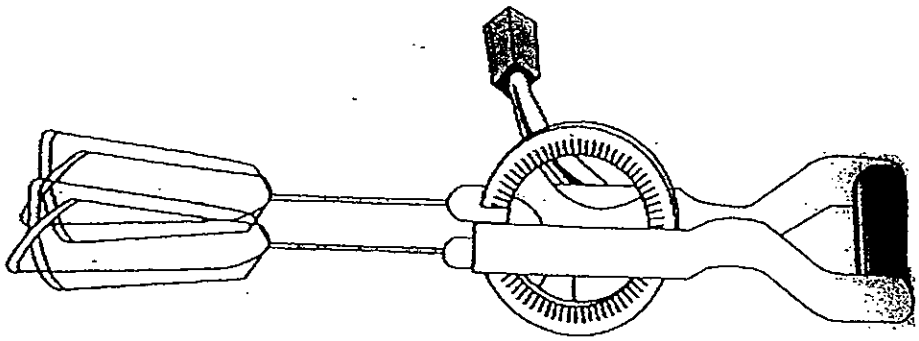
19. Study the set-ups below.




Arrange the masses of the loads from the **smallest to the biggest**.

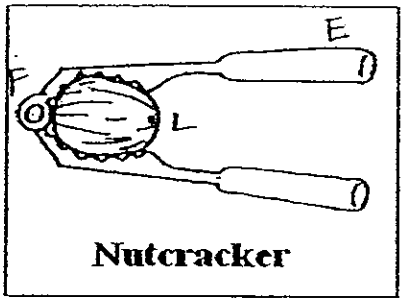
(1) A, B, C, D
(2) A, B, D, C
(3) C, B, A, D
(4) C, D, B, A

20. Which simple machines can you find in the egg beater below?



(1) Lever and inclined plane
(2) Gears and inclined plane
(3) Wheel and axle and lever
(4) Wheel and axle and gears

21. Which of the following objects below has its fulcrum, load and effort arranged in the same order as that in a nutcracker?

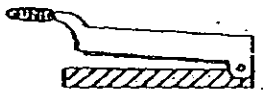


Nutcracker

(1) Scissors

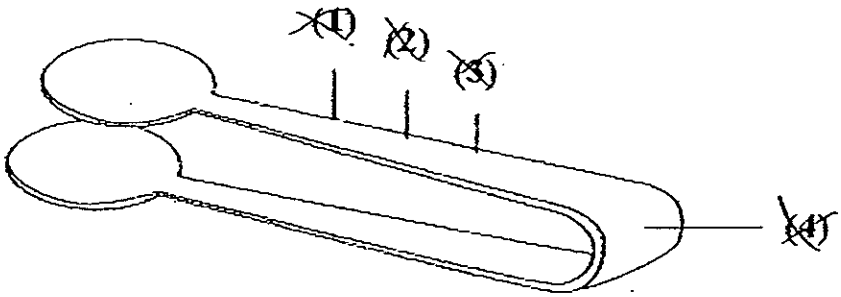
(2) Hammer

(3) Can opener

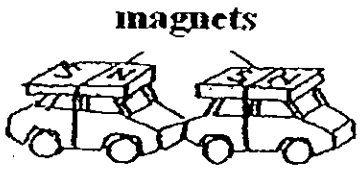


(4) Paper cutter

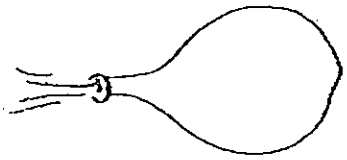
22. In the tongs below, the effort should be applied at point _____ for the least force to carry the load.



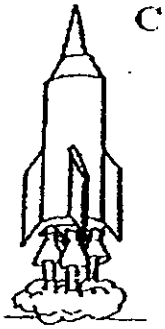
23. Which of the following are results of forces?



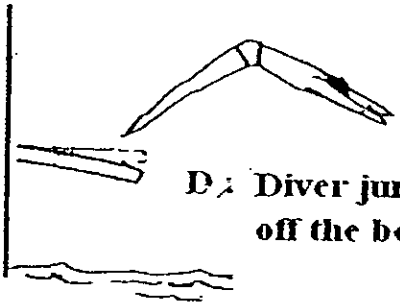

A ; Toy cars touching each other



B ; Released balloon flying



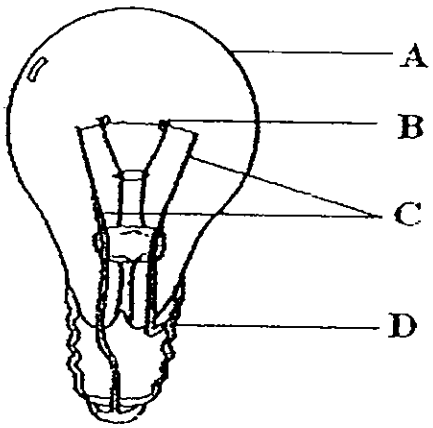
C ; A rocket launching into outer space



D ; Diver jumping off the board

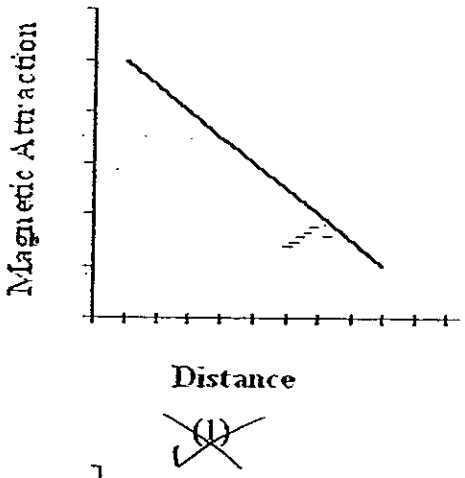
(1) A only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

24. Which parts of the light bulb allow electricity to pass through?

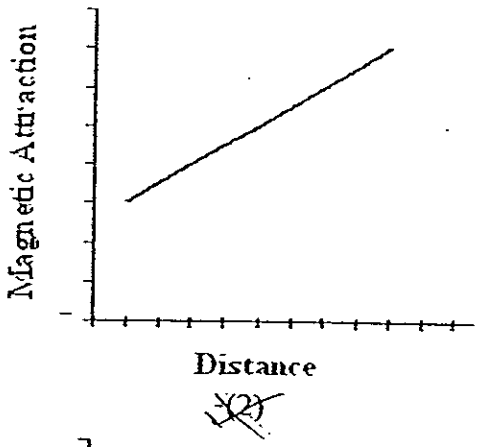



(1) B and C only
(2) A, B and C only
(3) B, C and D only
(4) A, B, C and D

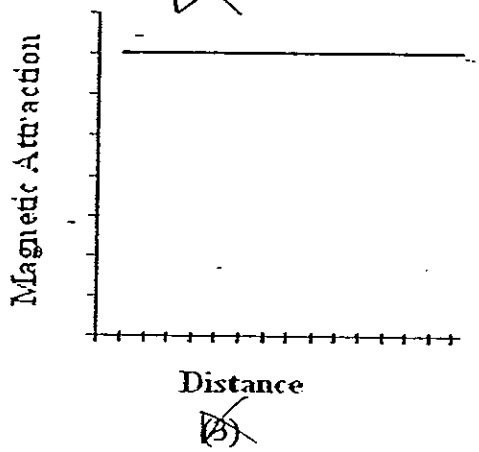
25. Which of the following charts would most likely represent the relationship between magnetic attraction and distance between a magnet and a magnetic material?



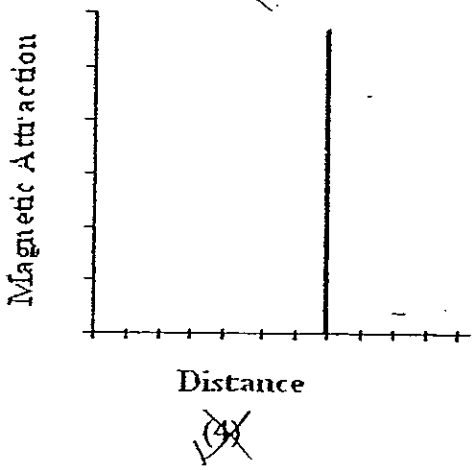

(1)




(2)




(3)

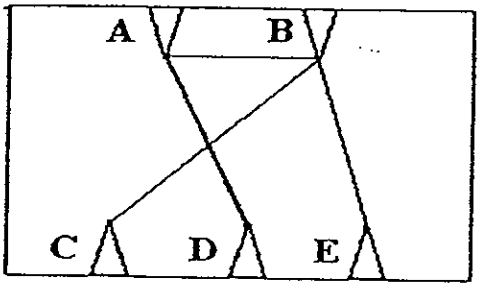



(4)

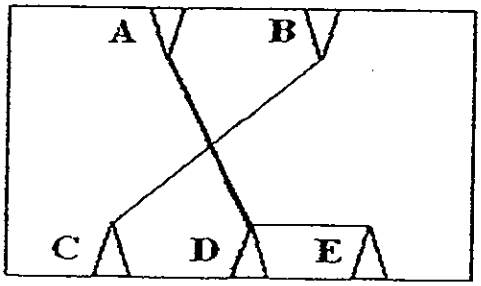
26. Susan used a circuit tester to test a circuit card. The results are recorded in the table below.

| Clips connected to circuit tester | Light bulb of circuit tester |
|---|---|
| A and C | Does not light up |
| A and D | Lights up |
| A and E | Lights up |
| B and C | Lights up |
| B and D | Does not light up |
| B and E | Does not light up |
| D and E | Lights up |

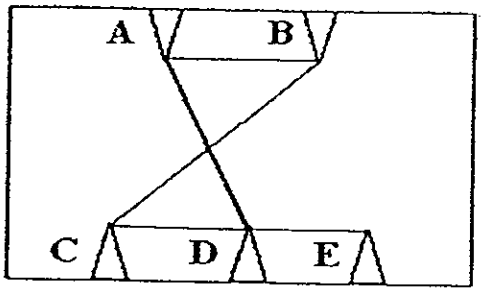
Which diagram represents the circuit card which Susan had tested?



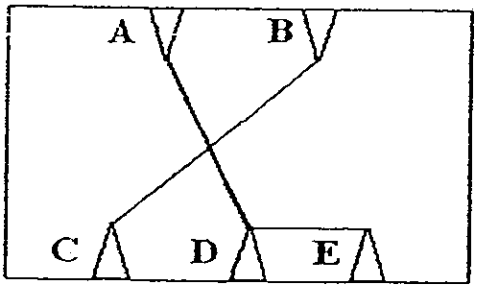

(1)




(2)




(3)

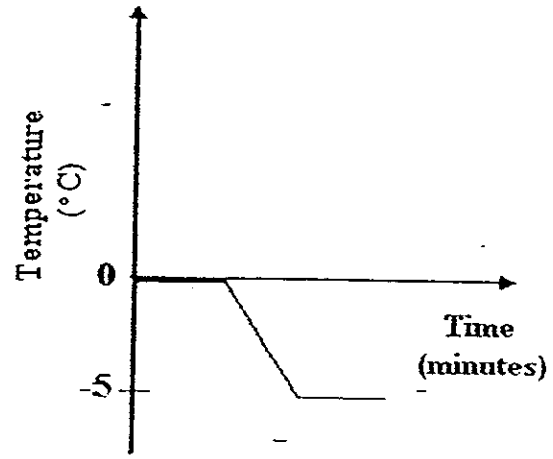



(4)

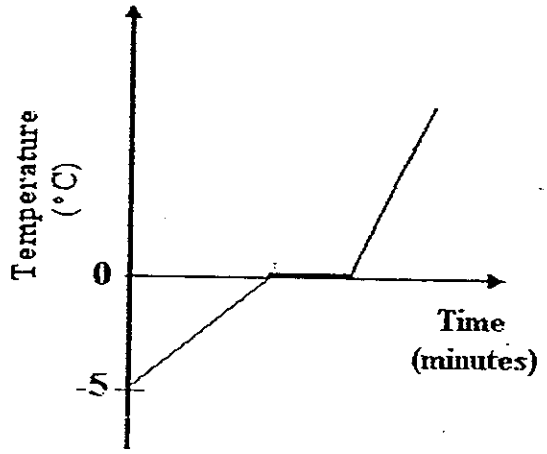
27. Johnny carried out the following steps as part of an experiment.

| | | |
|---|---|---|
| Step 1 | : | Johnny filled a beaker with crushed ice and a thermometer. |
| Step 2 | : | He sprinkled some salt on the crushed ice and left the crushed ice and salt for 15 minutes. |
| Step 3 | : | Then he stirred the salt and crushed ice until all the crushed ice had melted. |
| Step 4 | : | He left the beaker of salt solution on the table for 30 minutes. |

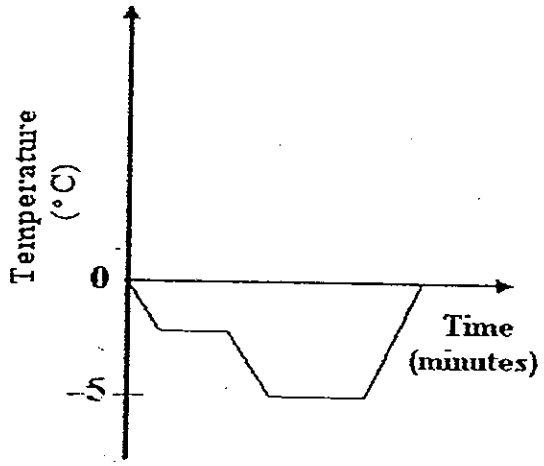
He measured and took note of the temperature of the contents in the beaker at the end of each step. Using the results, he plotted a graph. Which of the following is **most likely** to be his graph?



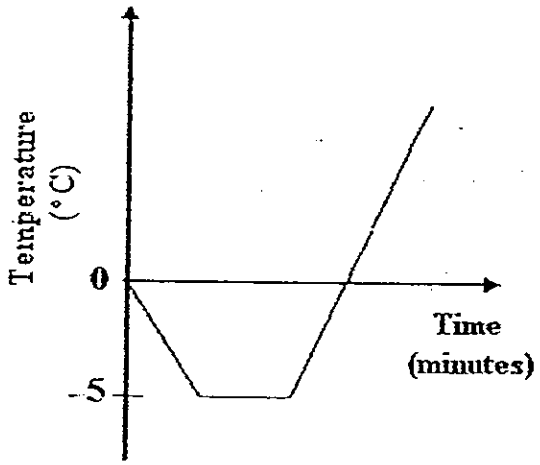

(1)




(2)

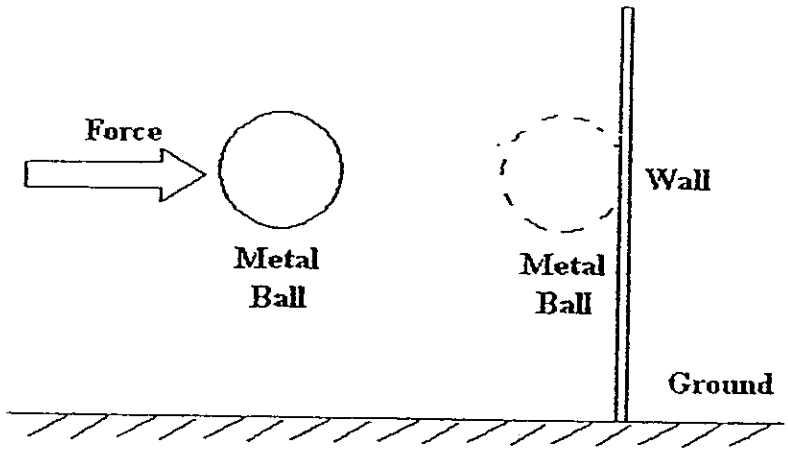



(3)




(4)

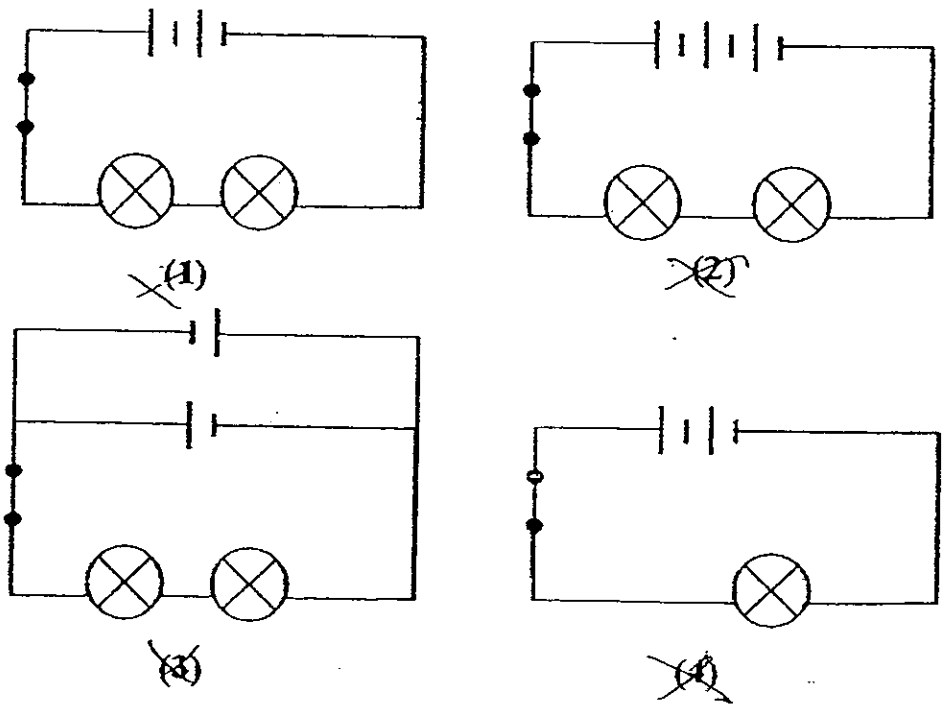
28. A metal ball is hit and it collides with the wall as shown in the diagram below.



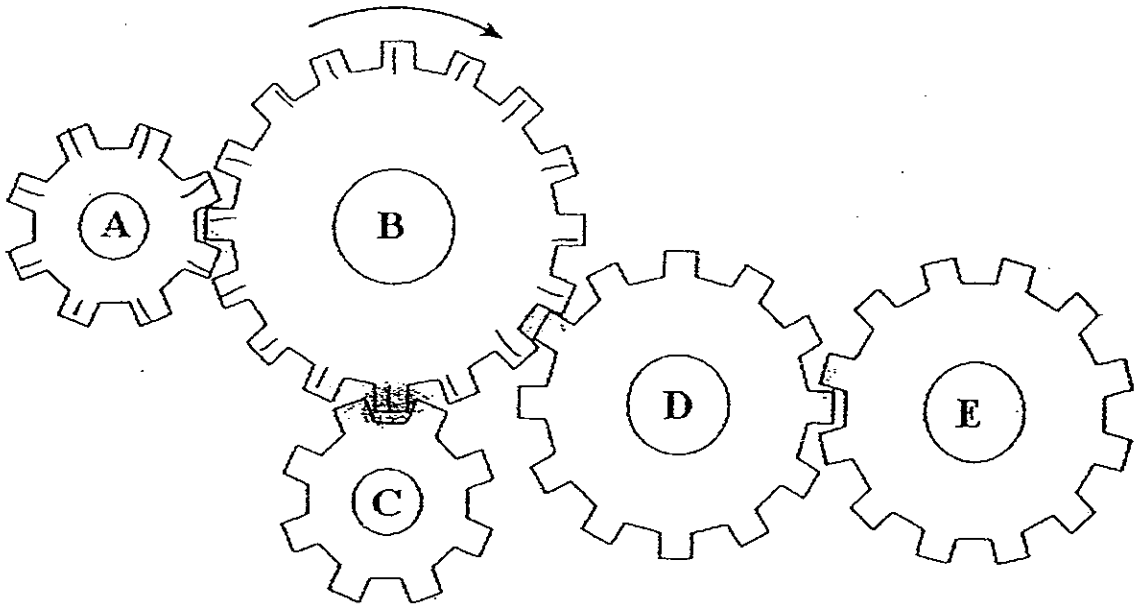

What happens the moment after the ball collides with the wall?

(1) The metal ball moves faster.
(2) The metal ball goes through the wall.
(3) The metal ball moves in the opposite direction at a slower speed.
(4) The metal ball moves in the opposite direction at the same speed.

29. Which of the following circuits would enable the bulb to glow the **brightest**?



30. The following diagram shows five gears in motion.




If **Gear B turns twice** in a **clockwise direction** as shown in the diagram, in which direction will Gear C, D and E turn and how many rounds will Gear A turn?

| | Gear C | Gear D | Gear E | Rounds Gear A Turns |
|---|---|---|---|---|
| (1) | Anti-clockwise | Clockwise | Anti-clockwise | 2 |
| (2) | Anti-clockwise | Anti-clockwise | Clockwise | 4 |
| (3) | Clockwise | Clockwise | Anti-clockwise | 2 |
| (4) | Clockwise | Anti-clockwise | Clockwise | 4 |

# TAO NAN SCHOOL

## PRIMARY 5 SCIENCE END-OF-YEAR EXAMINATION – 2008

**Name:** _____ ( ) **Date: 23 October 2008**

**Class: P5 ( )** **Time: 8 a.m. to 9.45 a.m.**

## BOOKLET B

**INSTRUCTIONS TO CANDIDATES**

**Do not open this booklet until you are told to do so.**

**Follow all instructions carefully.**

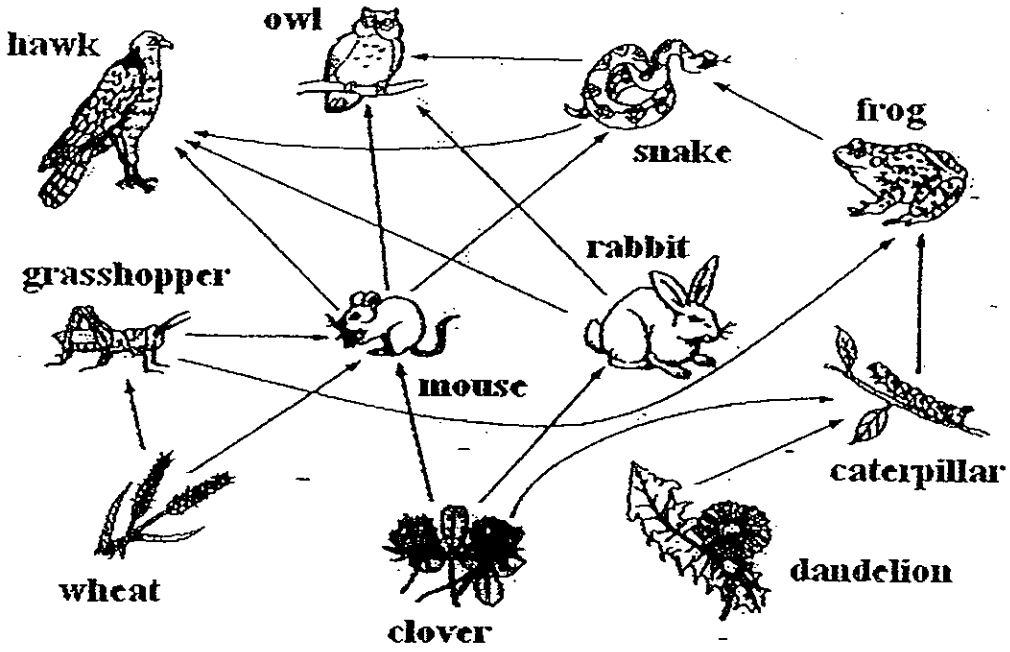
**Answer all questions.**

| | Score | Marks |
|---|---|---|
| Section B | | 40 |

**Section B (40 marks)**

Answer the following questions in the spaces provided.

31. The diagram below shows a food web.




Using the food web above, identify two food producers, two carnivores and two organisms which are both prey and predator.

(a) Food Producer (i) _____

(ii) _____ (1m)

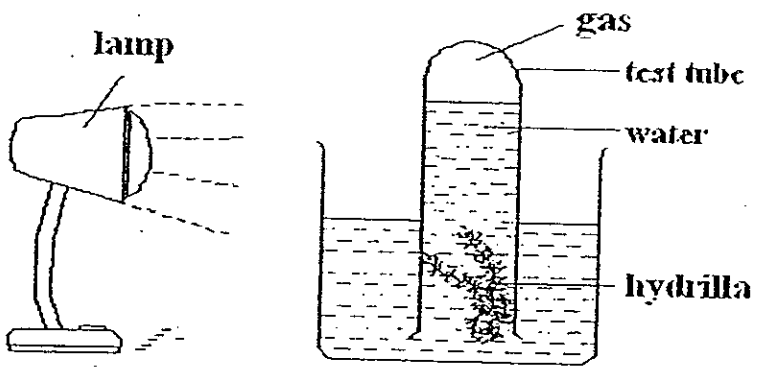
(b) Carnivore (i) _____

(ii) _____ (1m)

(c) Both Prey and Predator (i) _____

(ii) _____ (1m)

32. Jordan set up an experiment as shown below to collect a gas.




After the gas has been collected, it was used to burn a candle. The brightness with which the candle burned was recorded. This burning was repeated with three other test-tubes containing carbon dioxide, air or nitrogen. The results are shown below.

| Test Tube | Brightness of candle |
|---|---|
| A | Burn less brightly |
| B | Flame was put out immediately |
| C | Burn very brightly |
| D | Flame was put out immediately |

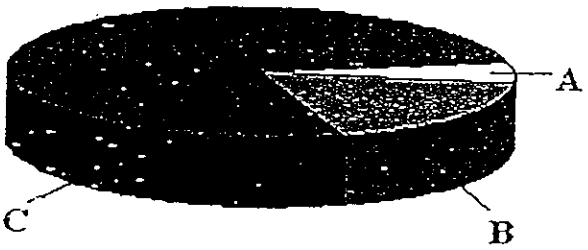
(a) From his results, which test tube contained the gas he had collected from his experiment? (1m)

_____

(b) Name one other use of this gas. (1m)

_____

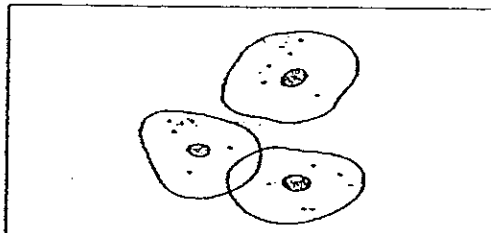
(c) The pie chart below shows the percentage of gases in the atmosphere.




Which letter, A, B or C, represents the gas in answer (a)? (1m)

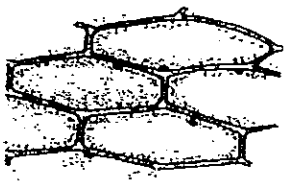
_____

33. Below are diagrams of four different types of cells labeled W, X, Y and Z. State in the spaces provided if it is a "Plant Cell" or an "Animal Cell". (2m)



W : _____

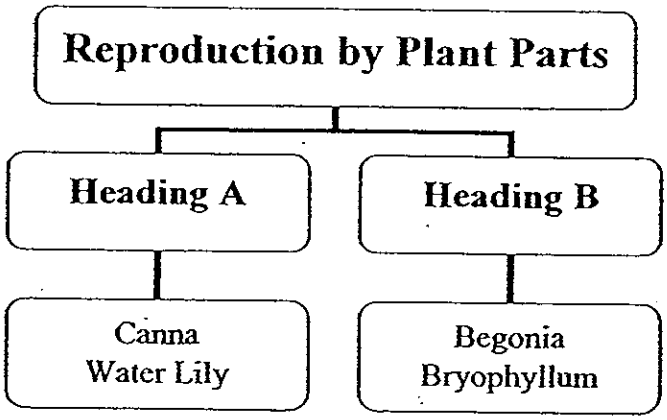
X : _____



Y : _____

Z : _____

34. The chart below shows how Meiling has grouped some plants according to the way they are reproduced.




(a) What do the headings represent? (2m)

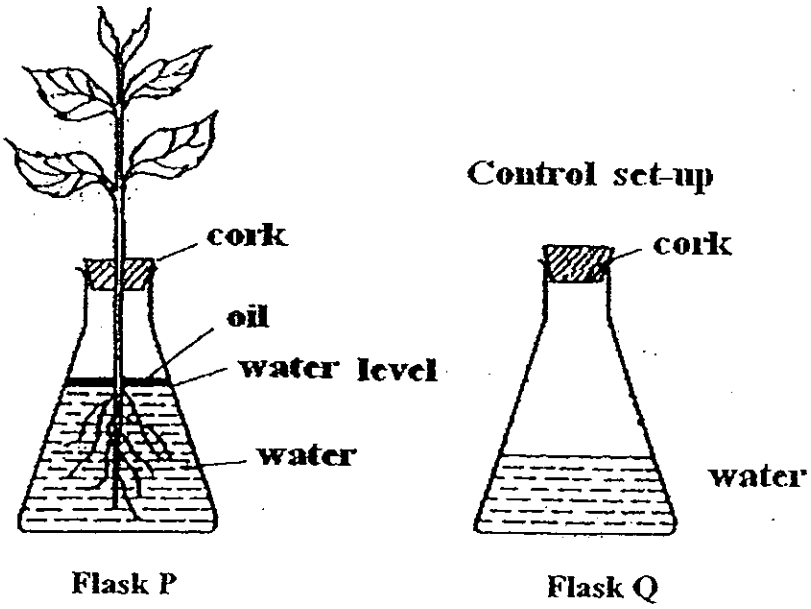
Heading A _____

Heading B _____

(b) Under which heading, A or B, would you place the plant "African Violet"? (1m)

_____

35. Molly set up an experiment as shown in the diagram below to show that water is absorbed through the roots of the plant.




Her teacher told her that she had made two mistakes in the control experiment.

(a) What were these two mistakes?

Mistake 1 : _____

_____ (1m)

Mistake 2 : _____

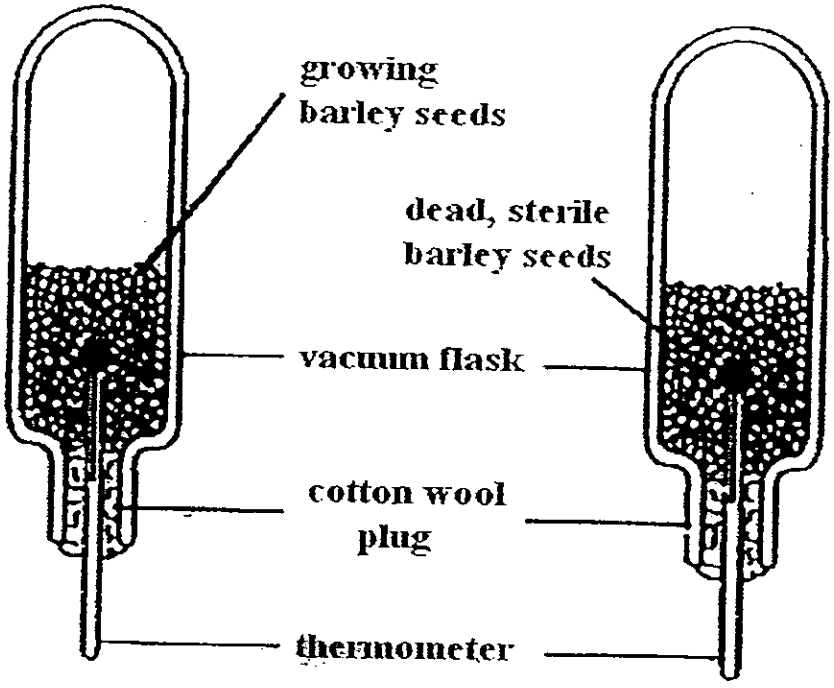
_____ (1m)

(b) What is the purpose of the control set-up?

_____

_____ (1m)

36. Shane conducted an experiment using the two set-ups as shown in the diagram below. The flask in set-up A contains growing barley seeds while the flask in set-up B contains dead, sterile barley seeds.




a) From the set-ups, what is the aim of Shane's experiment? (1m)

_____

_____

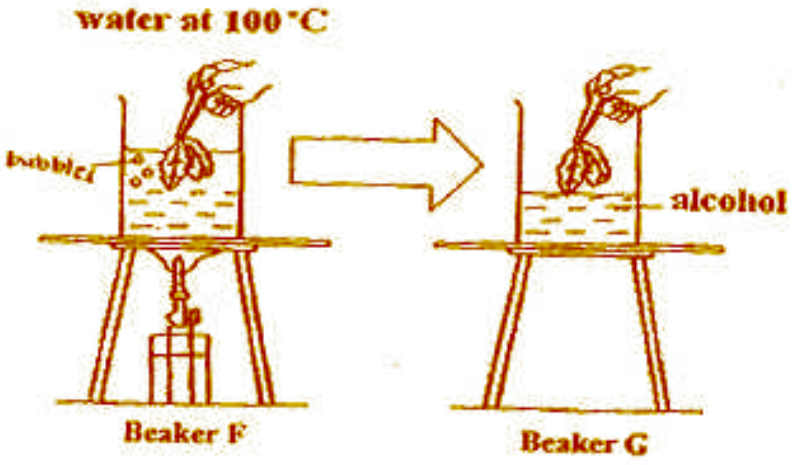
b) Which set-up acts as the control? (1m)

_____

c) What are the products of respiration in plants? (1m)

_____

37. ...periment was set up to test for the presence of starch in ...ves were plucked from a plant in the garden. These leaves were ...Beaker F for 1 minute and then into Beaker G for 3 minutes.




a) Describe what is observed from the leaves in Beaker F. (1m).

_____

b) Explain why the following are carried out during the experiment.

(i) Boiling of leaves _____

_____ (1m)

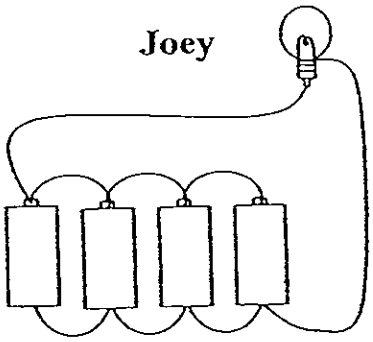
(ii) Use of alcohol : _____

_____ (1m)

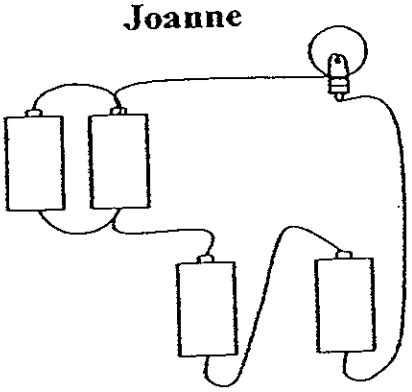
38. Joey, Joanne and Josephine were given four batteries, a b
to make a closed circuit. Below shows how each of them l
batteries and bulbs.

wires
her

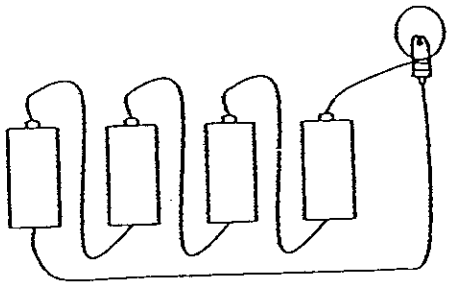
**Joey**



**Joanne**



**Josephine**



(a) Whose light bulb will be lighted for the longest possible time? (1m)

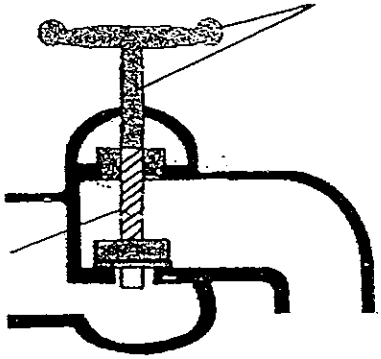
_____

(b) Explain your answer in (a). (1m)

_____

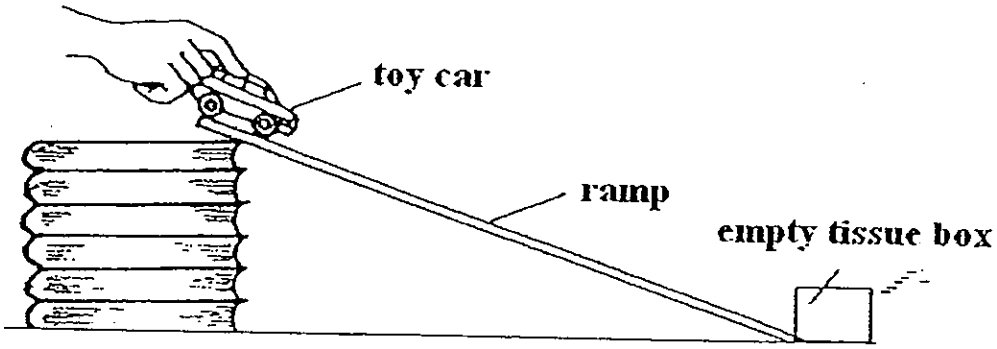
_____

39. The diagram below shows a cross-section of a tap.



Label the simple machines that are found in the tap above. (2m)

40. Mei Mei released a toy car at the top of a ramp. The toy car collided with an empty tissue box. She wanted to find out if the slope of the ramp affected the distance the empty tissue box moved.




The results of her findings are shown below.

| No of books / Distance moved | 6 books | 10 books | 14 books |
|---|---|---|---|
| Distance 1 | 0.3 m | 1.5 m | 2.7 m |
| Distance 2 | 0.5 m | 1.6 m | 2.9 m |
| Distance 3 | 0.4 m | 1.4 m | 3.1 m |
| Average Distance | 0.4 m | 1.5 m | 2.9 m |

(a) What is the changed variable she used in this experiment? (1m)

_____

(b) What was the purpose of repeating the experiment thrice? (1m)

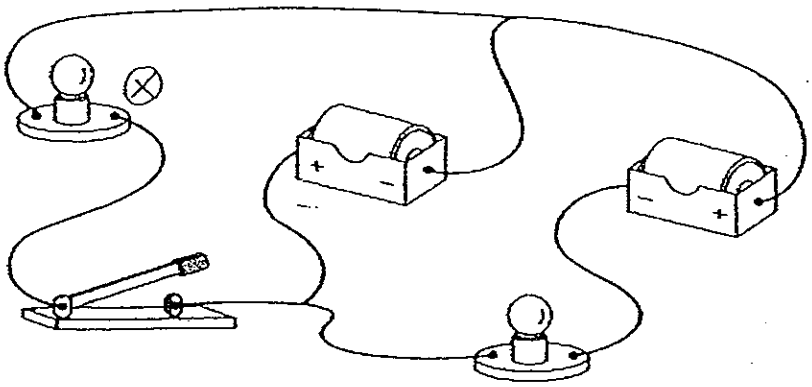
_____

(c) State the relationship between the slope of the ramp and the distance moved by the empty tissue box. (1m)

_____

_____

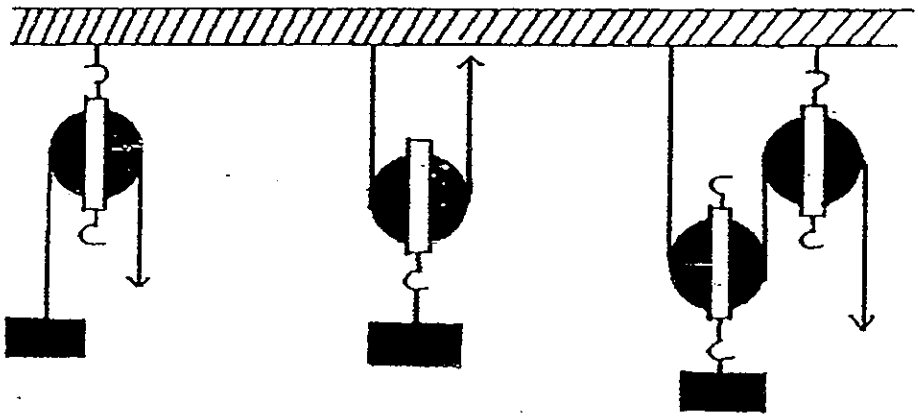
41. Look at the circuit below and draw its circuit diagram in the box provided. (2m)



42. Keith moved a load of 30 kg with three different pulley systems and the results are recorded in the table below.

| Pulley System / Distance | Pulley System A | Pulley System B | Pulley System C |
|---|---|---|---|
| **Distance travelled by load (cm)** | 10 | 10 | 10 |
| **Distance travelled by effort (cm)** | 20 | 10 | 20 |

(a) Identify the three different pulley systems. (1m)



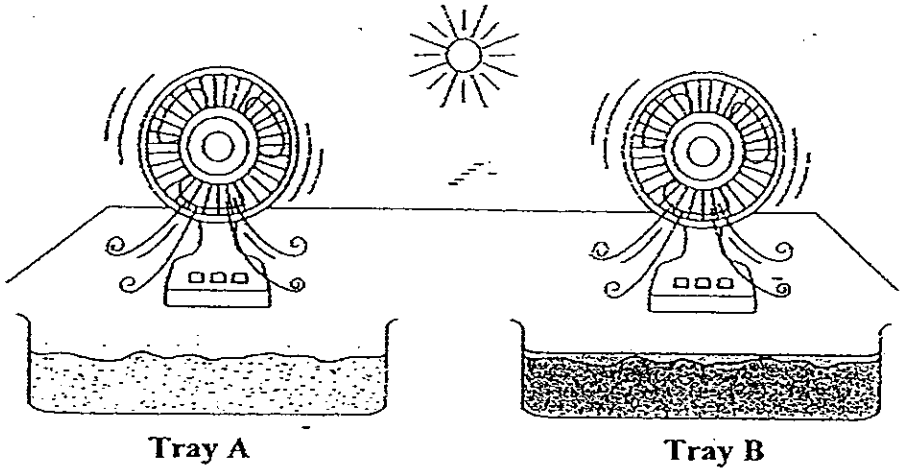
Pulley System _____ Pulley System _____ Pulley System _____

(b) Name one disadvantage of using the pulley system which requires less effort to overcome the load.
(1m)

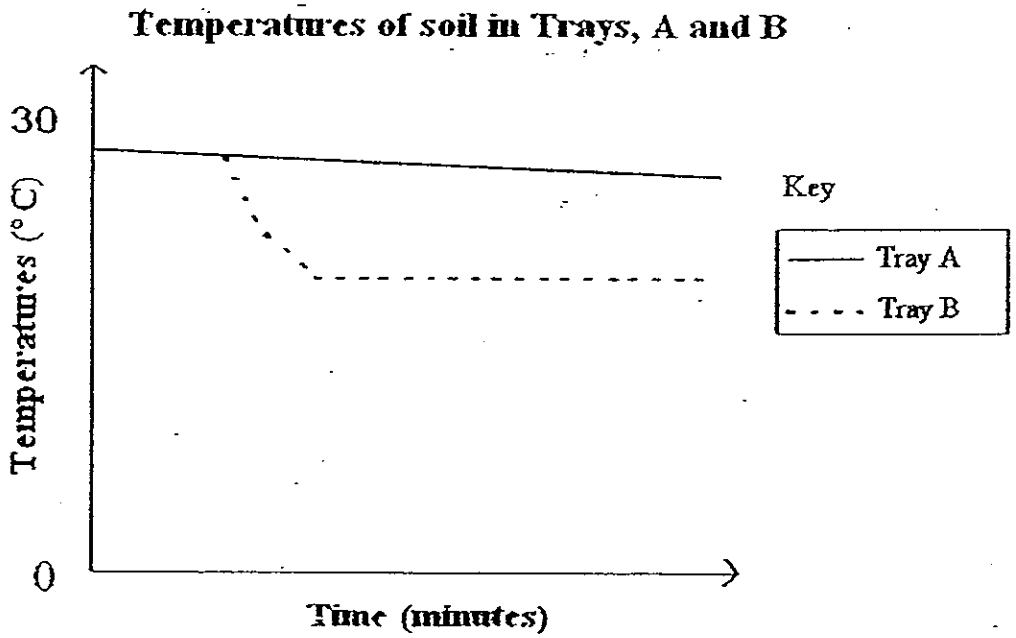
_____

_____

43. Andrea filled two trays with the same amount of soil taken from the same environment as shown below. Only Tray B has water. She placed a temperature probe connected to a datalogger into the soil of each tray. The fans kept a constant draft of moving air from the surroundings over the trays.

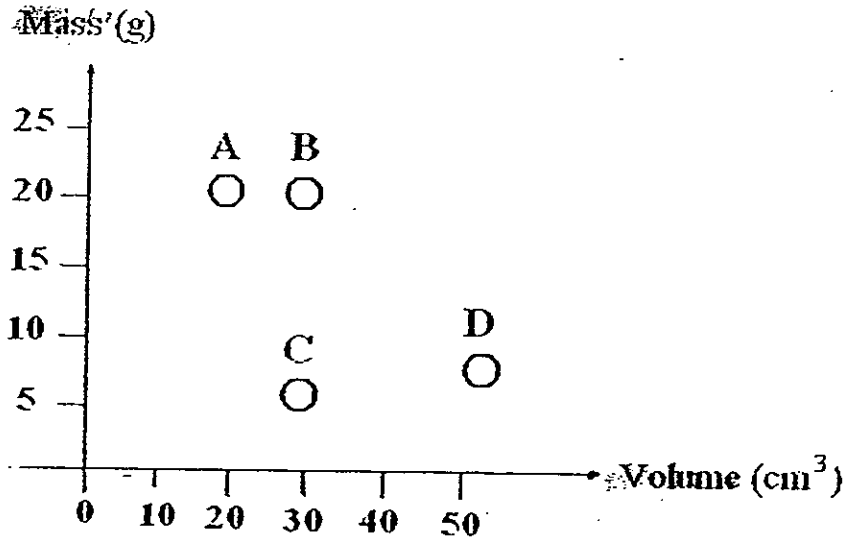



The graph below shows the results of her experiment.




Explain why the change in the temperature of soil in Tray B is different from the change in the temperature of soil in Tray A. (2m)

44. The mass and volumes of four substances, A, B, C and D, are measured. Their masses and volumes are represented in the graph below.




Study the graph. Look at the statements about the graph and put a tick (✓) in the appropriate box. (2m)

| | Statements | True | False | Not possible to tell |
|---|---|---|---|---|
| (a) | B and C are made of the same material. | | | |
| (b) | D occupies more space than A. | | | |
| (c) | The lesser the mass, the lesser the volume. | | | |
| (d) | A, B, C and D are at the solid state. | | | |

45. Mary wants to find out whether guppies grow well in water containing salt. She uses two identical tanks for her experiment. The table below shows the conditions in Tank A. She sets up a control using Tank B.

(a) Complete the table below to show how she should set up Tank B. (2m)

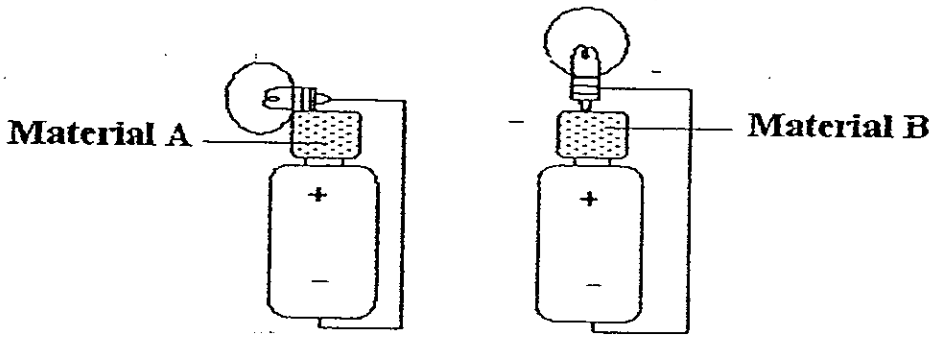
| | Salt | Tap Water | Guppies |
|---|---|---|---|
| **Tank A** | 20 g | 2000 ml | 5 |
| **Tank B** | | | |

(b) State one **other** condition that Mary should keep the same.

_____

_____ (1m)

46. Jack used two bulbs, two new batteries, two wires and two other materials, Material A and Material B and formed two electrical circuits as shown below. He found that only the light bulb in Circuit Z lighted up.




Give one possible reason why the light bulb in Circuit Y **did not** light up.

(a) _____

_____ (1m)

(b) What could Material A be?

_____ (1m)

The End

# ANSWER SHEET

EXAM PAPER 2008

SCHOOL : TAO NAN PRIMARY SCHOOL
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 2

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 3 | 2 | 4 | 4 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 1 | 1 |

| Q18 | Q19 | Q20 | Q21 | Q22 | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 2 | 4 | 4 | 1 | 4 | 3 | 1 | 2 | 4 | 3 | 4 | 2 |

31)a)i)Wheat ii)clover
b)i)hawk ii)owl
c)i)frog ii)snake

32)a)Test tube C.
b)It enables living things to respire.
c)B.

33)W: Animal cell X: Animal cell
Y: Plant cell Z: Animal cell

34)a)A: Underground stem B: Leaves.
b)Heading B

35)a)1)She did not put a layer of oil in Flask Q.
2)The water level in Flask Q was not the same as the water level in Flask P.
b)To prove that the water is taken in by the roots.

36)a)The aim is to see if the process of respiration affect the temperature of the barley seeds and air in the vacuum flask.

b)Set-up B.

c)Energy, water vapour and carbon dioxide.

37)a)There are bubbles coming out of the leaf.

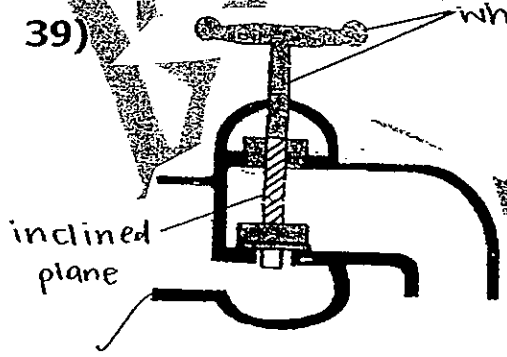
b)i)To kill the leaf.

ii)To remove chlorophyll.

38)a)Joey's light bulb.

b)As Joey's batteries are arranged in parallel, if one of her batteries run out of energy, the other bulbs can still provide energy for the bulb.

39)

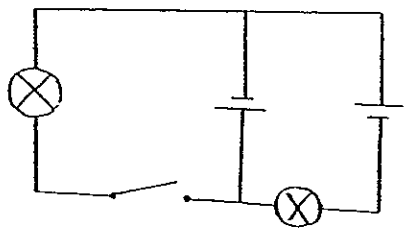



40)a)The number of books.

b)To make sure the results are accurate.

c)The steeper the slope, the greater the distance moved by the empty tissue box.

41)



42)a)B, A, C
b)The effort moves over a greater distance compared to the load.

43)The temperature of the soil in tray A remains constant as the soil is dryer.

44)a)Not
b)T
c)F
d)Not

45)a)The amount of food.
b)Material A was not a conductor of electricity and therefore could not conduct the current from the battery to the bulb.
c)plastic.