



**NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1 2008
PRIMARY SIX
SCIENCE**

Name : _____ ()

Class : Primary 6 / _____

Date : 28 February 2008

Duration : 1 hr 45 min

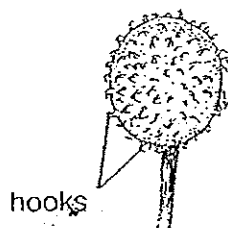
MARKS	
Sect A:	/ 60
Sect B:	/ 40
Total :	/ 100

Parent's Signature : _____

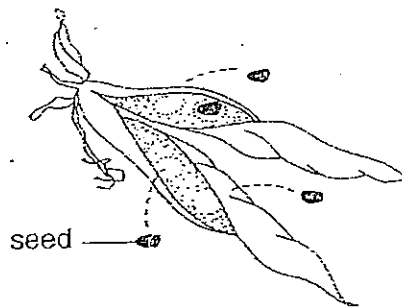
Section A: (30 x 2marks = 60marks)

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. The diagram below shows the fruit of some plants:



A

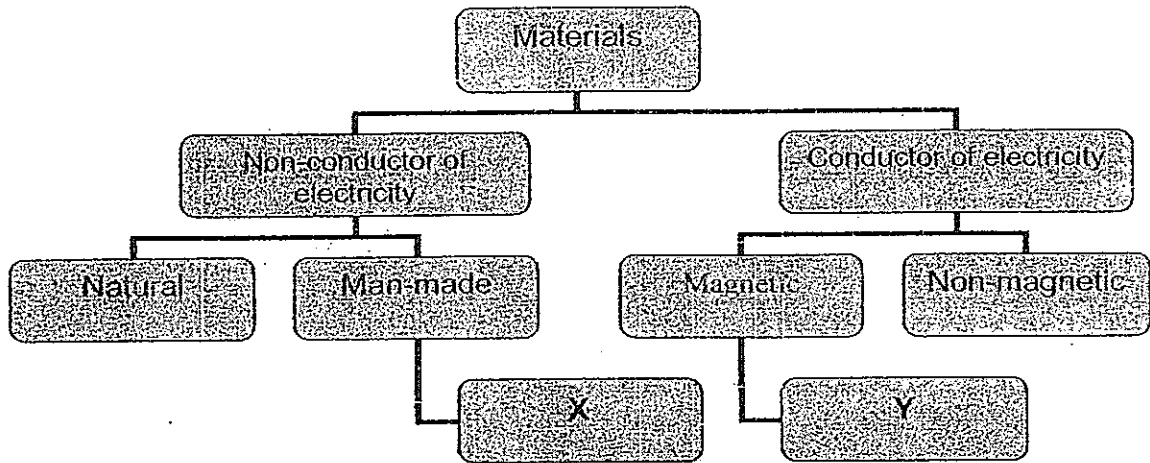


B

How is each fruit, A and B, dispersed?

	A	B
①	Animals	Splitting action
②	Animals	Animals
③	Wind	Splitting action
④	Wind	Animals

2. Study the classification chart below.



	X	Y
1)	Wood	Gold
2)	Plastic	Steel
3)	Silk	Nickel
4)	Wool	Silver

3. Alan made himself a hot drink. What material should the container used to keep his drink be made of so that his drink remained hot for the longest period of time?

- (1) Iron
- (2) Steel
- (3) Aluminium
- (4) Styrofoam

4. How are fungi and plants similar?

- (1) They can make their own food.
- (2) They are single-celled organisms.
- (3) They have leaves, stem and roots.
- (4) They cannot move freely from one place to another by themselves.

5. Which one of the following is not a fossil fuel?

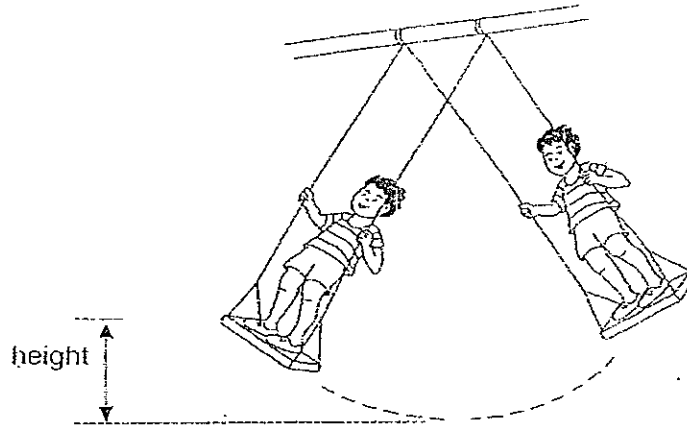
- (1) Coal
- (2) Petroleum
- (3) Natural gas
- (4) Electricity

6. Which of the following has / have chemical potential energy?

- A: Light
- B: Battery
- C: Food
- D: Coal

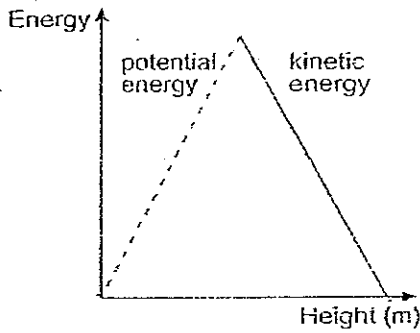
- (1) D only
- (2) A and C only
- (3) B, C and D only
- (4) A, B, C and D

7. Nicholas stood on a swing and moved to and fro from a height as shown in the diagram below.

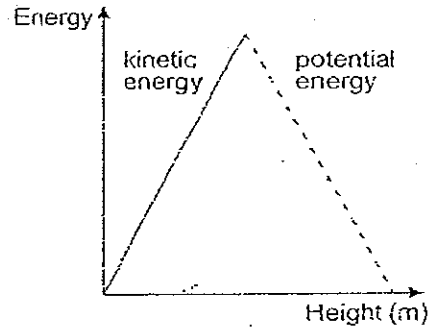


Which one of the following graphs correctly shows how the potential energy and kinetic energy of the swing change with the height?

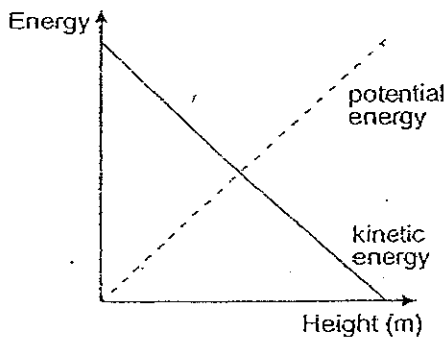
(1)



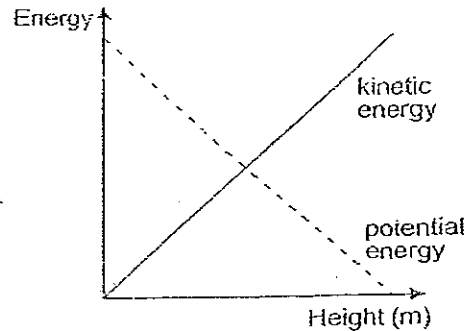
(2)



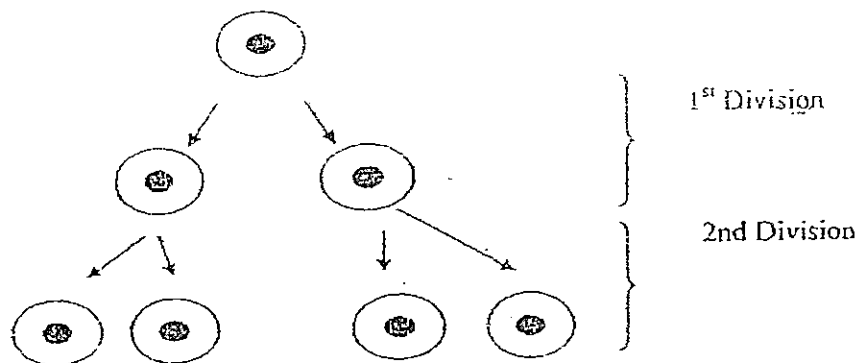
(3)



(4)

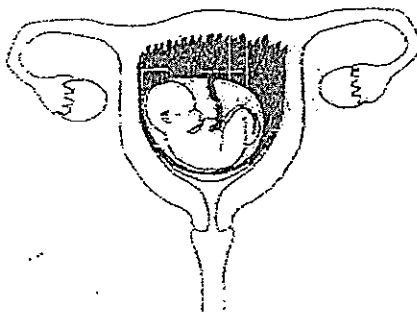


8. The diagram below shows the cell division of a unicellular organism.



What is the number of daughter cells produced from the single parent cell just after the 5th division?

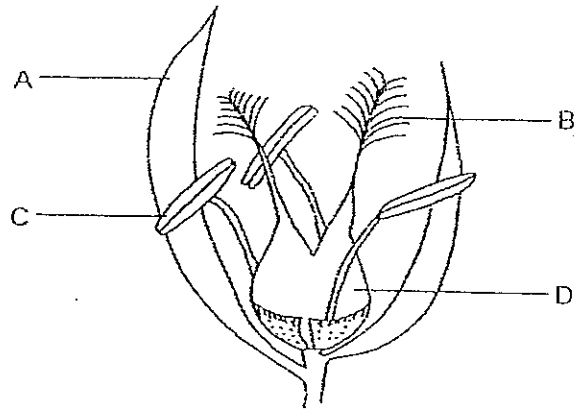
- (1) 12
 - (2) 32
 - (3) 64
 - (4) 128
9. The diagram below shows a developing human foetus in a mother's womb.



Which of the following statement(s) about the developing human foetus is/are correct?

- A: It is formed from one fertilised egg cell.
 - B: It is made up of one kind of cell.
 - C: It will have genetic information from both parents.
 - D: It will take one year to develop into a baby, ready to be born.
- (1) A only
 - (2) A and B only
 - (3) A and C only
 - (4) A, B and D only

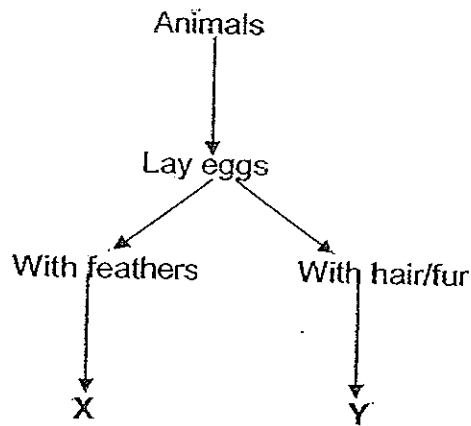
10. The diagram shows parts of a flower.



Which part, A, B, C or D, is used attract insects for pollination?

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

11. Look at the classification chart below carefully.



What animals do X and Y represent?

	X	Y
1)	Bat	Spiny Anteater
2)	Mynah	Platypus
3)	Moth	Tiger
4)	Dove	Salmon

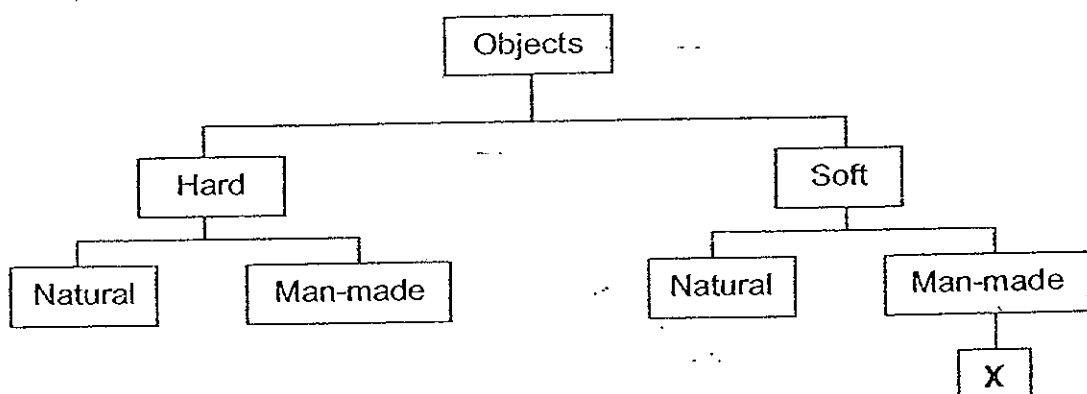
12. The table below shows how some materials have been classified based on a certain property.

Group A	Group B
Glass	Silver
Rubber	Copper
Wood	Gold
Fabric	Aluminium

Which one of the following are suitable headings for the two groups of objects?

	Group A	Group B
1)	Non-magnetic	Magnetic
2)	Transparent	Opaque
3)	Electrical insulators	Electrical conductors
4)	Man-made	Natural

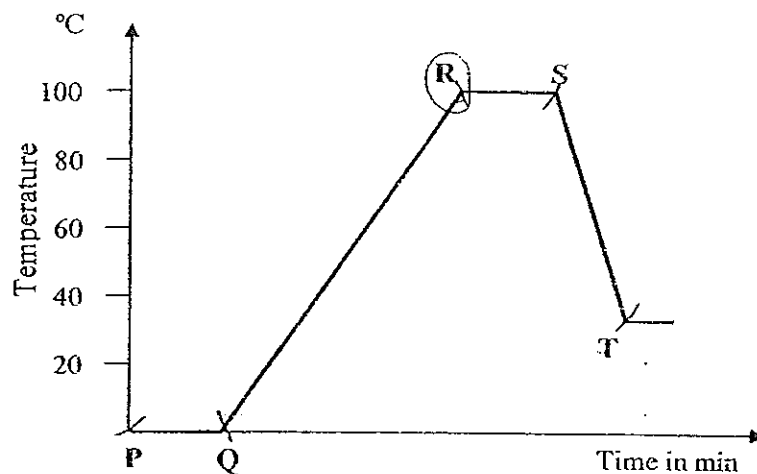
13. Study the classification table below.



What does X represent?

- (1) Nylon socks
- (2) Gold coin
- (3) Silk cloth
- (4) Glass container

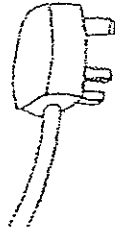
14. A group of students carried out an experiment with a beaker of ice cubes. They heated the beaker of ice cubes and then left it on a table to cool. They observed the changes in temperature at regular intervals and plotted a graph to show their findings.



Which part(s) of the graph, PQ, QR, RS, ST was heat gained during their experiment?

- (1) QR only
- (2) ST only
- (3) PQ and QR only
- (4) PQ, QR and RS only

15. The diagram below shows an electrical plug.



Which one of the following is the best reason for using plastic as a casing for the plug?

- (1) It is an electrical insulator.
- (2) It is a non-magnetic material.
- (3) It is an opaque material.
- (4) It is a strong and hard material.

16. Study the characteristics of organisms A, B, C and D in the table below.

Organisms	Characteristics		
	Can reproduce	Can make its own food	Can move freely from place to place
A	No	No	No
B	Yes	Yes	No
C	Yes	No	Yes
D	Yes	No	No

Which of the following organisms represent fungi, plants and animals?

	Fungi	Plants	Animals
1)	C	A	B
2)	C	D	A
3)	D	B	C
4)	A	B	D

17. Which one of the following is the source of energy for plants to make food?

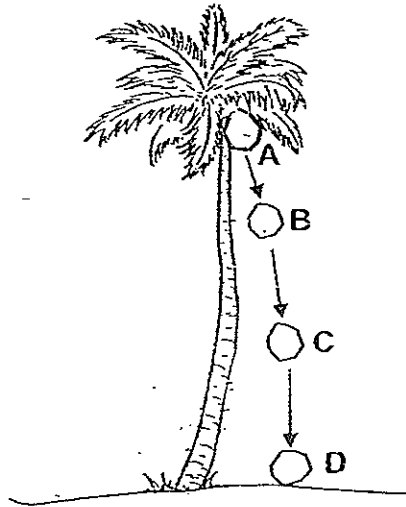
- (1) Sun
- (2) Water
- (3) Oxygen
- (4) Carbon dioxide

18. Which of the following statement(s) about light and heat is/are true?

- A: Light can be seen but not heat.
- B: Light and heat can travel a long distance.
- C: Heat can be absorbed but not light.
- D: Light is a form of energy but not heat.

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

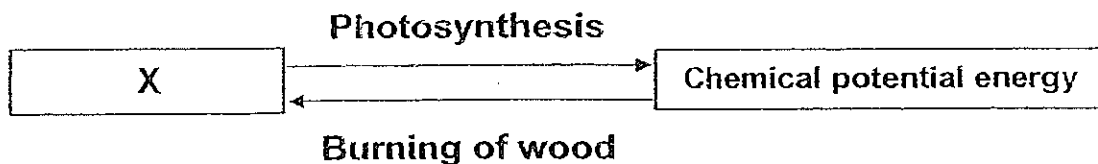
19. The diagram below shows the motion of a coconut falling from a tree.



The gravitational potential energy of the falling coconut is the greatest when it is at position _____.

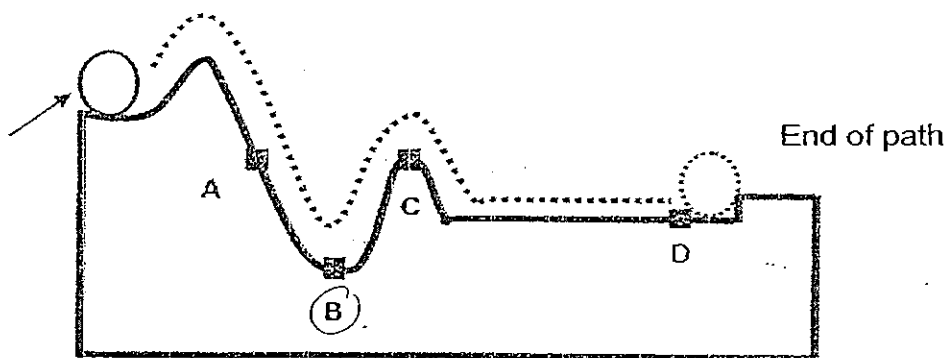
- (1) A
- (2) B
- (3) C
- (4) D

20. The diagram below shows the energy conversion of two types of processes.



'X' represents _____ energy.

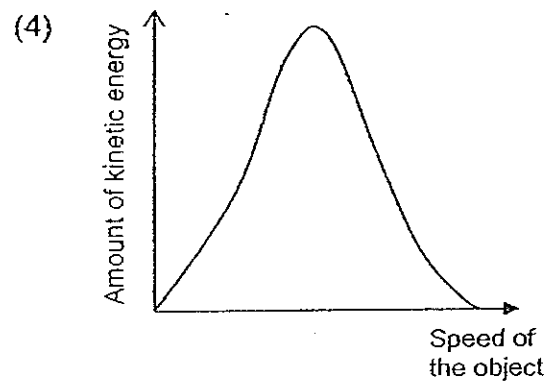
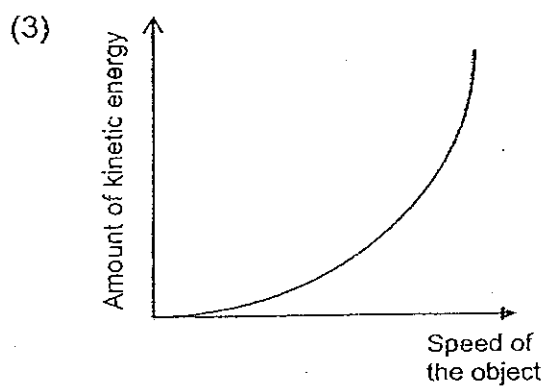
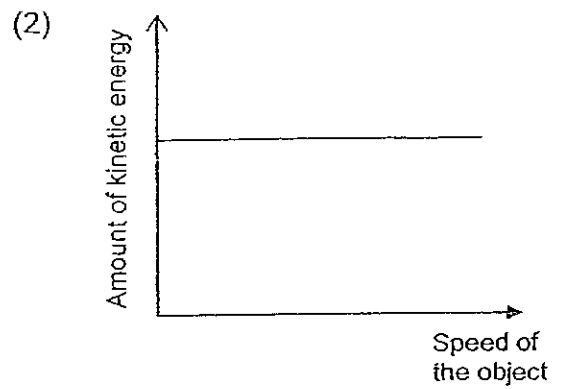
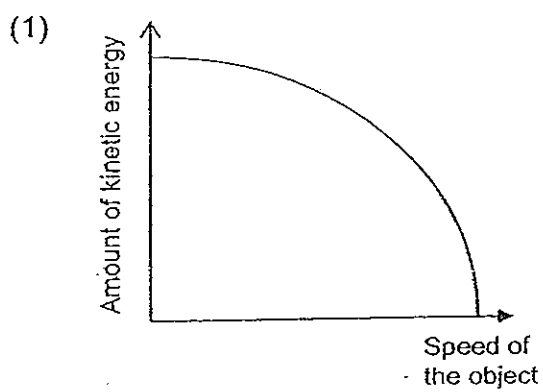
- (1) heat
 - (2) light
 - (3) kinetic
 - (4) potential
21. Jane pushed a ball in the direction indicated by the arrow shown in the diagram below and it rolled towards the end of the path.



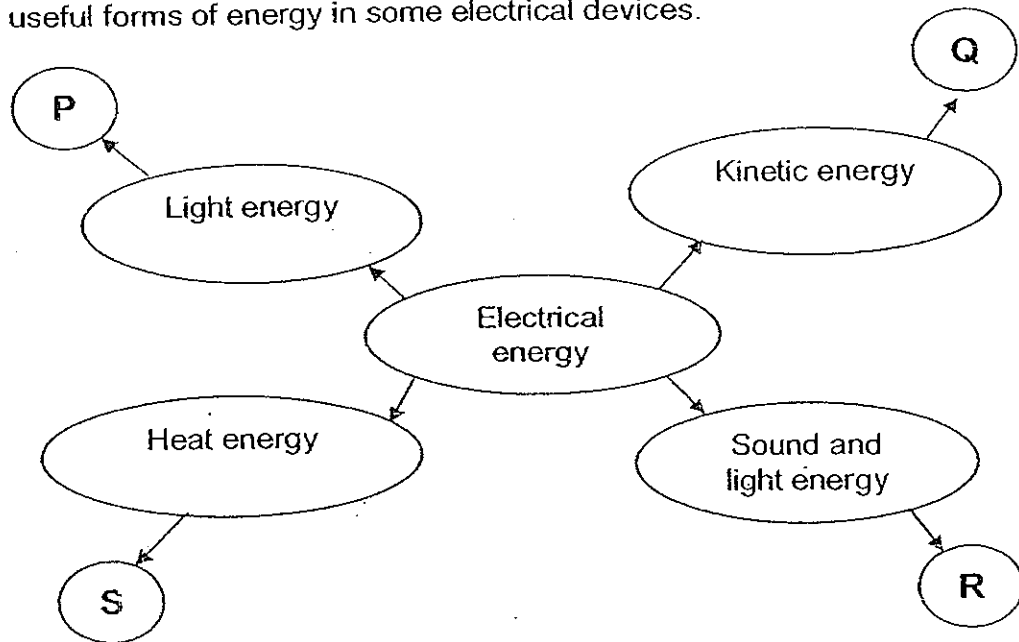
At which point, A, B, C or D, does the ball have the greatest amount of kinetic energy?

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

22. Which one of the following graphs shows how the amount of kinetic energy an object changes with the speed of the object?



23. The concept map below shows how electrical energy is converted to other useful forms of energy in some electrical devices.



Which of the following electrical devices best matches P, Q, R and S?

	P	Q	R	S
(1)	Food blender	Television set	Torch	Kettle
(2)	Torch	Food blender	Television set	Kettle
(3)	Television set	Kettle	Food blender	Torch
(4)	Kettle	Food blender	Torch	Television set

24. On 10 February, Jane saw a crescent moon in the night sky.



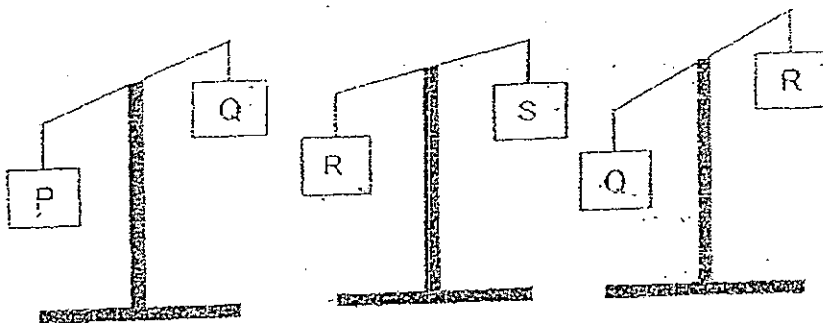
Crescent moon

Which one of the following statements explains why she could see only a crescent moon on that night?

- (1) Light is blocked by the clouds.
- (2) The moon rotates about its own axis.
- (3) Sunlight only falls on that part of the Moon on 10 February.
- (4) Only light from that part of the Moon is reflected into her eyes.

25. The diagrams below show what happens to a balance each time two objects are placed on it.

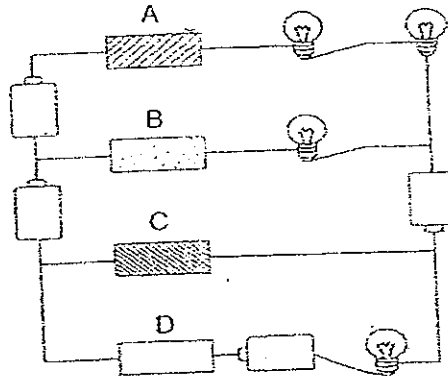
Each object is placed at the same distance from the fulcrum.



Arrange the objects from the heaviest to the lightest.

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

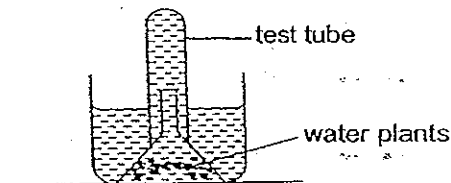
26. Study the circuit diagram carefully. Four materials A, B, C and D were connected in the electrical circuit.



Which one of the following correctly represents the materials A, B, C and D in the electrical circuit so that **only three bulbs will light up**?

	Material A	Material B	Material C	Material D
1)	Copper	Rubber	Iron	Wood
2)	Silver	Steel	Plastic	Aluminium
3)	Copper	Styrofoam	Glass	Gold
4)	Steel	Wood	Glass	Rubber

27. Leo carried out an experiment using 4 identical set-ups like the one shown below. He placed them at 4 different places A, B, C and D.



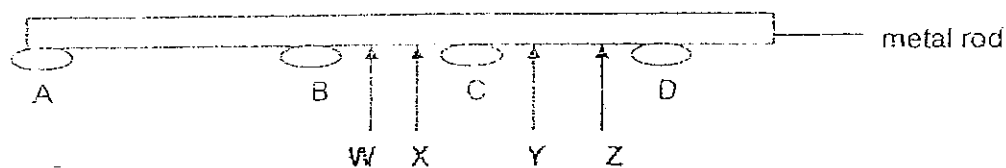
He recorded the volume of oxygen collected in the test tube in each set-up after two days.

Place of set-up	A	B	C	D
Volume of oxygen collected (cm ³)	9	6	1	4

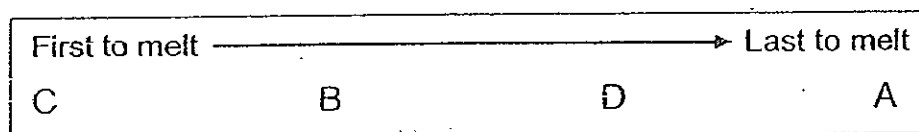
Based on the above results, which place, A, B, C or D, was most favourable for photosynthesis to occur?

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

28. The diagram below shows a metal rod with four similar drops of wax, A, B, C and D, attached to it.



The metal rod was heated by a flame placed below it. The drops of wax melted in this order:

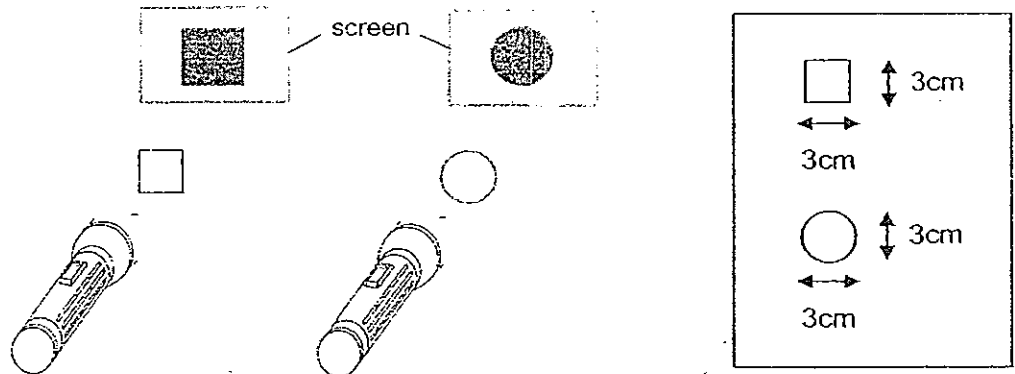


At which part of the metal rod, W, X, Y and Z, was the flame placed?

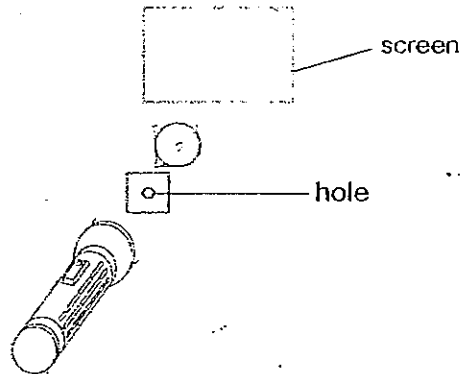
- (1) W
- (2) X
- (3) Y
- (4) Z

29. The diagram below shows the shapes of the shadow produced when different opaque objects are placed between a screen and a lighted torch.

The dimensions of the objects are given in the box on the right.



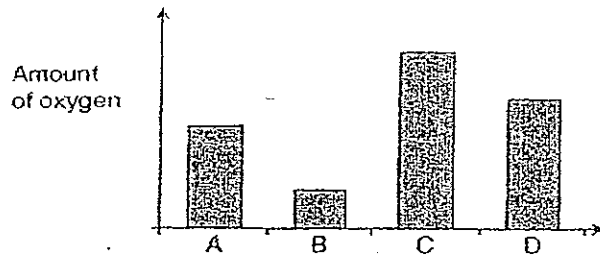
A circular hole, 0.5cm in diameter, was made in the centre of the square object. The lighted torch and both objects were then placed in a straight line in front of the screen as shown below.



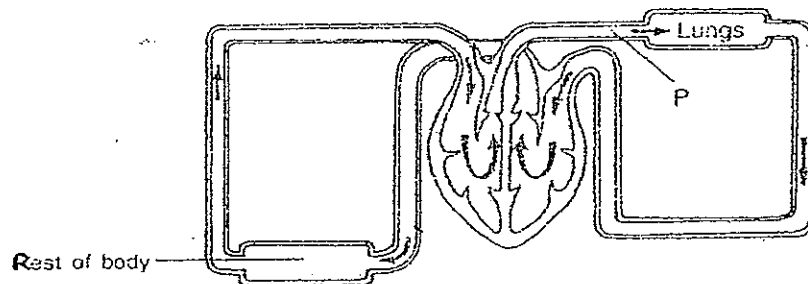
Which one of the following shadows will be seen on the screen?

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

30. The graph below shows the amount of oxygen in four blood samples taken at the same time from four different blood vessels in the body.



The diagram below shows how blood is circulated in our body.



Which sample, A, B, C or D, was most likely taken from P of the circulatory system?

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



NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1
PRIMARY SIX
SCIENCE

MARKS
40

Name : _____ ()

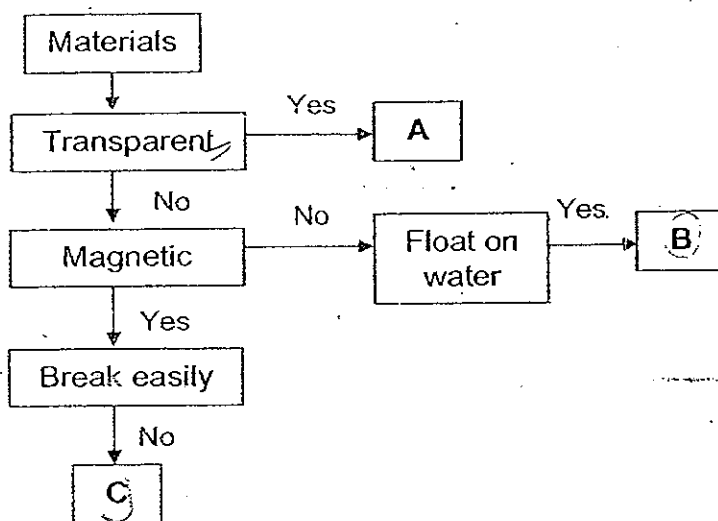
Class : Primary 6 / _____

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. Study the flow chart below.



Answer the following questions based on the information given in the above flow chart.

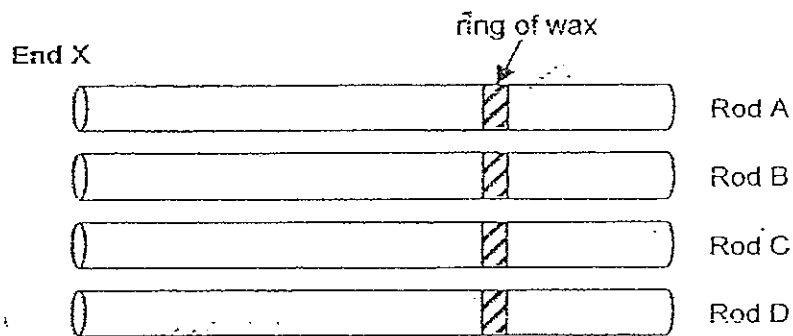
a) State one similarity between Material B and Material C. [1]

b) State two properties of Material C. [1]

c) Give an example of material A. [1]

3

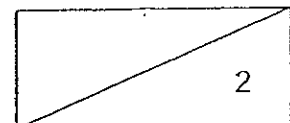
32. Keith used 4 rods of identical lengths and diameters for an experiment. The rods were made of different materials. He put a ring of wax around each of them and heated each rod at End X. He recorded the time it took for each ring of wax to melt off.



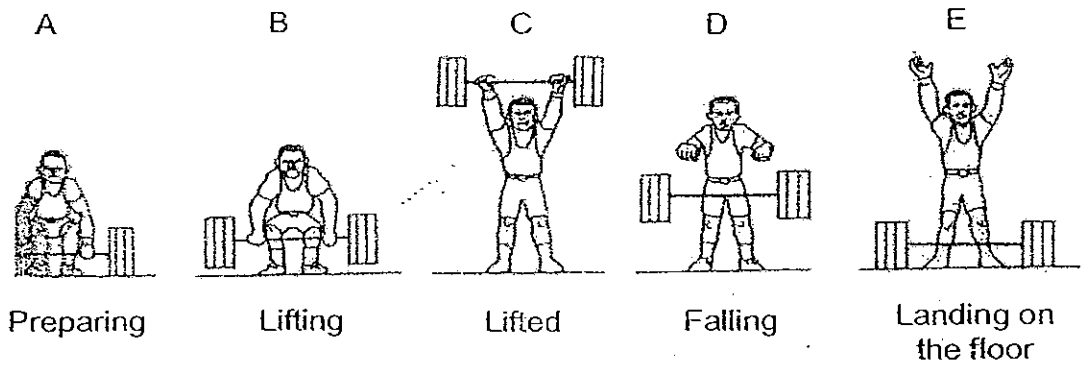
Rod	Time taken for wax to melt off (minutes)
A	15
✓ B	6
C	34
D	25

- a) If Keith was to choose among these materials to make ^{the base of the} a frying pan, which rod would he choose? [1]

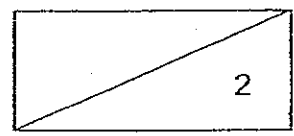
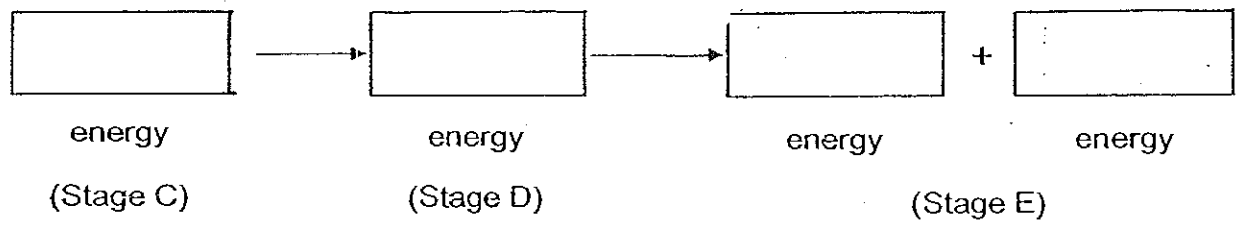
- b) Give a reason for your answer to (a). [1]



33. The diagrams below show a weightlifter lifting weights. The stages in weightlifting are labelled A, B, C, D and E.



State the main energy conversions that take place from Stages C to E. [2]

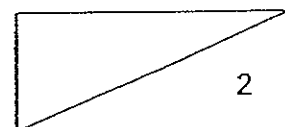


34. Ahmad, Ben, Collin and Demi stood behind a straight line. They each had an identical rubber band. Each of them stretched their rubber band to a different length and released the rubber band. The table below records the length of the stretched rubber bands.

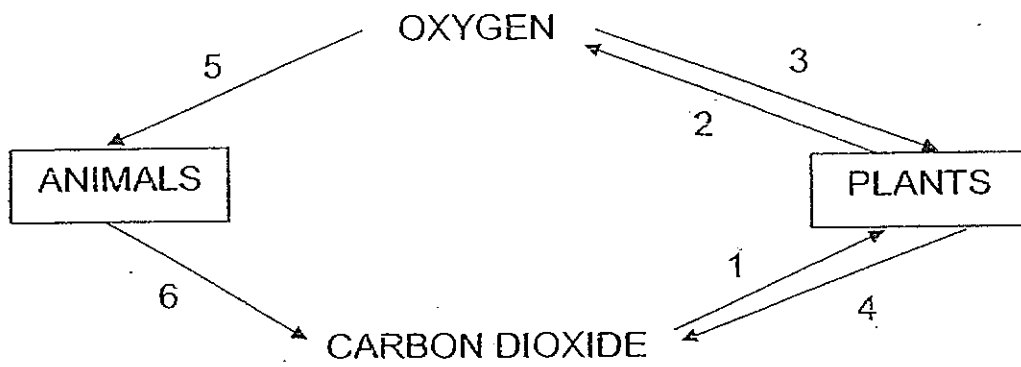
Name	Length of the stretched rubber band (cm)
Ahmad	14
Ben	5
Collin	21
Demi	17

- a) Whose rubber band would travel the shortest distance? [1]

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

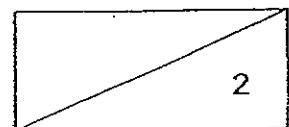


35. The six arrows in the diagram below show exchanges of gases between living things and their surroundings.



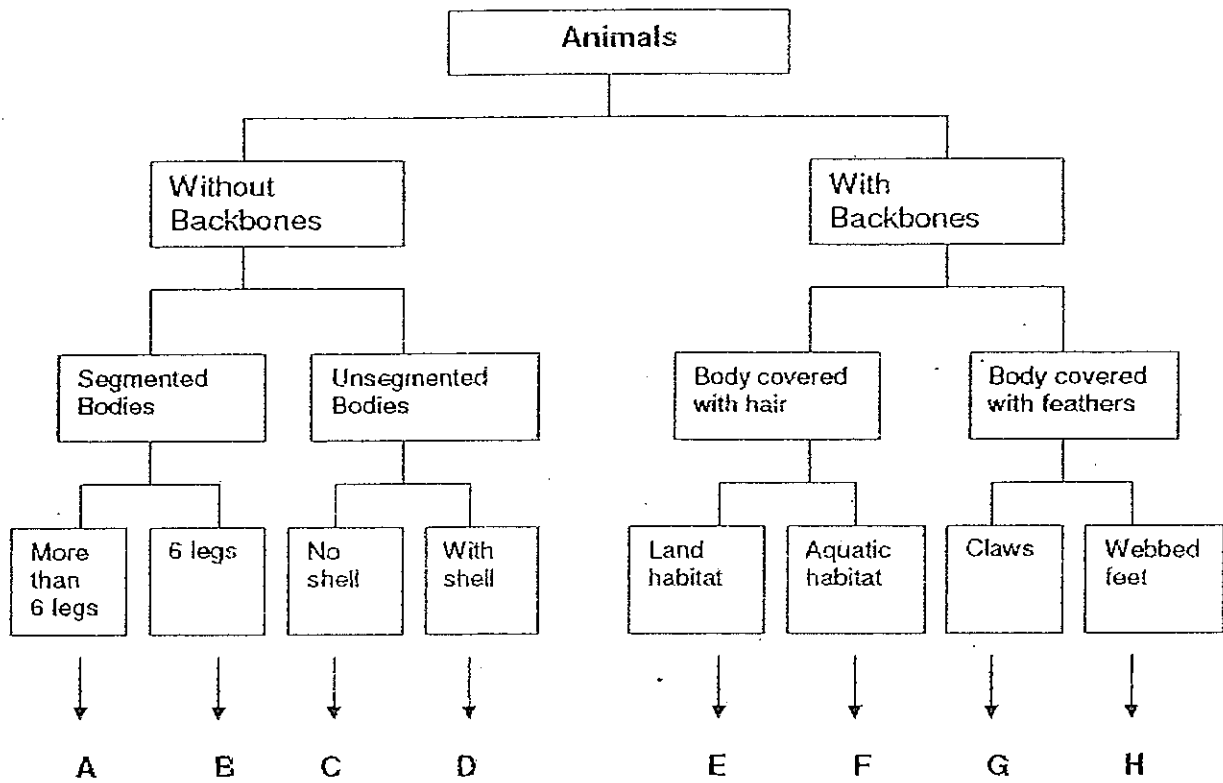
Which two arrows show the process of photosynthesis?

[2]



36.

Study the classification chart shown below.

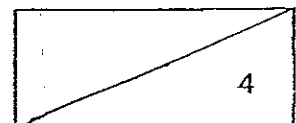


(a) Based on the classification chart, describe animal H. [2]

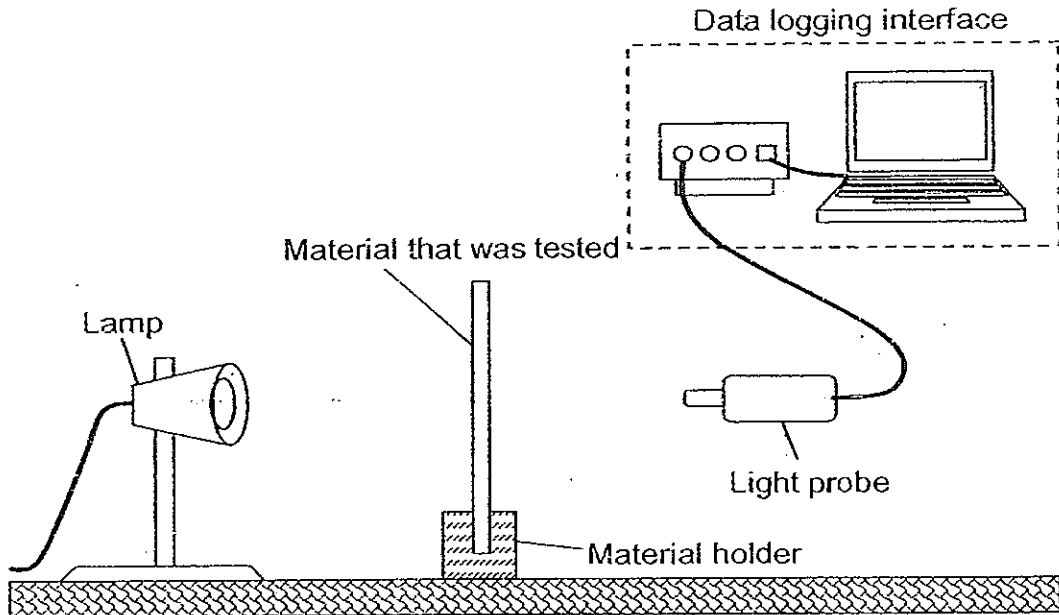
(b) Write down the correct alphabet which identifies the following animals. [2]

i) Tiger : _____

ii) Millipede : _____



37. David used a light probe from the school's datalogger kit for an experiment. The light probe was used to measure the amount of light that passed through different types of materials. He set up the experiment in a darkened room as shown below.

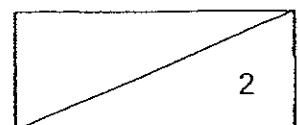


David recorded his results in the table below.

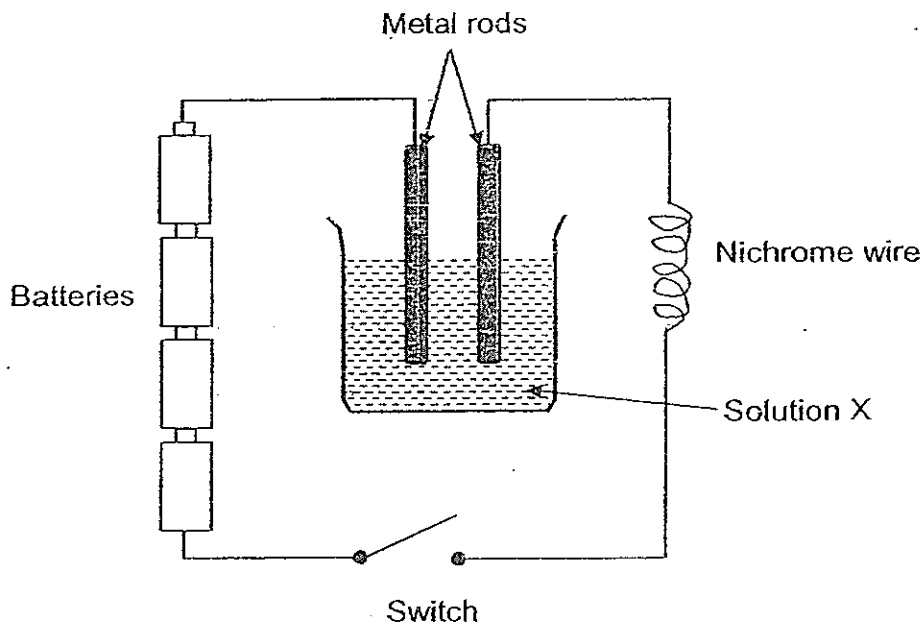
Material	Amount of light detected (Lux)
P	85
Q	20
R	0

- (a) Based on the above results, which material is opaque? Explain your answer. [1]

- (b) What would happen to the amount of light detected by the probe when the light source is moved further away from the material? [1]



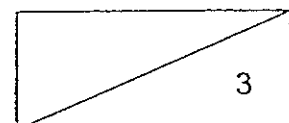
38. Ali set up an experiment as shown in the diagram below.



Ali observed that the nichrome wire becomes hot when the switch was on.

(a) What does this experiment tell you about Solution X? [1]

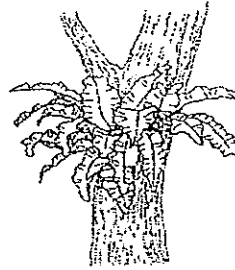
(b) What would happen to the nichrome wire if the metal rods are replaced by glass rods? Give a reason for your answer. [2]



39. Look at the pictures below carefully.



Mushroom



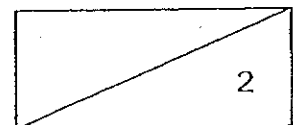
Fern

(a) State one **similarity** between the mushroom and the fern based on form, movement or nutrition. [1]

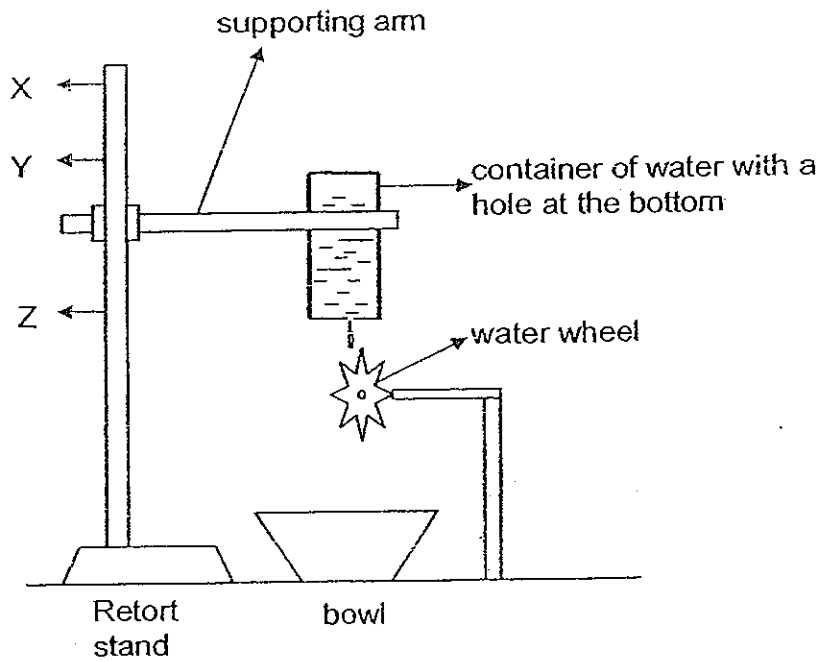
Similarity: _____

(b) State one **difference** between the mushroom and the fern based on form, movement or nutrition. [1]

Difference: _____



40. Adam made the water wheel shown below.

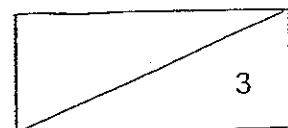


- (a) Adam wants to make his water wheel spin faster. Based on the diagram, at which position (X, Y and Z) should Adam adjust the supporting arm to enable him to make his water wheel spin faster? [1]

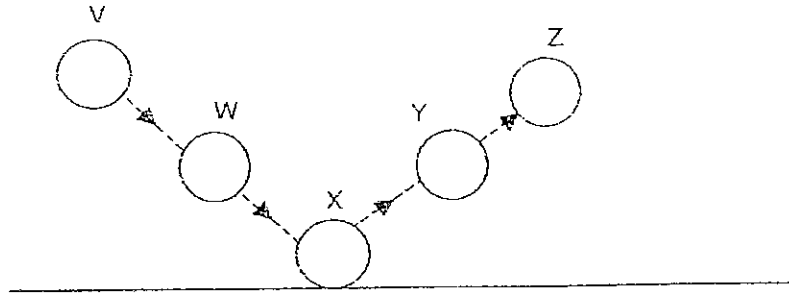
Position _____

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

- (c) Without adjusting the position of the supporting arm, suggest another way in which Adam can make his water wheel spin faster. [1]

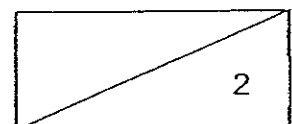


41. The diagram below shows a basketball when it bounces.

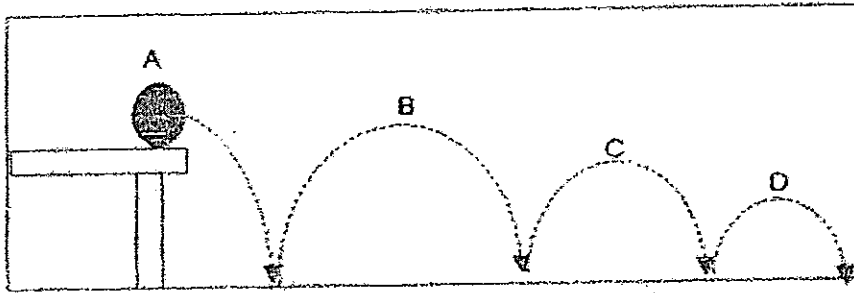


(a) At which point does the basketball possess ~~the~~ greatest amount of kinetic energy? [1]

(b) At which point does the ball have the most gravitational potential energy? Why? [1]



42. A ball was dropped from a table. The path it took was represented by the dotted lines as shown in the diagram below.



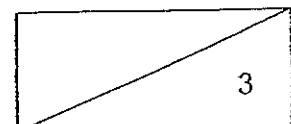
Tom repeated the experiment three times and recorded the bouncing height of the ball at B, C and D in the table below.

Number of tries	Maximum height (cm) at ...		
	B	C	D
1 st	60	45	31
2 nd	59	45	30
3 rd	61	44	30
Average height	60	45	30

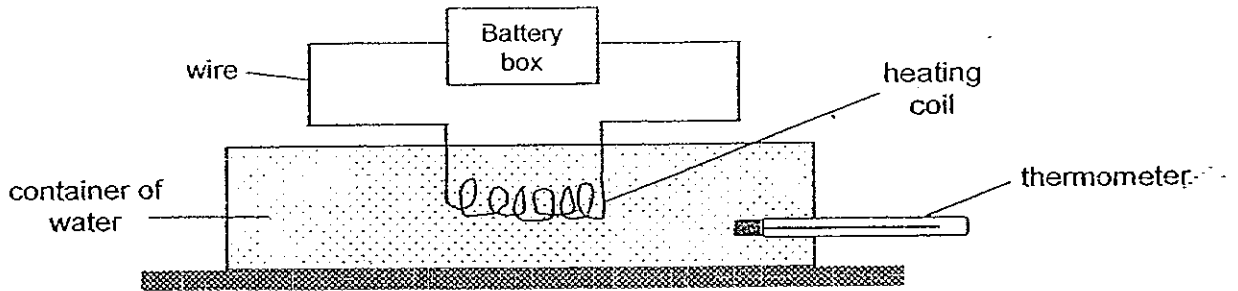
- (a) At which position (A, B, C or D) did the ball have the least ^{potential} energy? [1]

- (b) Explain why the bouncing height of the ball decreases. [1]

- (c) Why did Tom conduct the experiment three times? [1]



43. Navin carried out an experiment to find out which material was the best for making a heating coil. He set up the following experiment and measured the change in temperature over ten minutes using four types of heating coil.



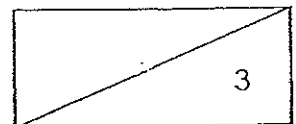
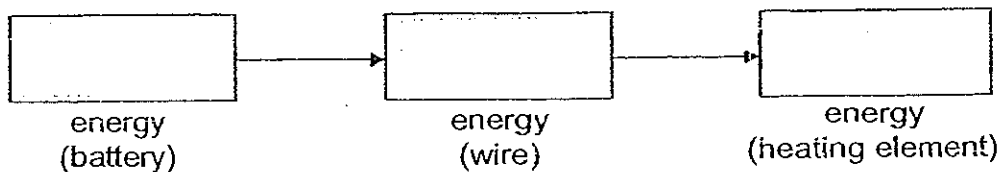
The table below shows the results he obtained.
The temperature of water at the start of the experiment was 30°C.

Material of Heating Coil	Temperature (°C)	
	0 minute	10 minutes
A	30	45
B	30	65
C	30	33
D	30	80

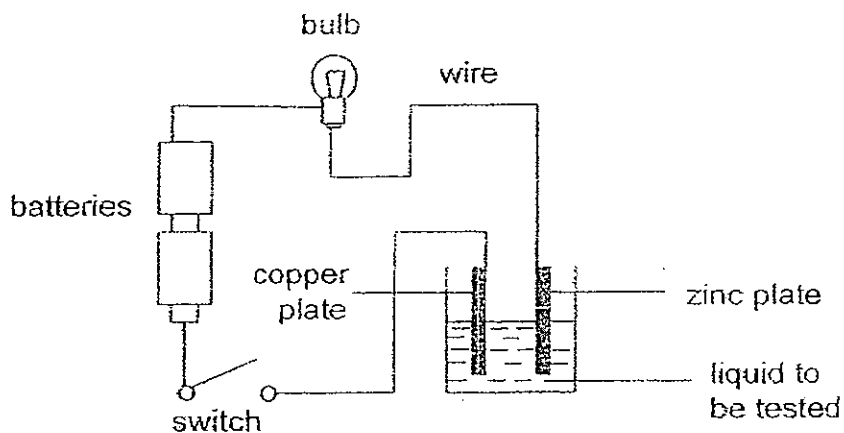
- (a) Based on the above results, which material is best suited for use as a heating coil in a water heater? [1]

- (b) Explain your answer to (a). [1]

- (c) State the main energy conversions that take place in the above experiment. [1]



44. Sean set up the experiment using the apparatus as shown below. The bulb lighted up when the switch was on.



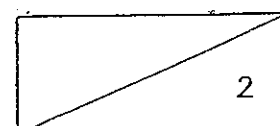
Using the same set-up as shown above, Sean used three different types of liquids, one at a time, and recorded the brightness of the bulb in the table below.

Types of liquid	Brightness of the bulb		
	Dim	Bright	Very bright
X		√	
seawater			√
Y	√		

Using the information above, answer the following questions.

- (a) What was the aim of Sean's experiment? [1]

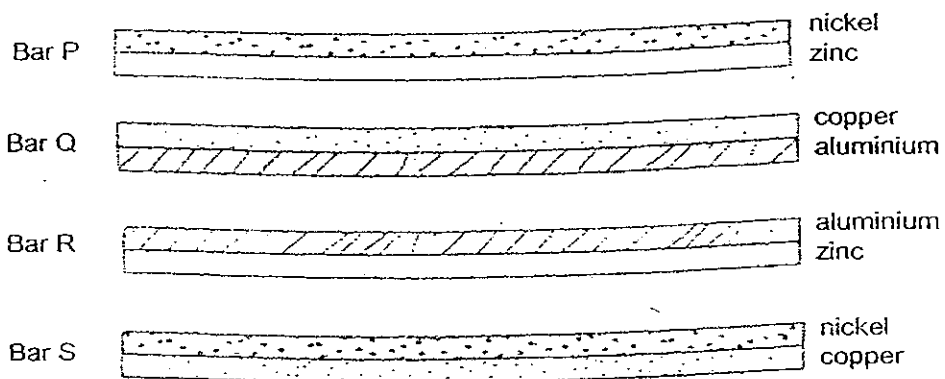
- (b) Why is it dangerous to swim in the sea during a storm when there is lightning? [1]



45. Haowen joined metal strips of the same size but of different materials to form metal bars. When heated, they bend as shown in the diagram below. Metal Y lengthens more than Metal X.



He heated 4 of these bars, P, Q, R and S, for 2 minutes. His results are shown below.

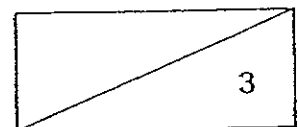


- (a) What can he conclude from this experiment? [1]

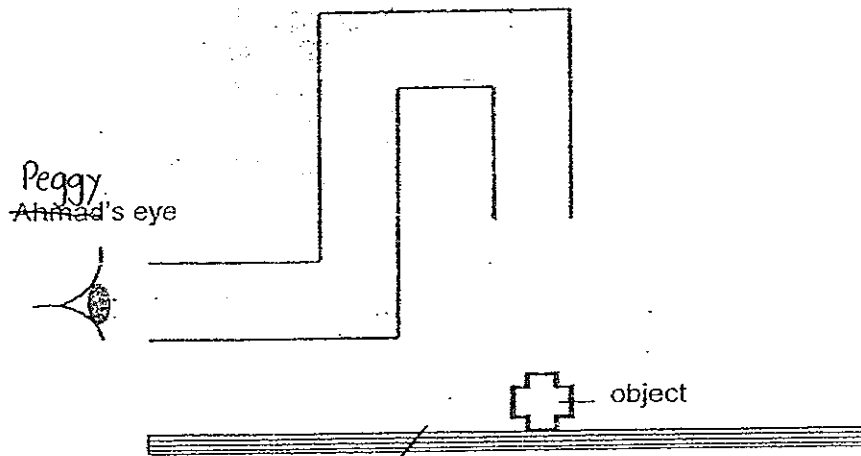
- (b) Based on the above experiment, state the metal which expanded the most and the metal which expanded the least when heated. [2]

Expanded the most: _____

Expanded the least: _____



46. Peggy designed and built a periscope as shown below. She placed 3 mirrors inside the periscope so that she would be able to see an object.

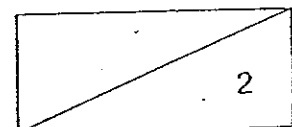


In the diagram, draw the:

- (a) Positions of the 3 mirrors [1]
- (b) Arrows to show the path of light, so that Peggy can see the object. [1]

**END OF PAPER
HAVE YOU CHECK YOUR ANSWERS?**

Setter: Mr Kum Chee Fai



Nan Hua Primary School

Primary 6 Science CA1 (2008)

Answers Key

Qn no.	Ans
1	1
2	2
3	4
4	4
5	4
6	3
7	3
8	2
9	3
10	1

Qn no.	Ans
11	2
12	3
13	1
14	4
15	1
16	3
17	1
18	2
19	1
20	2

Qn no.	Ans
21	2
22	3
23	2
24	4
25	3
26	3
27	1
28	2
29	2
30	2

- 31a. Both Material B and Material C are not transparent.
31b. Material C is magnetic and do not break easily.
31c. Clear Glass.
- 32a. Rod B.
32b. Among the four rods, the wax on Rod B melts the fastest so it is the best conductor of heat among the four rods. That is why Keith chose Rod B to make the base of the frying pan.
33. Gravitational Potential- Kinetic- Heat + Sound
- 34a. Ben's rubber band.
34b. Ben stretched his rubber band to the shortest length among the four, so his rubber band have the least amount of elastic potential energy which converted into the least amount of kinetic energy after it was released. That is why Ben's Rubber band traveled the shortest distance.
35. Arrows 1 and 2.
- 36a. Animal H has a backbone, its body is covered with feathers and has a webbed feet.
36b. i) E
ii) A
- 37a. Material R. 0 lux of light was detected when it was tested, so it is opaque.
37b. The amount of light detected will decrease.
- 38a. It is a conductor of electricity.
38b. The nichrome wire will not become hot. The glass rods are non-conductors of electricity, they do not conduct electricity. Electricity cannot pass through them, causing a gap in the circuit and resulting in an open circuit. No electricity passes through the nichrome wire so it will not become hot.

- 39a. Both of them cannot move from one place to another by themselves.
 39b. Fern can photosynthesize to make their own food (it has chlorophyll to trap sunlight to photosynthesize) while mushroom obtain its nutrients from other organisms.
- 40a. X
 40b. When the container of water is raised higher, the water in it possesses more gravitational potential energy which converts into more kinetic energy as it falls. The more kinetic energy of the water droplets shall then convert into more kinetic energy of the wheel, enabling it to spin faster.
- 41a. X
 41b. Point V. The ball is at the highest point at V, and the higher the ball, the more gravitational potential energy it possesses. It is also because that the basketball is dropped from V, so at point V, the gravitational potential energy that the ball possesses has yet to convert to other forms of energy, so the amount of gravitational potential energy at point V is the most.
- 42a. Position D.
 42b. Some of the energy it possesses is converted into heat energy and sound energy every time it hits the ground.
 42c. To ensure the reliability of the results.
- 43a. Material D.
 43b. Material D is the best conductor of heat as the water becomes the warmest after 10 minutes it was used than other materials.
 43c. Chemical Potential- Electrical- Heat
- 44a. His aim was to find out if the type of liquid will affect the brightness of the bulb.
 44b. As seawater is a good conductor of electricity, one may get an electric shock when swimming in the sea during a storm when there is lightning as the lightning may hit the water.
- 45a. He can conclude that different kinds of metals lengthen to different lengths when heated.
 45b. i) zinc
 ii) nickel
- 46a&b.

