



**NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1 2009
PRIMARY SIX
SCIENCE**

Name : _____ ()

Class : Primary 6 / _____

Date : 11 March 2009

Duration : 1 hr 45 min

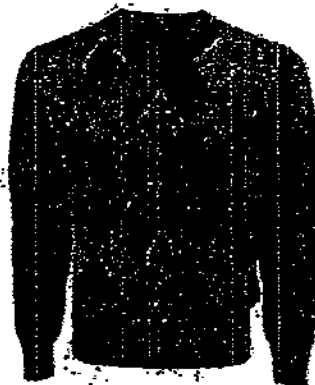
MARKS	
Sect A:	/ 60
Sect B:	/ 40
Total :	/ 100

Parent's Signature : _____

Section A: (30 x 2marks = 60marks)

For each question from 1 to 30, 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. Which of the following statements explain why these woollen clothing can keep us warm?



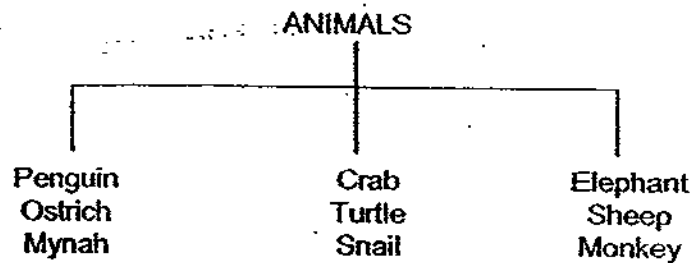
- (A) They are warm.
 - (B) They trap air that is a poor conductor of heat.
 - (C) They are made of things that were once alive.
 - (D) They slow down heat loss from our body to the surroundings.
- (1) A and B only
 - (2) B and D only
 - (3) A, B and D only
 - (4) B, C and D only

2. Which statements are true for ALL insects?

- (A) They have wings.
- (B) They live on land.
- (C) They have six legs.
- (D) They have three body parts.

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

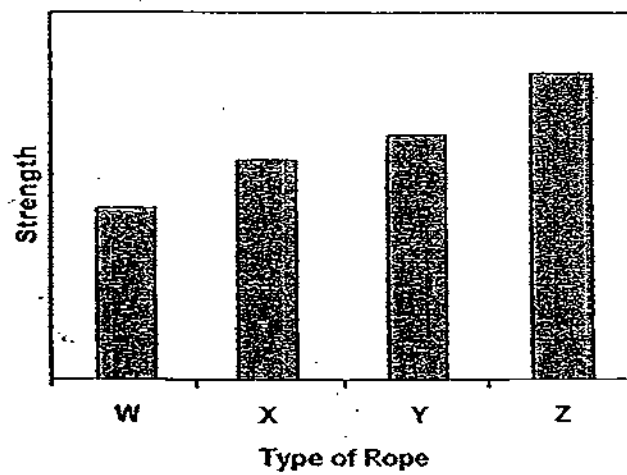
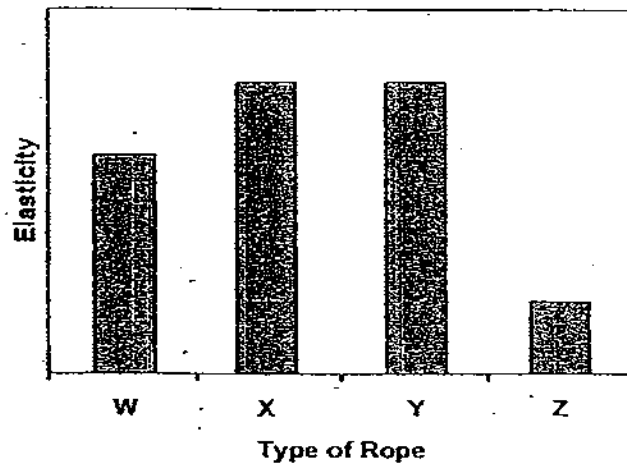
3. The diagram below shows three groups of animals.



These animals are grouped according to _____

- (1) their eating habits
- (2) their breathing methods
- (3) the way they move
- (4) their body coverings

4. Rope manufacturers define elasticity as the ability of the rope to stretch over its length to absorb energy. The graph compares the strength and elasticity of some ropes.

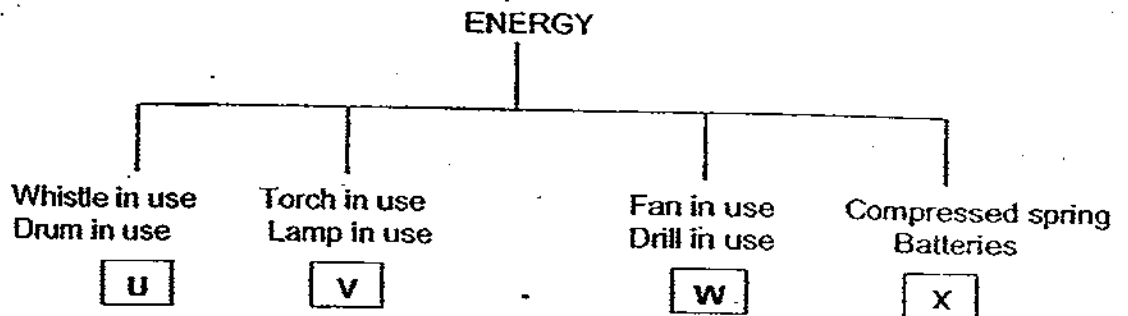


A tow rope needs to be strong and elastic so that it can absorb the shock as towing begins. Which rope would be best for towing?

- (1) W
- (2) X
- (3) Y
- (4) Z

5. Which one of the following statements about energy is true?
- (1) Energy can be created.
 - (2) Sound, light and shadow are different kinds of energy.
 - (3) After an object receives energy, it can become an energy source.
 - (4) After a kind of energy is converted into another kind, it will be cannot be destroyed.

6. Below is an incomplete classification diagram constructed by Minhui to show the different kind of energy the objects posses.



Which of the following represents U, V, W and X respectively?

	U	V	W	X
(1)	Sound	Light	Kinetic	Stored
(2)	Stored	Heat	Electrical	Chemical
(3)	Electrical	Light	Kinetic	Sound
(4)	Kinetic	Stored	Heat	Chemical

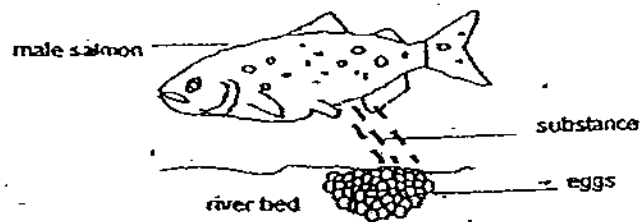
7. A man drives up from the foot of a slope. Then he applies the brakes to stop the car at the mid point of the slope. The energy of the moving car is converted into _____.
- (1) heat energy only
 - (2) kinetic energy only
 - (3) heat and potential energy
 - (4) kinetic and potential energy

8. Which statement(s) below wrongly matched the part of the cell to its function?

	Part of cell	Function
(A)	Cell wall	Allows substances to move within the cell.
(B)	Cell membrane	Semi-permeable and controls the substances moving in and out of the cell.
(C)	Cytoplasm	Contains hereditary material and determines what living things look like.
(D)	Chloroplasts	Contains chlorophyll that captures sunlight for plants to make food.

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

9. During a process known as external fertilization, a male adult salmon squirted a substance to fertilize the eggs which a female adult salmon laid:

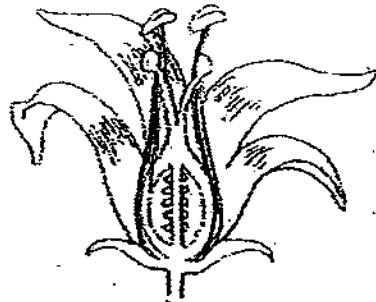


Which of the following statements are true?

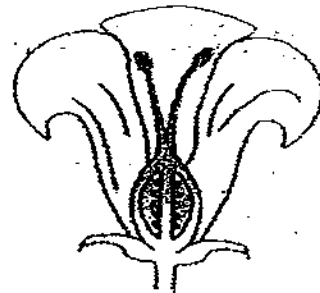
- (A) Usually one egg is fertilized by many sperms.
- (B) Cell division takes place in the fertilized eggs.
- (C) The young salmon inherits genes from the male adult salmon only.
- (D) The young salmon inherits genes from both the male adult salmon and the female adult.

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

10. The diagram below shows the cross-sections of two flowers from different plants.



Flower X



Flower Y

Which of the following statement(s) can be concluded from the above diagram?

- (A) Flower Y is likely to be pollinated by wind.
 - (B) Not all flowers have both male and female parts.
 - (C) Flower X can produce both male and female reproductive cells.
 - (D) After fertilization, Flower X can develop into a fruit but not Flower Y.
- (1) A and D only
 - (2) B and C only
 - (3) A, B and C only
 - (4) B, C and D only










11. Study the table below.



Group A	Group B
Eraser	Steel paper clip
Glass tube	Iron nail
Clear plastic sheet	Copper coin

Which property are the objects grouped according to?

- (1) Flexibility
- (2) Magnetism
- (3) Electrical conductivity
- (4) Degree of Transparency

12. There are four blood groups namely, A, B, AB and O. When different blood groups are mixed, a reaction between them can cause clumping of red blood cells which means it can clog blood vessels and stop circulation of the blood to various part of the body. The chart provides information about what happens when different blood groups are mixed together.

Blood groups	A	B	AB
A			
B			
O			

Key :	
	no reaction
	clumping occurs

Which blood group mixes with each of the other blood groups without clumping?

- (1) A
- (2) B
- (3) AB
- (4) O

13. Below are observations made of four objects.

Objects	Observations
A	Forms a faint shadow when a light is shone on it.
B	Allows almost all light to pass through it.
C	Is attracted to a bar magnet.
D	Is able to keep food warm for the longest time.

Which of the following can represent objects A, B, C and D?

	A	B	C	D
(1)	Cardboard	Tracing paper	Steel plate	Clay pot
(2)	Clay pot	Cling wrap	Iron nail	Steel plate
(3)	Cling wrap	Cardboard	Clay pot	Iron nail
(4)	Tracing paper	Cling wrap	Steel plate	Clay pot

14. A pupil wanted to make his own tent and needed to order some materials to sew into a tent. He was recommended 3 different types of materials – P, Q and R. He tested the 3 materials and used a checklist below to record the results. A (✓) indicates that the material has that property or characteristic.

Type of material	P	Q	R
It is light.	✓	✓	✓
It tears easily.			
It is waterproof.	✓		✓
It is shiny		✓	✓

Which material(s) is/ are suitable for making tents?

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

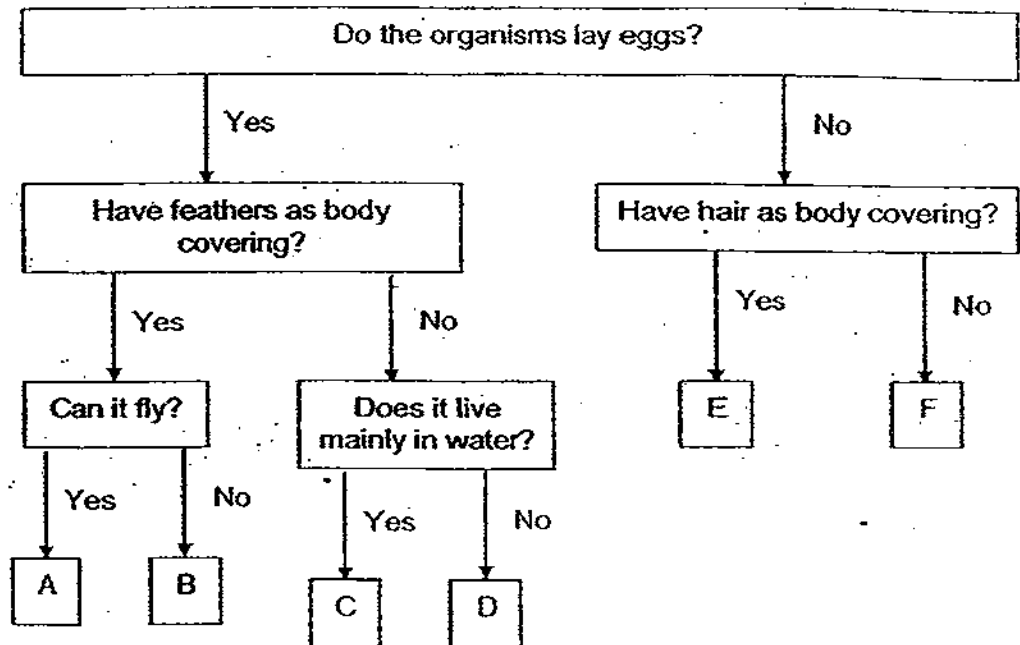
15. The diagram below shows a kettle



The body of the kettle is made up of _____ because it is a good conductor of heat. The handle is made of _____ because it does not conduct heat easily.

- (1) steel, plastic
- (2) copper, steel
- (3) plastic, iron
- (4) iron, copper

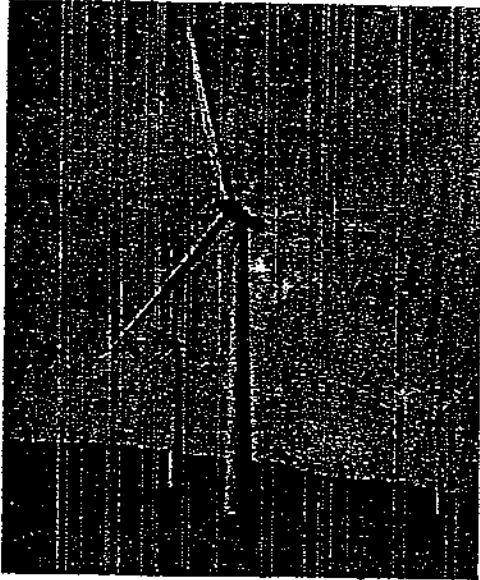
16. Study the flowchart below.



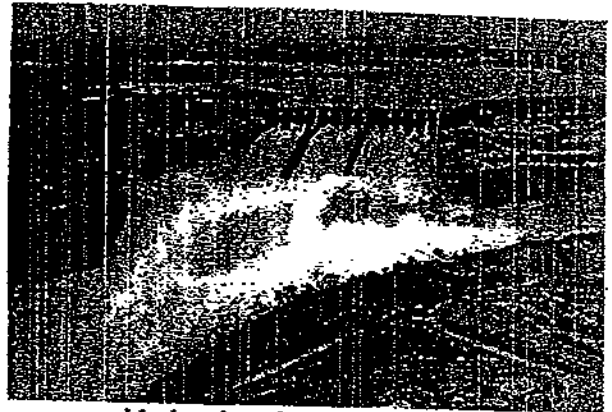
According to the flowchart, what characteristics do both organisms A and C have?

- (1) can fly
- (2) lay eggs
- (3) live mainly in water
- (4) have feathers as body covering

17. The pictures below show two sources of energy which Man uses to generate electricity.



Wind turbines



Hydroelectric power station

In what ways are the two sources of energy similar?

A	They do not cause pollution.
B	They are natural sources of energy.
C	They are renewable sources of energy.
D	Both convert potential energy to kinetic energy to spin the turbine.

- (1) A and D only
 (2) B and C only
 (3) A, B and C only
 (4) A, B, C and D
18. Conserving energy can be achieved by _____.
- (1) recycling used materials
 (2) burning wood instead of coal
 (3) using cars with larger capacity engines
 (4) leaving lights on all the time instead of switching them on and off

19. The diagram below shows a ball being released from Point A.



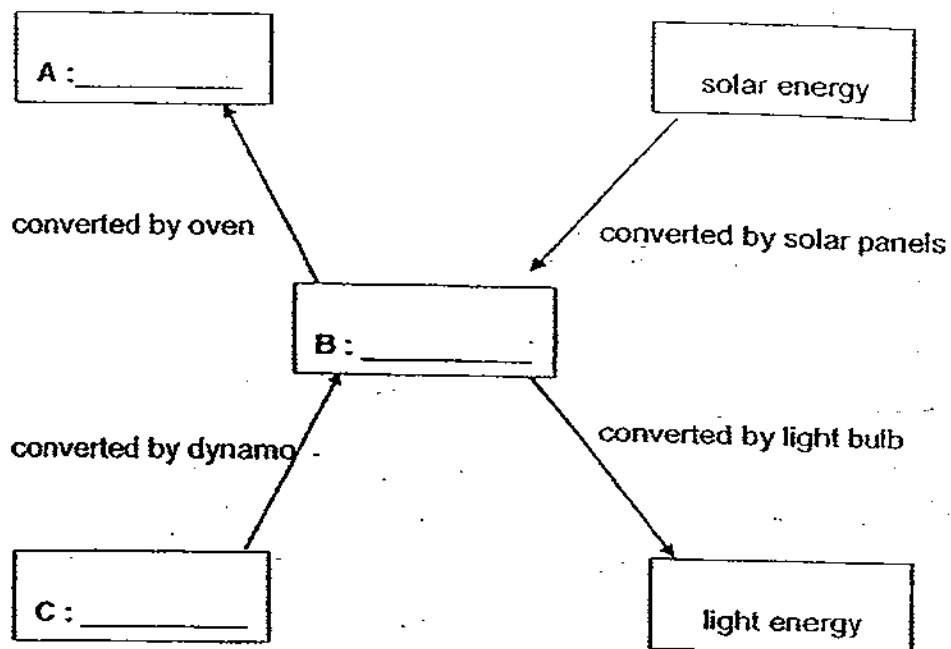
Which of the following describes the changes in potential and kinetic energy from A to B?

	Potential energy	Kinetic energy
(1)	Increases	Increases
(2)	Increases	Decreases
(3)	Decreases	Increases
(4)	Decreases	Decreases

20. Which form of energy is caused by vibration?

- (1) Electrical
- (2) Light
- (3) Nuclear
- (4) Sound

21. Study the diagram below.



Which one of the following best represent the energy labeled A, B and C?

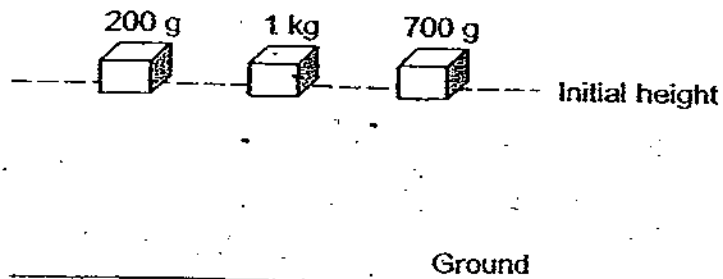
	A	B	C
(1)	light	heat	electrical
(2)	sound	potential	heat
(3)	sound	electrical	heat
(4)	heat	electrical	kinetic

22. In which of the following activities is there conversion of potential energy into kinetic energy?

- (A) Dropping a ball.
- (B) Firing a gun.
- (C) Windmill turning in the wind.

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

23. Three cubes of the same size but different masses are raised to the same initial height before they are dropped.

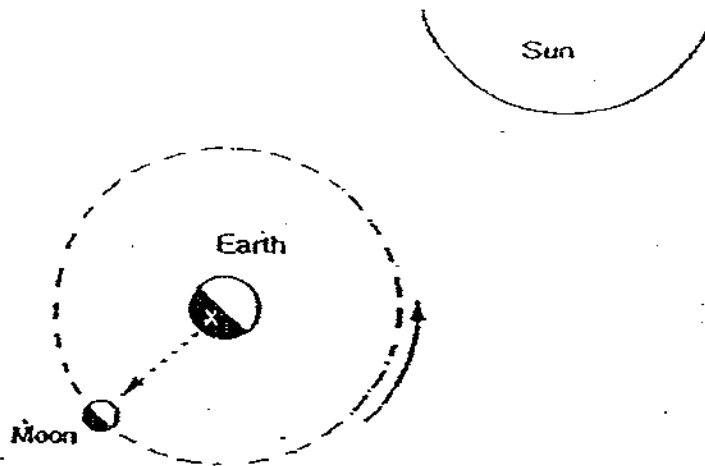


Which of the following statements about the three cubes are true?

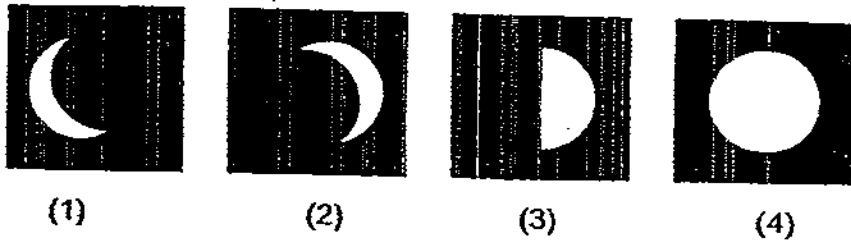
- A: The cubes have gravitational potential energy because of their position.
- B: The cubes have the same amount of gravitational potential energy at the initial height.
- C: Their gravitational potential energy will be converted into kinetic energy when they are dropping.

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

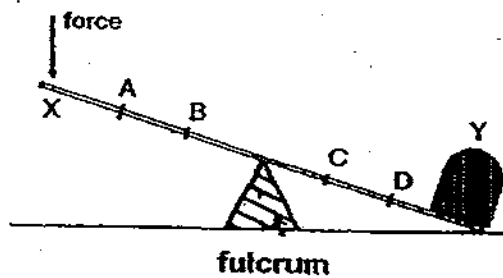
24. The diagram below shows the position of the Sun, Earth and Moon.



Based on the diagram, how would the Moon look like to Mr X if he is staying in that part of the Earth?



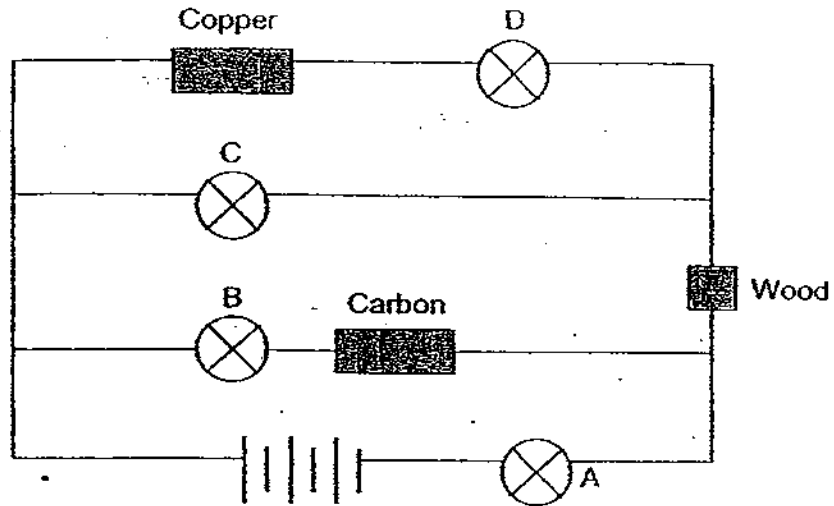
25. Tom was unable to lift the object Y when he applied a force at X.



Which one of the following should he do to lift the object Y most easily?
He should _____

- (1) apply the force at A
- (2) apply the force at C.
- (3) move the fulcrum to B.
- (4) move the fulcrum to D.

26. Study the circuit diagram below carefully. Which bulb(s) will not light up?

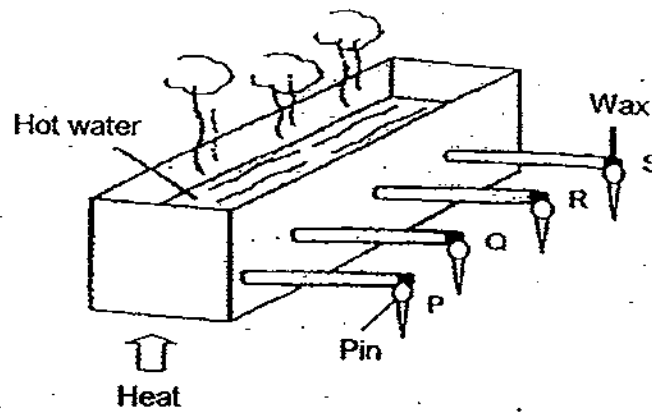


- (1) A and B only
- (2) C and D only
- (3) A, B and C only
- (4) A, B, C and D

27. Which one of the following pairs of statements describing the processes of respiration and photosynthesis is incorrect?

	Respiration	Photosynthesis
(1)	Takes place with or without light.	Takes place when there is light.
(2)	Produces oxygen.	Produces carbon dioxide.
(3)	Breaks down food to produce energy.	Uses light energy to produce food.
(4)	Occurs at all times in all cells.	Occurs only in cells containing chlorophyll and in the presence of light.

28. Leonard was given out 4 rods of equal length, P, Q, R and S. They were made of different materials. Each rod had the same amount of wax and a pin attached at one end. The container was filled with hot water.



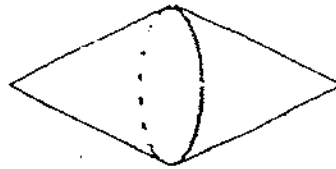
He recorded the time taken for each piece of pin to drop.

Rod	Time taken
P	55 seconds
Q	60 seconds
R	22 seconds
S	40 seconds

Which rod was the best conductor of heat?

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

29. 2 identical opaque cones are glued together at the base to form the structure below.



Which of the following shadows can most possibly be formed by the structure?



A



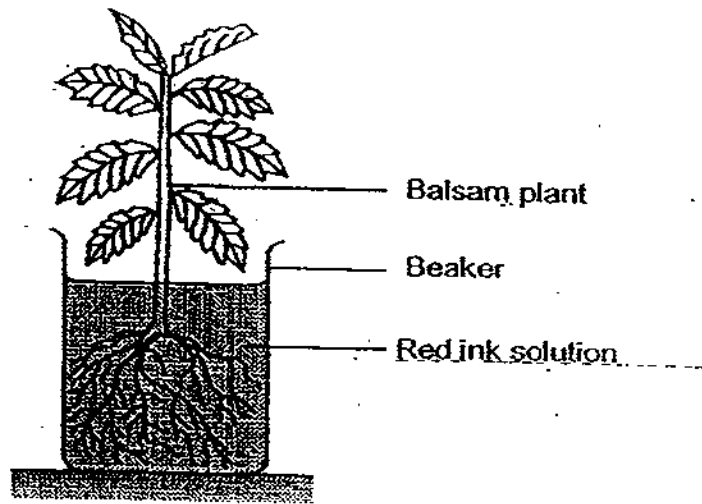
B







C

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

30. A balsam plant was placed in a beaker of red ink as shown below. After a few days, a section of the stem of the plant was cut. Which one of the following diagrams would you expect to observe?



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



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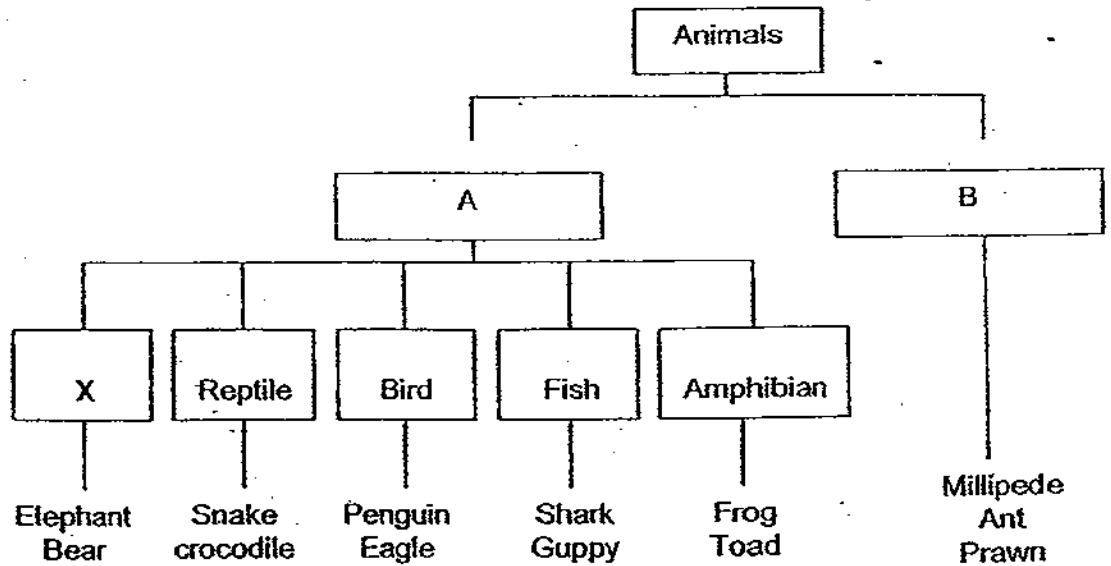
MARKS
40

Section B: (40marks)

Write your answers to question 31 to 46.

The number of marks available is shown in brackets [] at the end of each question or part question.

31. The classification chart below shows the classification of some animals.

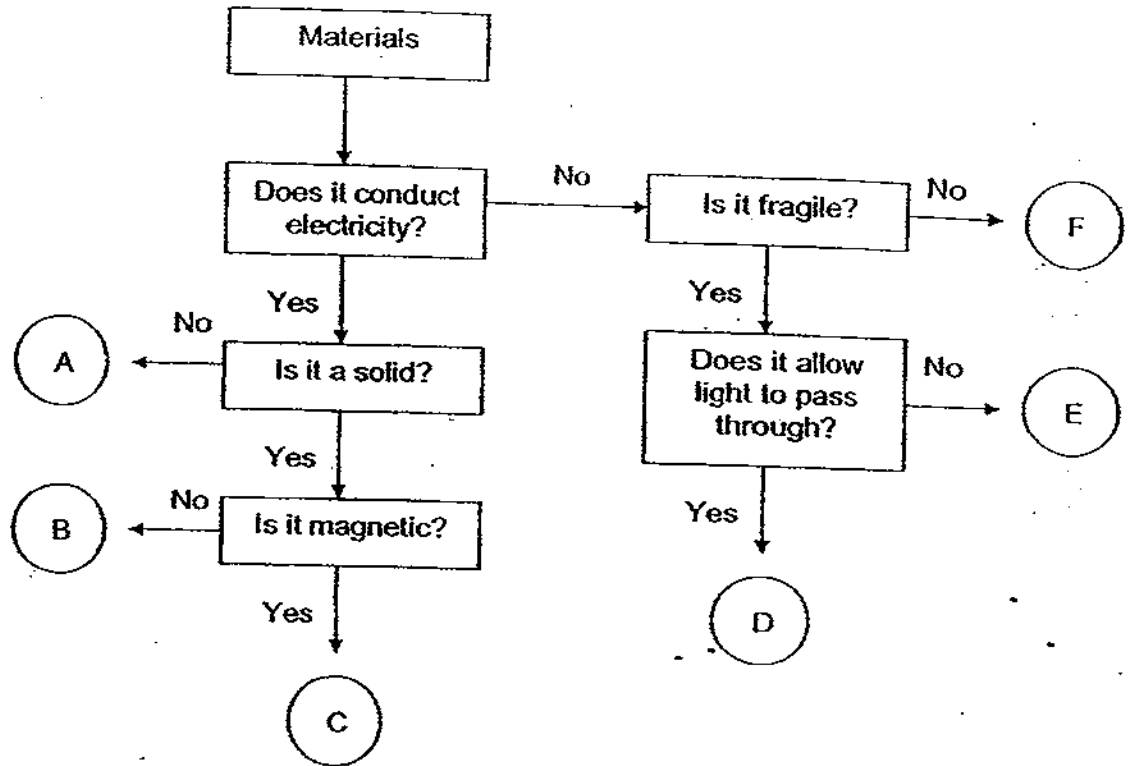


(a) All the animals in Group A have a common feature in their body structure which group B does not have. What is the common feature? [1]

(b) What does Group X represent? [1]

2

32. The flow chart below shows the properties of Materials A to F.



(a) State the properties of Material D.

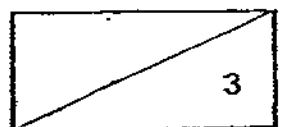
[1]

(b) What are the common properties between Material A and B?

[1]

(c) Give an example of Material C.

[1]

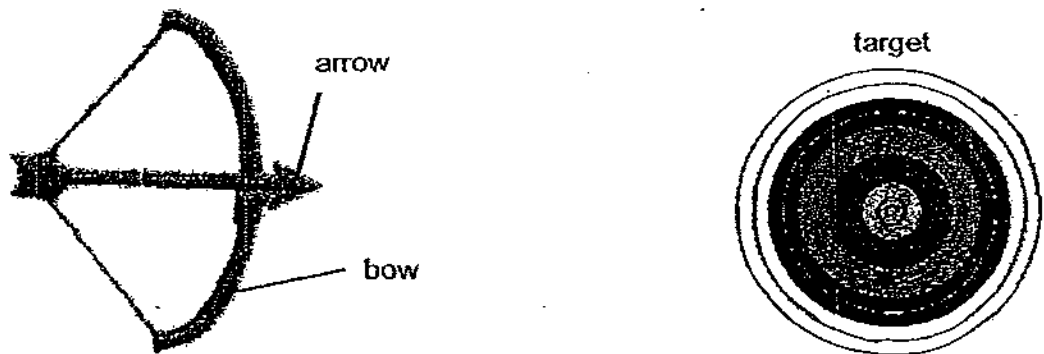


33. Complete the passage about fossil fuels by adding words from the following list. [2]

electrical	decaying	coal	millions
chemical	petroleum	animal	Sun

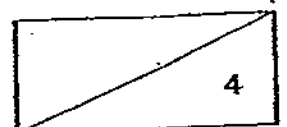
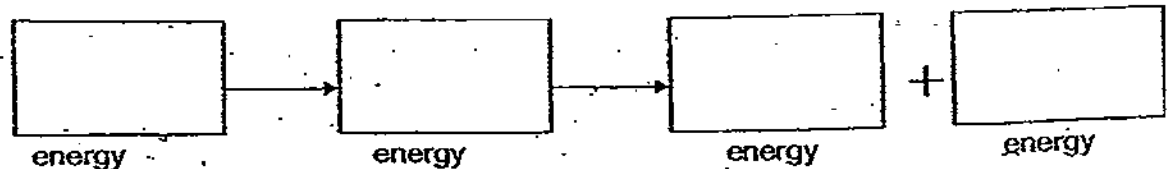
Fossil fuels were formed from _____ plant and animal matter that lived millions of years ago. Examples of fossil fuels are _____, oil and natural gas. The energy inside the fossil fuel originally came from the _____. It can be released by burning the fossil fuel to produce heat energy. This is an energy conversion of _____ energy to heat energy.

34. The diagram below shows a bow and arrow and a target.

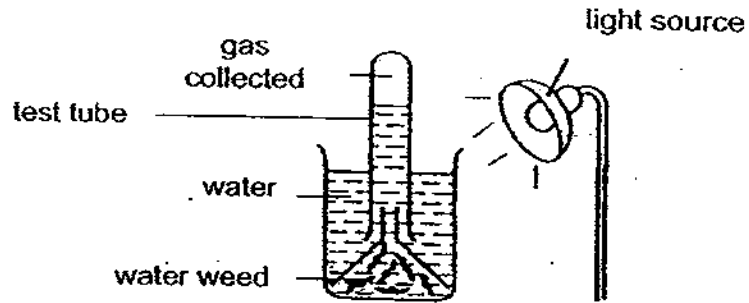


- (a) What form of energy does the string of the bow have when it is being stretched by the archer? [1]

- (b) What is the main energy conversion that takes place when the arrow hits the target? [1]



35. Lily conducted an investigation to find out how the intensity of a light source affects the rate of photosynthesis. She set up the experiment as shown in the diagram below.



After 2 hours, she noticed that a gas was collected in the inverted test tube.

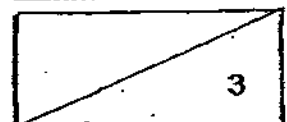
- (a) What was the gas collected in the test tube? [1]

- (b) The table below shows the rate of photosynthesis of two different plants over a range of light intensities.

Light intensity (lux)	Rate of photosynthesis (milligram of starch produced per minute)	
	Plant A	Plant B
10	2	4
20	5	10
30	9	28
40	19	30
50	25	32
60	31	34

- (i) Which plant grows better in shady conditions? [1]

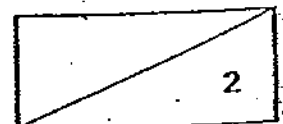
- (ii) Explain the answer for your choice in (a).i [1]



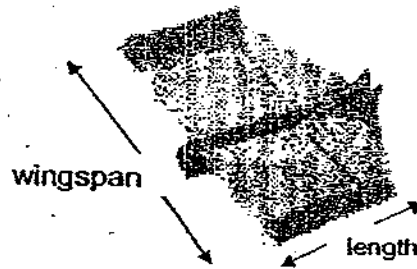
36. Fill in the classification table below with the words in box below. [2]

Pofato		Ginger	Pineapple
Bryophyllum	Moss	Begonia	

Reproduce from underground stem	Reproduce from suckers	Reproduce from spores	Reproduce from leaves



37. Keith carried out an experiment to find out if the mass of paper ~~would affect~~ *the distance that a paper aeroplane would travel*. He used different types of paper and folded 6 paper aeroplanes according to the design shown below.

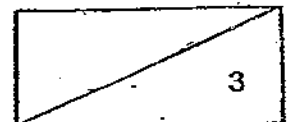


Plane	Mass of paper	Wingspan (cm)	Length (cm)	Distance travelled (m)
A	10	13	20	11.2
B	8	16	15	7.7
C	9	13	20	9.5
D	7	13	20	6.0
E	8	13	15	8.4
F	8	18	15	6.4

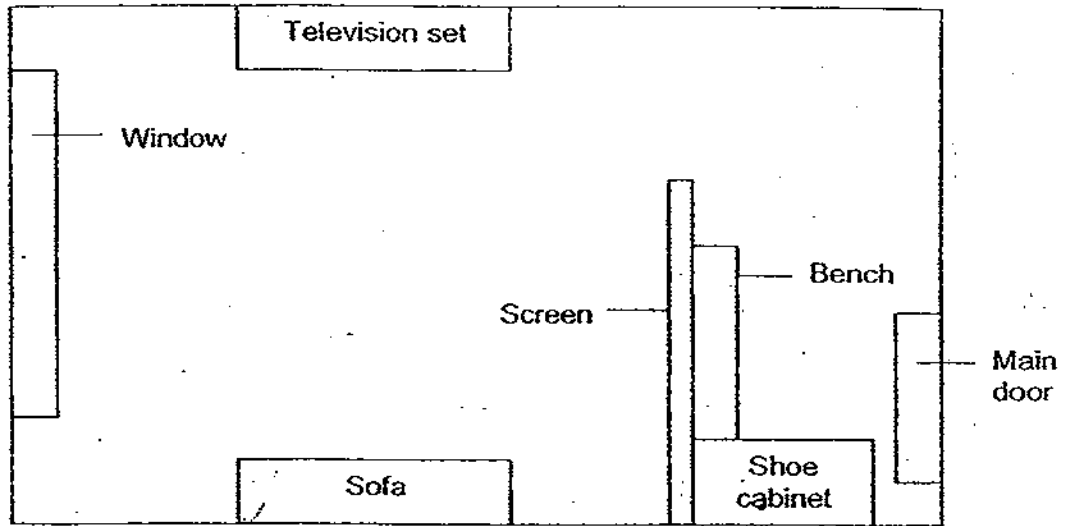
- (a) Which plane(s) should he use in order to carry out a fair test? [1]

- (b) From your answer in (a) and the data above, what is the relationship between the mass of the paper and the distance travelled by the plane? [1]

- (c) Keith carried out another experiment using Plane B, E and F. What is the aim of his second experiment? [1]



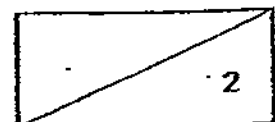
38. The diagram below shows a proposed layout of Madam Siti's living room.



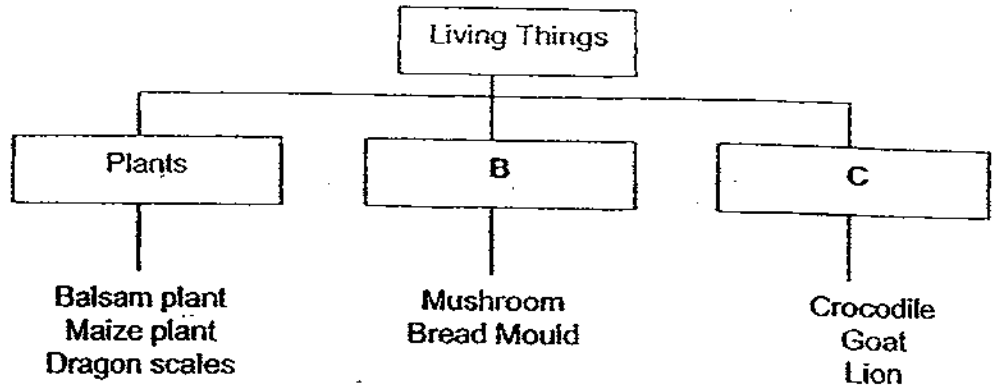
Madam Siti wants to buy a screen to place in her living room so that she can have some privacy when she leaves the main door open. She wants to be able receive the natural light coming in from the window to put on her shoes when she sits on the bench without switching on the lights or opening the main door. She also likes to lean against the screen when she sits on the bench. The screen should also withstand the scratches from her pet cat.

Put a tick (✓) in the box below against the properties of the material that is suitable to make the screen. [2]

Properties of Material	(✓)
Translucent	
Transparent	
Opaque	
Fragile	
Flexible	
Strong	
Hard	



39. Study the classification chart below.



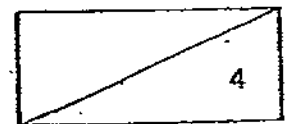
(a) Write a suitable heading for the above classification chart. [2]

B: _____

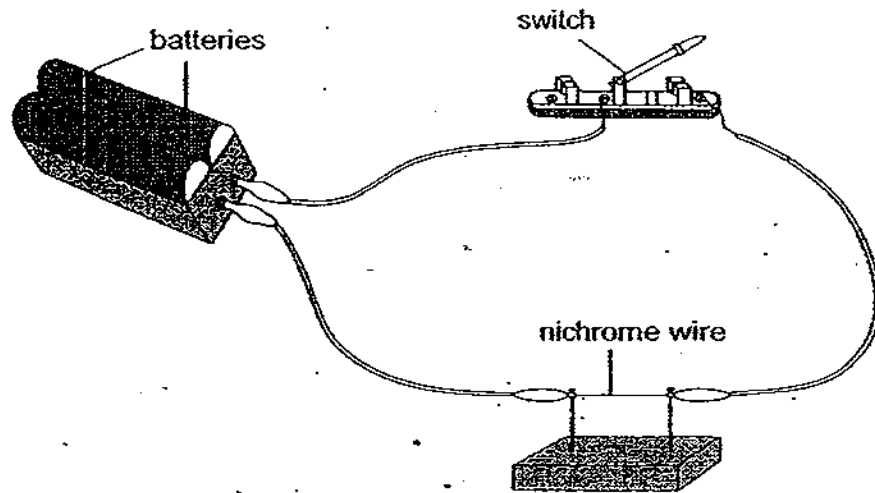
C: _____

(b) List down another difference between mushroom and dragon scales. [1]
[Do not use the same reason as part (a)].

(c) State one similarity between mushroom and dragon scales. [1]

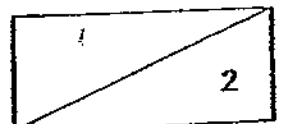


40. Dhivian connected a piece of nichrome wire to an electric circuit as shown below.

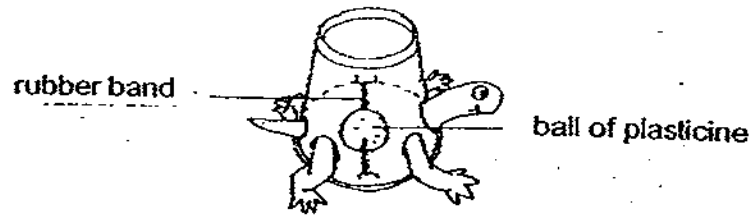


- (a) What happened to the nichrome wire when he turned on the switch? [1]

- (b) What was the energy source in the circuit? [1]



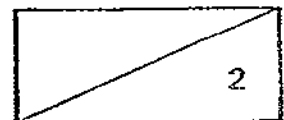
41. Kevin made a toy tortoise using a transparent plastic cup. He fixed a ball of plasticine to the rubber band inside the cup.



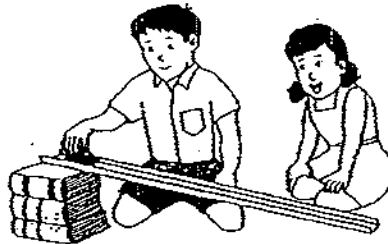
Kevin tested the toy tortoise by rolling it backwards and then releasing it. He observed that the toy tortoise was able to move on its own.

- (a) He noticed that the toy tortoise gradually slowed down after a few seconds. Give a reason for your answer. [1]

- (b) Describe what Kevin could do to make the toy tortoise move a longer distance without changing any part of the toy? [1]



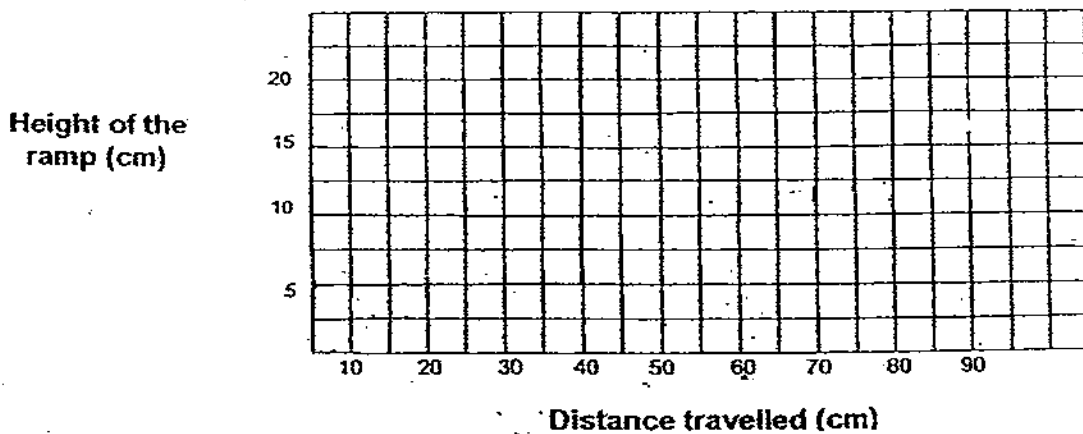
42. Ben and Charlene wanted to investigate the relationship between the height of the ramp and the distance travelled by a toy car along the floor.



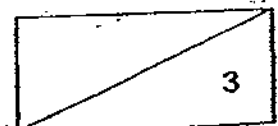
They increased the height of the ramp gradually and released the toy car from the top of the ramp. They then recorded the results in the table below.

Height of ramp (cm)	Distance travelled by the toy car (cm)
5	20
10	35
15	60
20	80

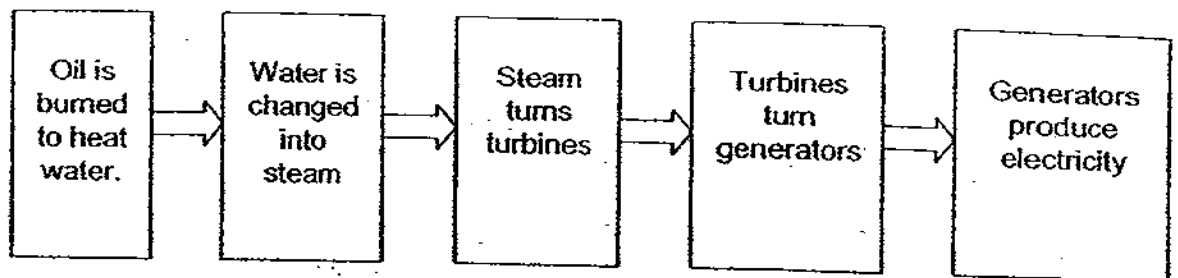
- (a) Draw a line graph using the data above. [2]



- (b) What is the relationship between the height of the ramp and the distance the car travelled along the floor? [1]



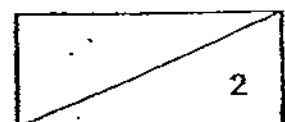
43. Oil is a common fuel in power stations. The flow chart shows the stages whereby the energy in the oil is converted into electricity in a power station.



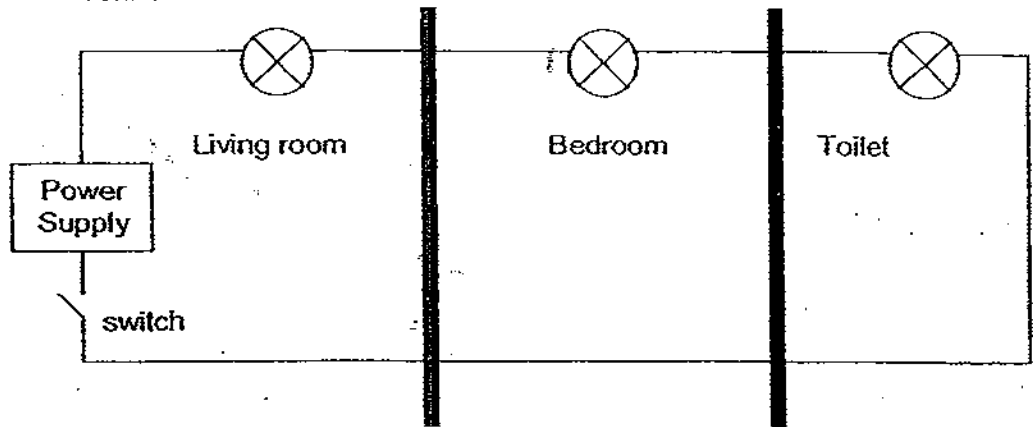
When oil burns in the power station it is converted to heat energy. The amount of electrical energy obtained is always less than this heat energy.

Explain clearly what happens to the rest of the energy.

[2]



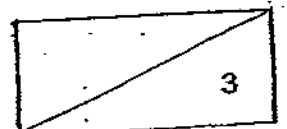
44: The diagram below shows how the three lamps in a studio apartment are connected.



a. Give two reasons why this is not the best way to connect the lamps. [2]

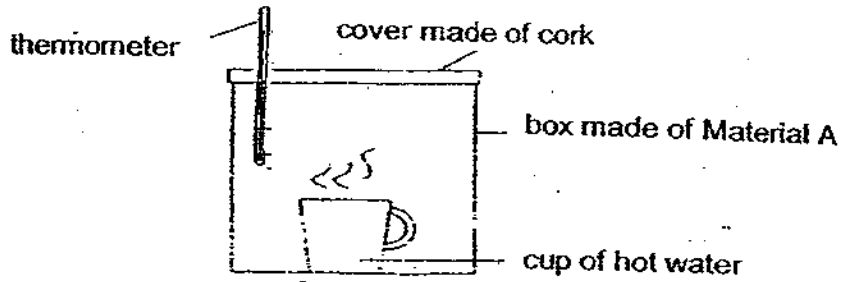
b. Draw a circuit diagram in the box below so that the problems stated in part (a) can be solved. [1]

Power Supply



45. Mr Tan used four different materials, A, B, C and D to make four different boxes. A cup with water at 100°C was placed into each box. Covers made of cork were used to cover the boxes.

The set-up for Material A is shown below.



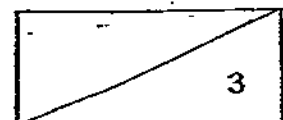
The time taken for the cup of water to reach room temperature of 30°C is recorded in the table below.

Material	Time taken to reach room temperature (minutes)
A	15
B	10
C	30
D	42

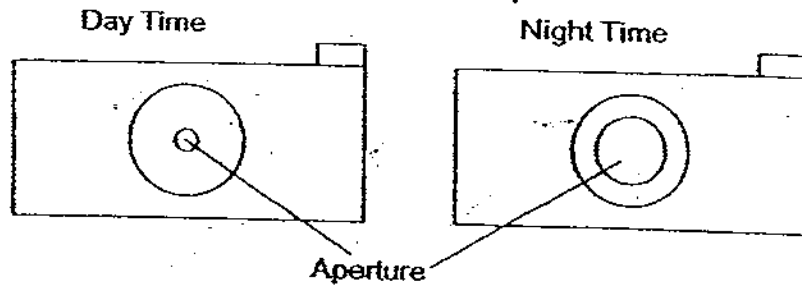
- (a) Which of the four materials would you choose to prevent a block of ice from melting quickly? [1]

- (b) Give a reason for your answer. [1]

- (c) Explain why Mr Tan covered the box. [1]

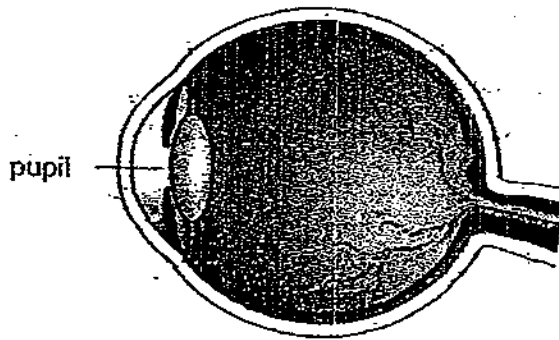


46. Study the diagram of a camera shown below. Aperture is an opening which is used to control the amount the light entering the camera.



- (a) Based on the diagram, what is the relationship between the amount of surrounding light and the aperture of the camera? [1]

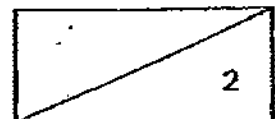
- (b) The diagram below shows a cross section of a human eye.

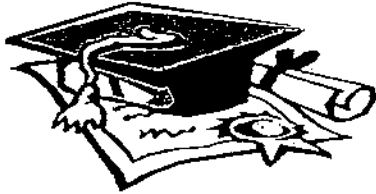


The pupil in the eye has the same function as the aperture of the camera.

- Give a reason why the pupil in our eye gets bigger when we enter a dark room. [1]

END OF PAPER





ANSWER SHEET

EXAM PAPER 2009

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 6 SCIENCE

TERM : CA1

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

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

31)a)Animals in Group A have a bade bone.
 b)Mammals.

32)a)It does not conduct electricity is fragile and allow light to pass through.
 b)Both are a conductor of electricity.
 c)Steel.

33)decaying, coal, sun, chemical

34)a)Potential energy.
 b)Potential energy→Kinetic energy→Heat energy+Sound energy

35)a)Oxygen.
 b)i)Plant B.
 ii)Plant B is able to make food for itself.

36)Potato
 Ginger

Pineapple

Moss

Bryophyllum
 Begonia

37)a)A, C, D

- b)The more mass of paper the further the plane can travel.
- c)He was finding out if the wingspan of the paper aeroplane will affect the distance travelled.

38)Translucent, Strong, Hard

39)a)B: Fungus C: Animals

- b)Both reproduce by spores.
- c)Both cannot move by its own from one plane to another.

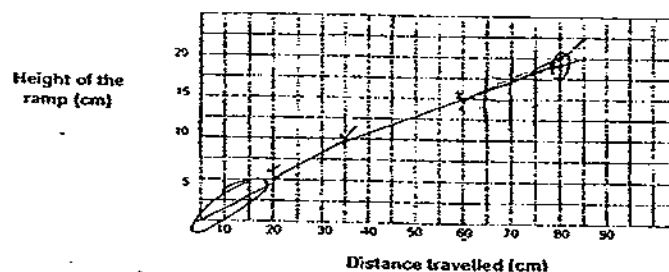
40)a)The nichrome wire will be hot.

b)Pry cells.

41)a)Some of the energy has been converted to other forms.

b)Roll the toy tortoise further back before releasing it.

42)a)



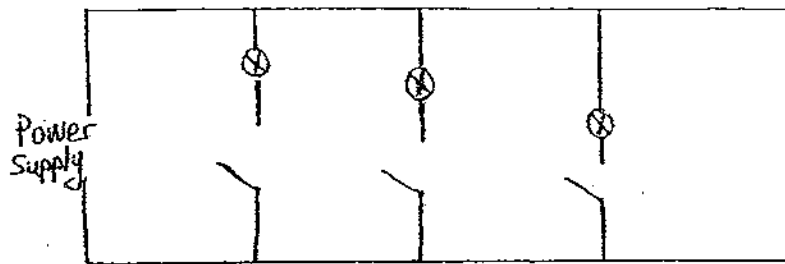
b)The higher the ramp, the further the toy can travel.

43)During the process, not all the heat energy is used to change water into steam some of it is lost as heat to the surrounding air. When steam drive the turbine some of the kinetic energy is converted to heat energy due to friction.

44)a)1)If one of the lamps fuses the other tow lamps will not light up.

2)When the switch is turned on all the lamps will light up.

44)b)



45)a)Material D.

b)It is the poorest conductor of heat and slows down the rate at which the ice from gaining heat from the surrounding.

c)This is to prevent the cup of water from losing heat to the surrounding air outside the box though the opening.

46)a)The greater the amount of surrounding light the smaller the aperture.

b)To allow more light to enter.

