CA1

AI TONG SCHOOL

2005 CONTINUAL ASSESSMENT (1)

PRIMARY SIX SCIENCE

DURATION : 1hr 45 min

DATE: 3 MARCH 2005

INSTRUCTIONS

Do not open the booklet until you are told to do so.
Follow all instructions.
Answer all questions.

Name : _____ ( )

Class : Primary _____

Parent's Signature : _____

Date : _____

Marks : 100

Section A (30 x 2 marks)

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. Ivy studied the characteristics of four flowers A, B, C and D and recorded them in the table below.

Flower	Size	Colour	Smell
A	Small	White	Scented
B	Small	Brightly coloured	Not scented
C	Large	Brightly coloured	Scented
D	Large	White	Not scented

Which flower is most likely to be visited by the greatest number of insects?

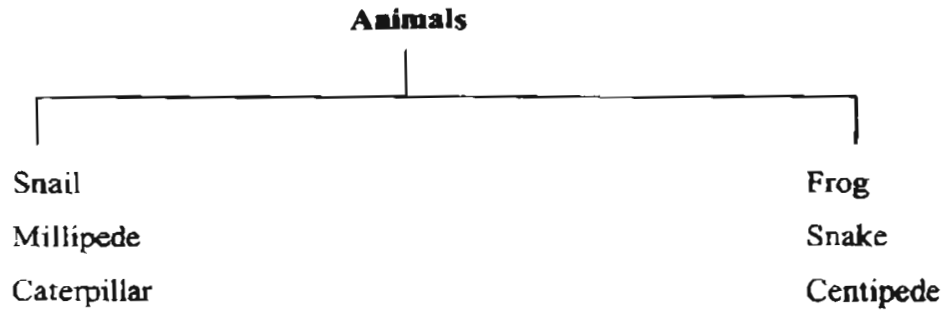
(1) A

(2) B

(3) C

(4) D

2.



The above classification table shows that the animals are classified according to _____.

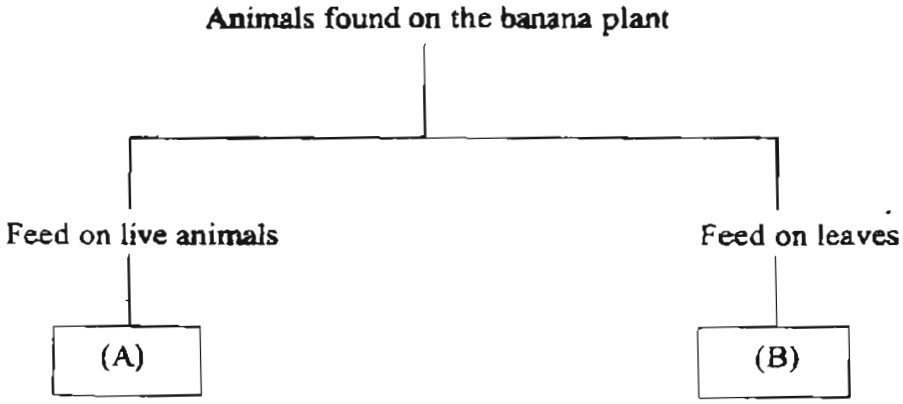
(1) the food they eat

(2) the way they move

(3) their body coverings

(4) the way they reproduce

3. Study the information given in the classification table below.



Which one of the following pairs of animals best describes A and B?

(1) Ant and bee

(2) Spider and caterpillar

(3) Butterfly and caterpillar

(4) Bee and spider

4. Which one of the following lists of **animals**, P, Q, R or S is grouped correctly?

	Animals that Bite or Sting	**Animals that spread diseases**	**Animals that damage plants**
(P)	Bee	Termites	Ladybird
(Q)	Cat	Housefly	Cockroach
(R)	Jelly Fish	Mosquito	Caterpillar
(S)	Python	Ants	Centipede

(1) P

(2) Q

(3) R

(4) S

5. Which one of the following properties would you consider when buying pots and pans? The materials used should be _____.

(1) transparent

(2) non-magnetic

(3) able to conduct heat

(4) able to conduct electricity

6. Look at the classification table.

Group 1	Group 2
Alcohol	Rose Syrup
Cooking Oil	Soya Milk

How are the liquids grouped?

Group 1	Group 2
(1) Transparent	Opaque
(2) Can be used as fuel	Cannot be used as fuel
(3) Can dissolve in water	Cannot dissolve in water
(4) Cannot be consumed	Can be consumed

7. Study the table below. The materials are classified into 2 groups.

Group A	Group B
Steel	Wood
Copper	Plastic
Aluminium	Rubber

What can Groups A and B be?

	Group A	Group B
(1)	Hard Materials	Soft Materials
(2)	Animal Origin	Plant Origin
(3)	Magnetic Materials	Non-magnetic Materials
(4)	Conductors of Electricity	Non-conductors of Electricity

8. The following table shows how some objects were classified under groups A and B.

A	B
Writing paper	Marble Floor
Paper plates	Glass bottle
Rubber ball	Wooden table

The objects were grouped according to _____.

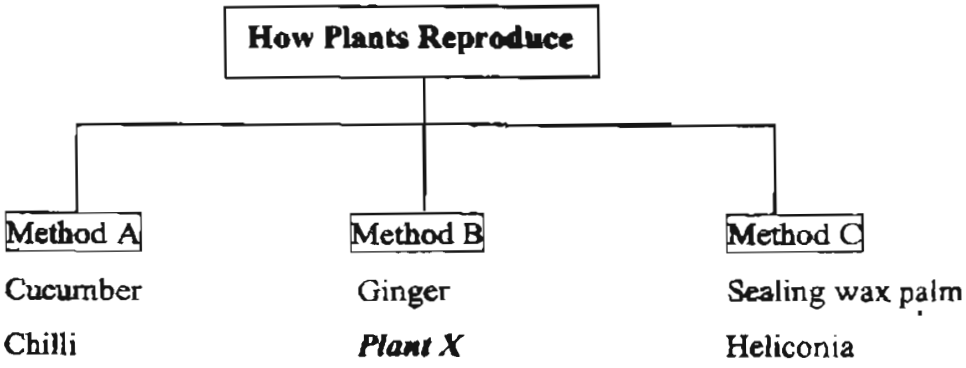
(1) how hard they were

(2) whether they were magnetic

(3) the type of materials they were made of

(4) whether they were made of waterproof materials

9. The diagram below shows 3 methods of plant reproduction.



What is Plant X?

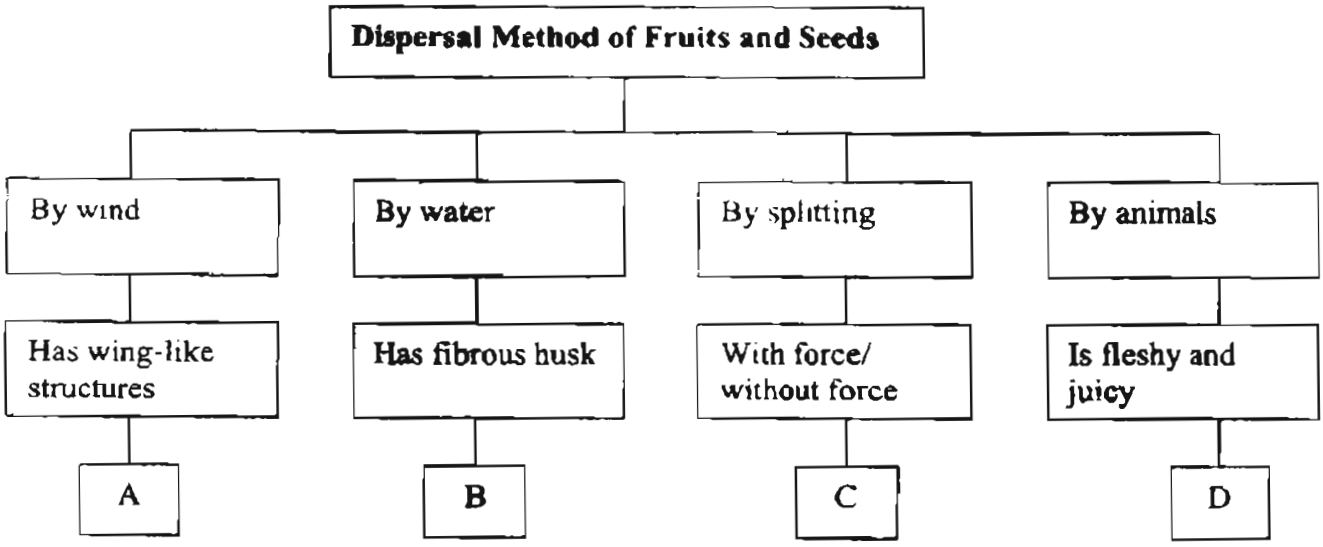
(1) Onion

(2) Carrot

(3) Sugar Cane

(4) African violet

10. Study the classification table below.



Which one of the following shows the correct grouping of fruits A, B, C and D?

	A	B	C	D
(1)	Lallang	Peas	Balsam	Durian
(2)	Shorea	Palm Fruit	Rambutan	Banana
(3)	Angsana	Coconut	Rubber	Mango
(4)	Flame of the Forest	Rubber	Pong Pong	Mimosa

7

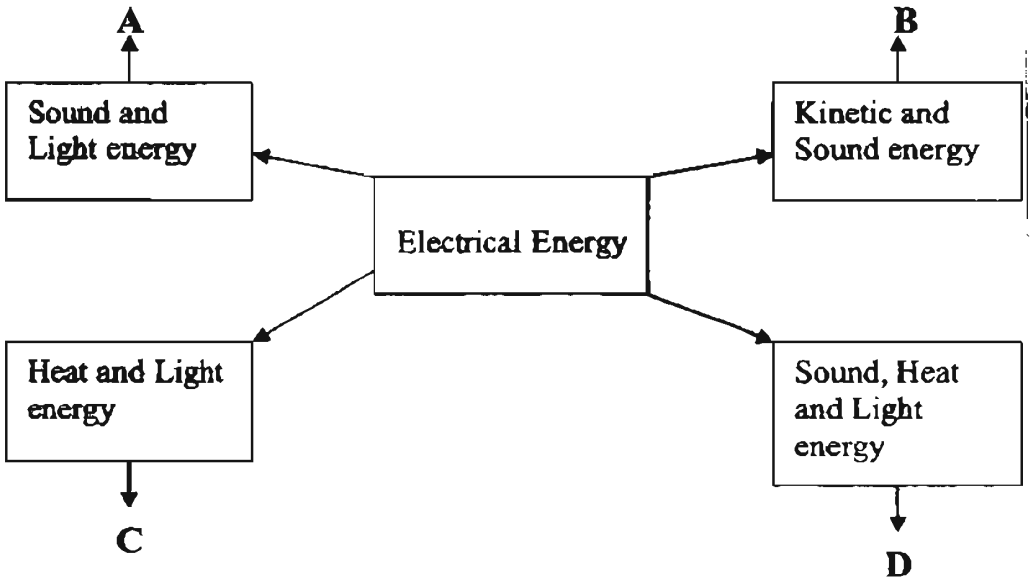
11. When the switch of an electric circuit is turned on, the _____ changes chemical energy into electrical energy.

(1) battery
(2) switch
(3) bulb
(4) wire

12. Which one of the following converts light energy to chemical energy?

(1) Calculator
(2) Lamp
(3) Algae
(4) Cow

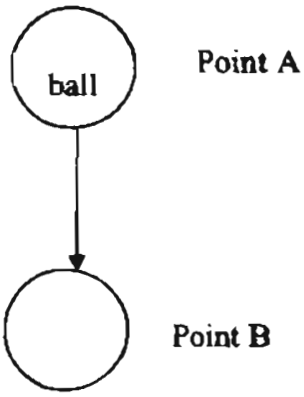
13. The diagram below shows that some household appliances convert electricity into other forms of energy.



Which of the following correctly matches A, B, C and D?

	A	B	C	D
(1)	Blender	Television set	Radio	Lamp
(2)	Lamp	Blender	Radio	Television set
(3)	Radio	Blender	Lamp	Television set
(4)	Television	Lamp	Blender	Radio

14. A ball is released from a height above the ground.



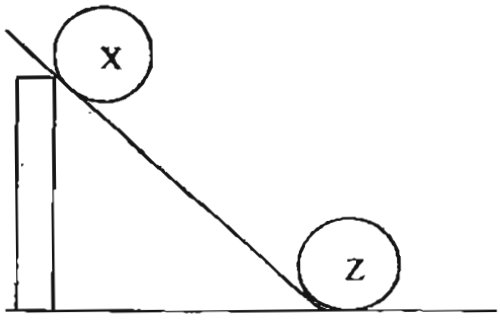
What is the energy change from Point A to Point B?

(1) sound energy to potential energy to kinetic energy
(2) potential energy to chemical energy to potential energy
(3) kinetic energy to potential energy to kinetic energy
(4) gravitational potential energy to kinetic energy and sound energy

15. When the plunger of an air gun is pushed in, the air inside is compressed. The compressed air has _____ energy.

(1) heat
(2) stored
(3) movement
(4) electrical

16. Ball X was rolled down the ramp to collide with Ball Z which moved some distance as a result. Which one of the following statements is true?



(1) Ball X has potential energy at its original position.
(2) Ball X gains potential energy while rolling down the ramp.
(3) Ball Z has no potential energy at its original position.
(4) Ball Z gains potential energy from Ball X.

17. Which one of the following statements is true?

(1) Energy can be created.
(2) Energy cannot change forms.
(3) Energy cannot be transferred.
(4) Energy provides us with the ability to do work.

18. Which one of the following energy sources helps a hydro-electric power station to generate electricity?

(1) Batteries
(2) Water
(3) Wind
(4) Fuel

19. A strong wind slams a door with a bang. When the door moves, it has (X) energy and it changes into (Y) energy when it bangs. Pick out the pair that matches (X) and (Y) correctly.

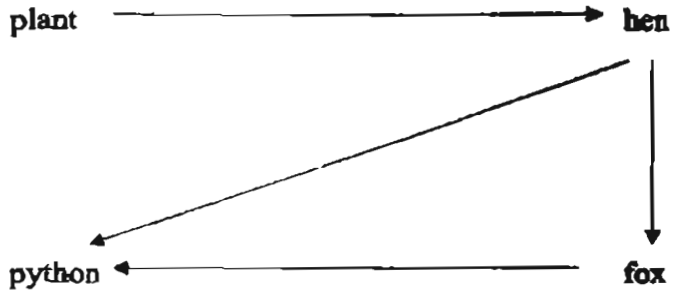
	X	Y
(1)	Kinetic	Potential
(2)	Potential	Sound
(3)	Kinetic	Sound
(4)	Potential	Kinetic

20. Shawn is playing tennis. Which of the following statements are true?

A Shawn's arm has kinetic energy when he swings his racket.
B When the racket hits the tennis ball, kinetic energy is transferred to the tennis ball.
C The tennis ball has both potential and kinetic energy when it is flying over the net.

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

21. Study the food web given below.

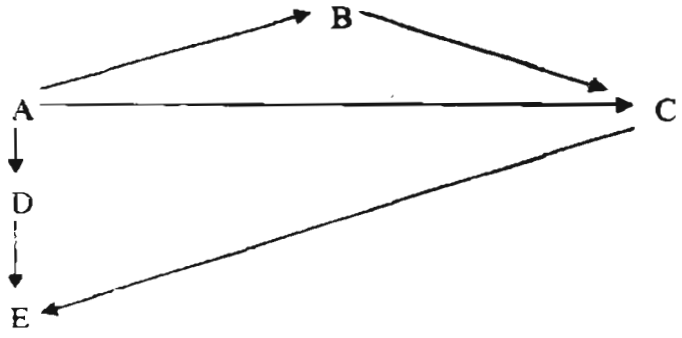


Which of the following will **not** result in **an increase in the population** of fox?

A An increase in the population of **python**
B An increase in the population of **hen**
C An increase in the population of **plants**
D A decrease in the population of **plants**

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

22. Letters A, B, C, D and E represent 5 **organisms which form a food web** in a certain community.



If the population of B increased, it is likely that there has been

(1) an increase in the population of E
(2) a decrease in the population of A
(3) a decrease in the population of D
(4) a decrease in the population of E

23. Which one of the following equations represents the process of photosynthesis in green plants?

(1) carbon dioxide + water ⟶ glucose + oxygen
(2) oxygen + water ⟶ carbon dioxide + water
(3) carbon dioxide + glucose ⟶ oxygen + water
(4) oxygen + glucose ⟶ water + carbon dioxide

24. P is a food producer.
Q and R feed on P.
S feeds on Q and R
T feeds on S

Which animal is both a prey and a predator?

(1) P
(2) R
(3) S
(4) T

25. The food we eat _____.

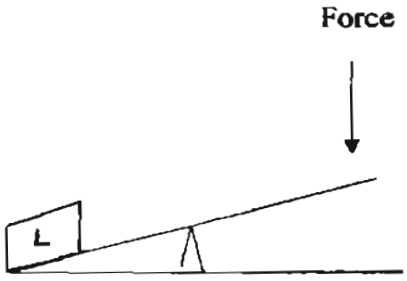
A helps to keep our body warm
B gives us energy to work
C is changed into simple substances
D is absorbed by the large intestine

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

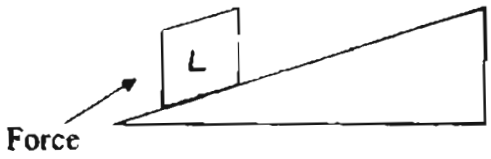
12

26. Four different simple machines are shown below.

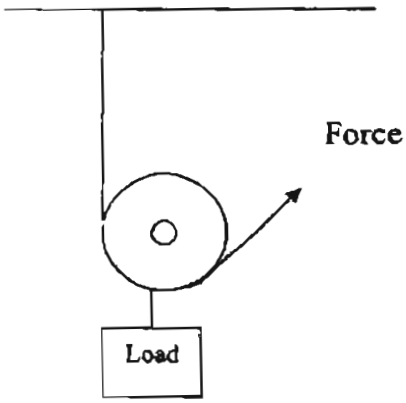
A



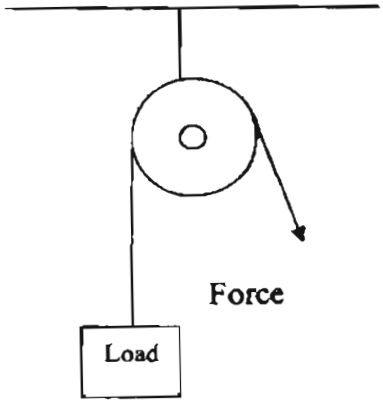
B



C



D



In which of the above machines is the force used less than the load?

(1) A and B only

(2) C and D only

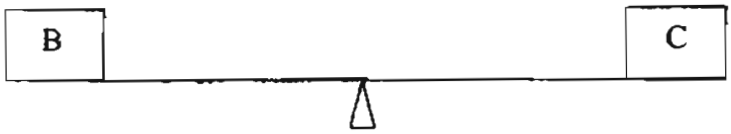
(3) A, B and C only

(4) A, C and D only

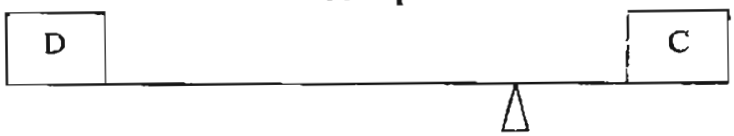
27. Mrs Tan set up the following levers in the science room. She placed 4 weights A, B, C and D on the levers as shown.

Set-up 1

Set-up 2



Set-up 3



Which one of the following weights is the lightest?

(1) A

(2) B

(3) C

(4) D

28. Peter gave his school books a very hard push along the teacher's table. The books moved across the table and eventually stopped. Why did the books stop?

(1) The books were too heavy.

(2) The gravitational force was acting on it.

(3) The fictional force opposed their motion.

(4) The force of the push was greater than the opposing force.

16

29. Peter accidentally slammed his room door on his hand, he yelled loudly and one of his fingers began to bleed.

Which of the following statements about the force in the above situation are true?

A Forces can be felt.

B Forces can be seen.

C The effects of forces can be seen.

D Forces can slow down moving objects.

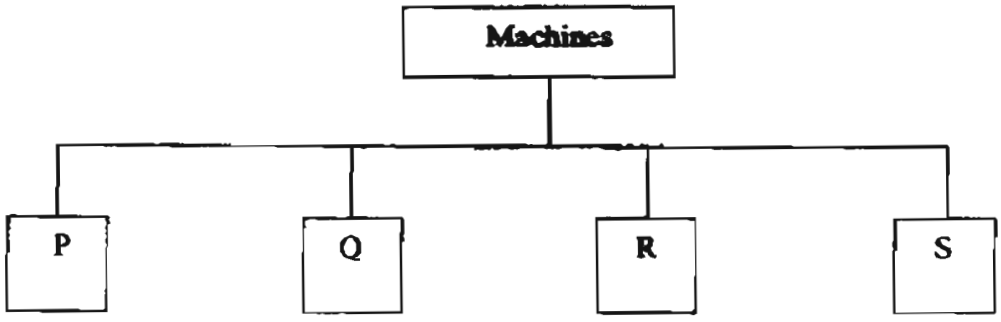
(1) A and B only

(2) A and C only

(3) B, C and D only

(4) A, C and D only

30. Study the classification table below carefully.



Staircase	Crane	Nutcracker	Pencil Sharpener
Ramp	Flagpole	Fishing rod	Car steering wheel

In which boxes, P, Q, R and S can I place the wheelbarrow and windlass?

(1) P and Q only

(2) P and S only

(3) Q and R only

(4) R and S only

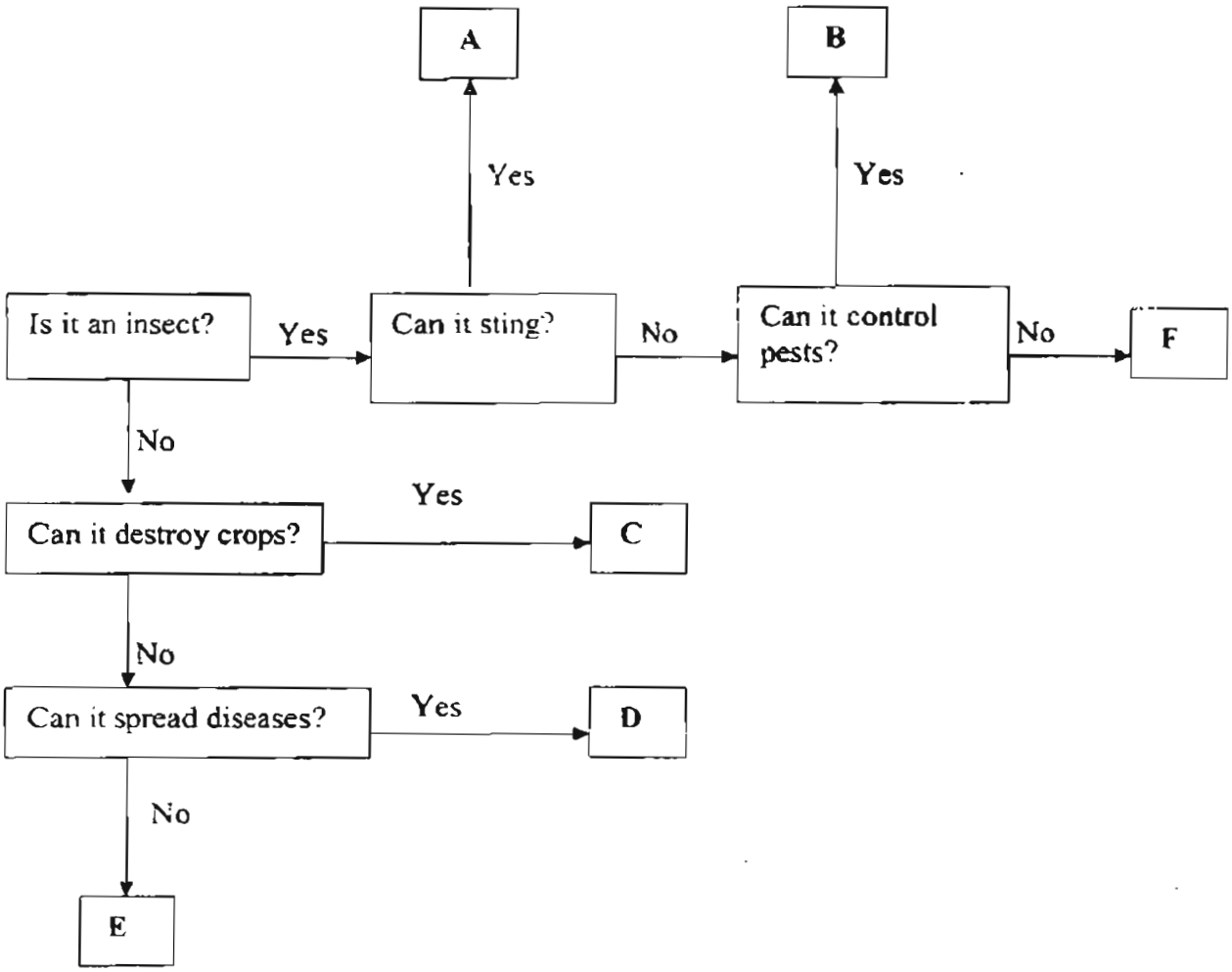
Name : _____

Class P6 ( )

Section B: 40 marks

Read the questions carefully and write your answers in the spaces provided.

31. Study the flowchart below.



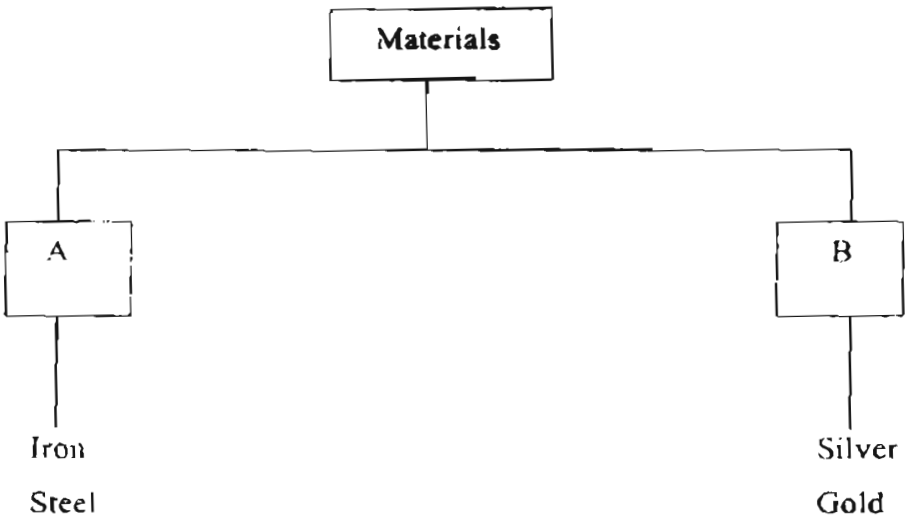
Fill in the correct **letter** below which best describes each animal given in the table. [2]

Animals	Caterpillar	Housefly	Hornet	Ladybird
Letter				

2

16

32. Study the classification diagram below.



Compare the materials classified in the boxes A and B.

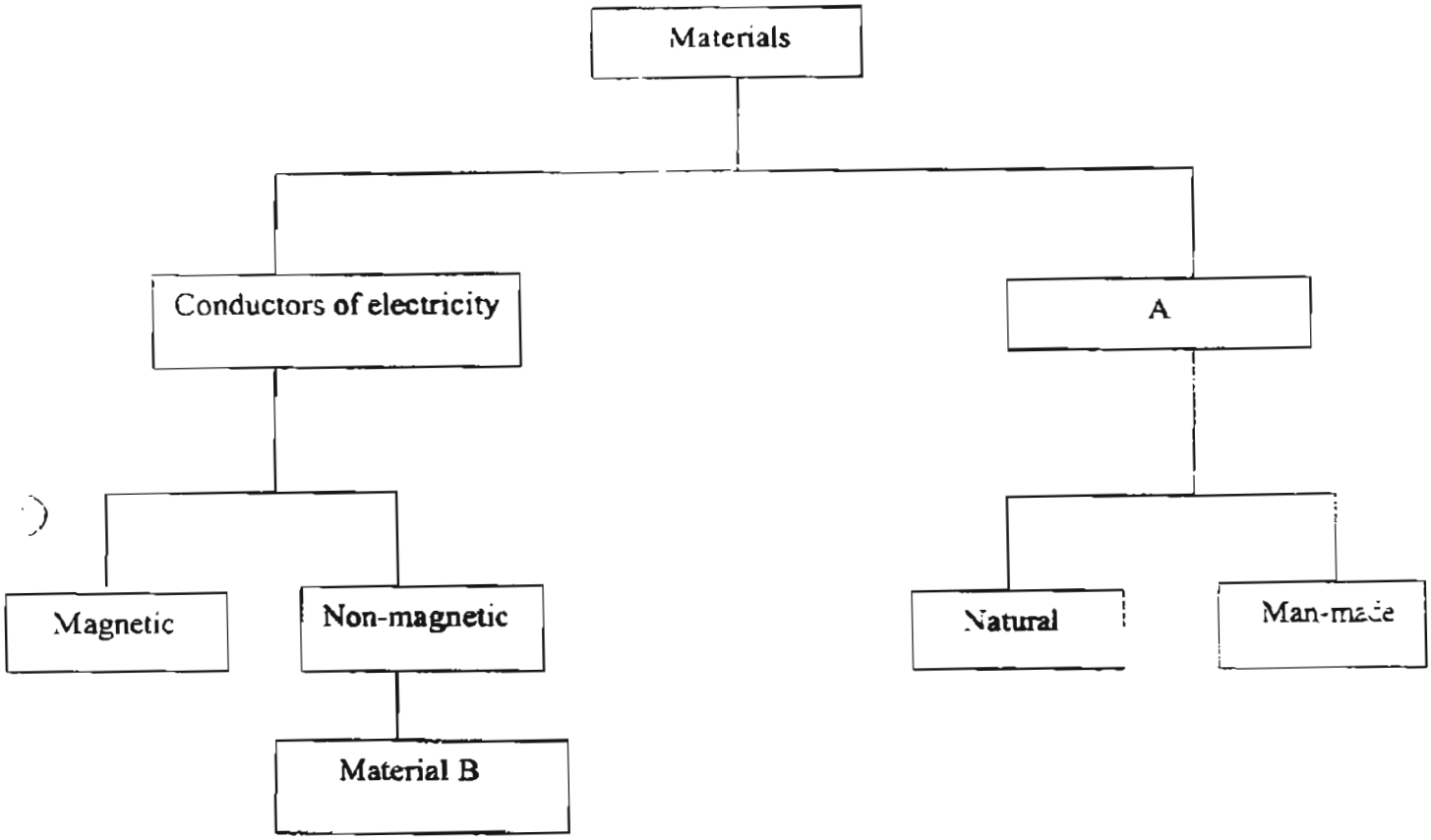
(a) Write down one similarity. [1]

(b) Which group, A or B, would you put aluminium foil? [1]

(c) Explain your answer in (b). [2]

17

33. **Study the classification chart below.**



(a) What can A be? [1]

_____

(b) From the chart above, what can you say about Material B? [2]

_____

_____

3

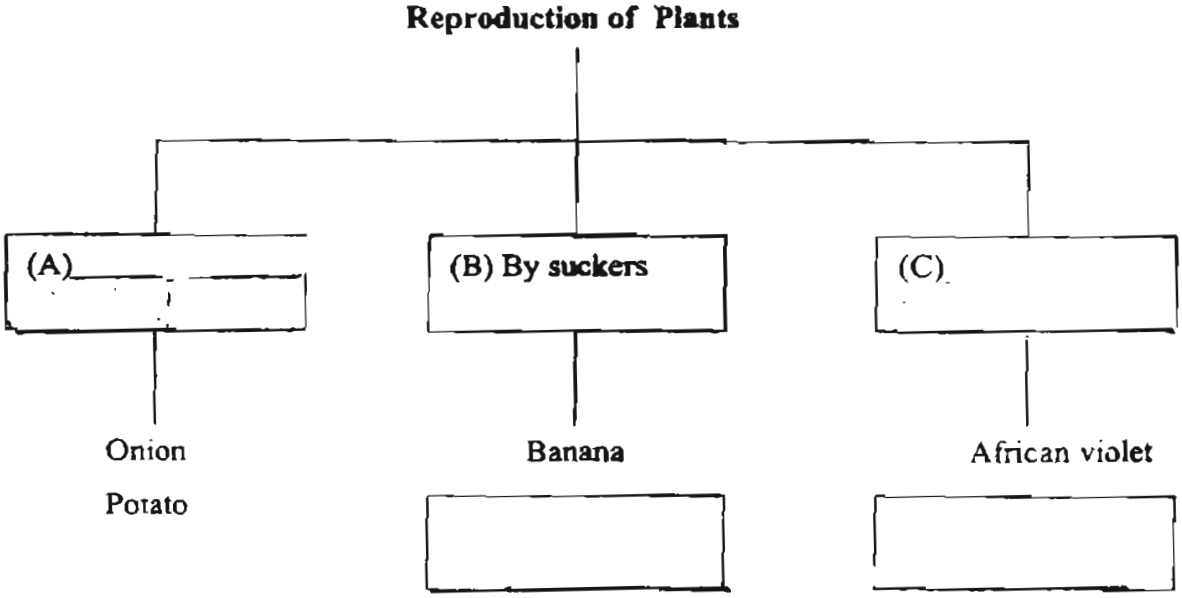
34. Cody obtained the following plants from the eco-garden.

Onion	Potato	African violet
Bryophyllum	Pineapple	Banana

He classified the plants according to the way they reproduce as shown below.

(a) Write suitable headings in boxes A and C. [1]

(b) Complete the classification table to show how Cody classified the rest of the plants. [1]



2

35. Alice and Ben are given the follo

a glass rod	a wooden stirrer	a plastic ruler	paper clips
a bar magnet	a piece of copper wire	a steel spoon	

(a) Suggest one method that Alice and Ben can use to find out which objects are made of magnetic materials. [2]

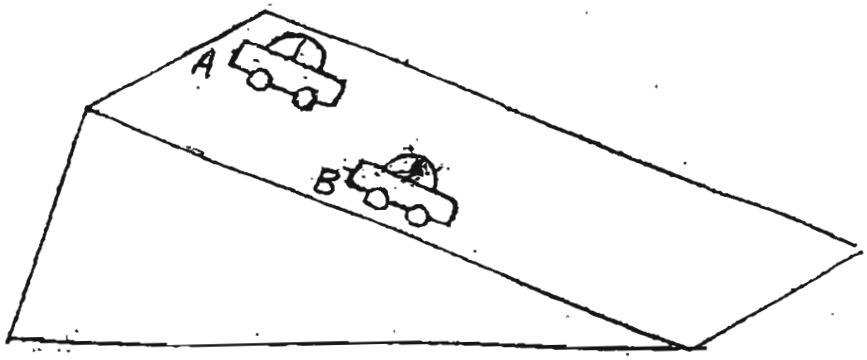
(b) Tick the boxes that describe each object in the table provided below. [2]

Is the material magnetic or non-magnetic?		
Object	**Magnetic**	**Non-magnetic**
Glass rod		
Wooden Stirrer		
Plastic Ruler		
Paper clips		
Copper Wire		
Steel Spoon		

4

20

36. Sam placed two similar toy cars A and B at different positions on an inclined plane as shown in the diagram below. He released the cars which rolled down the plane until they finally came to a stop.



(a) Which toy car, A or B, travelled a longer distance? [1]

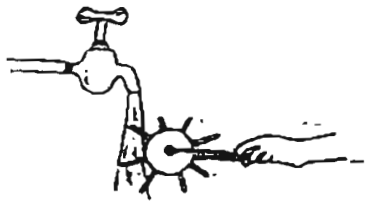
_____

(b) Give a reason for your answer in (a). [2]

_____

_____

37. Keith held a wheel directly under running water from a tap, as shown in the diagram below.



State two ways that he could make the wheel turn faster. [2]

(a) _____

(b) _____

38. Tom conducted an experiment to find out if the mass of an object will affect kinetic energy. For each try, he would put a different type of ball inside a plastic cup and dropped the cup vertically into the basin of soft clay from a height of 25 cm. Each time, he evened out the clay in the basin after he had measured the depth of the impression made in the clay by the plastic cup of a particular type of ball. He recorded his findings in the table below.

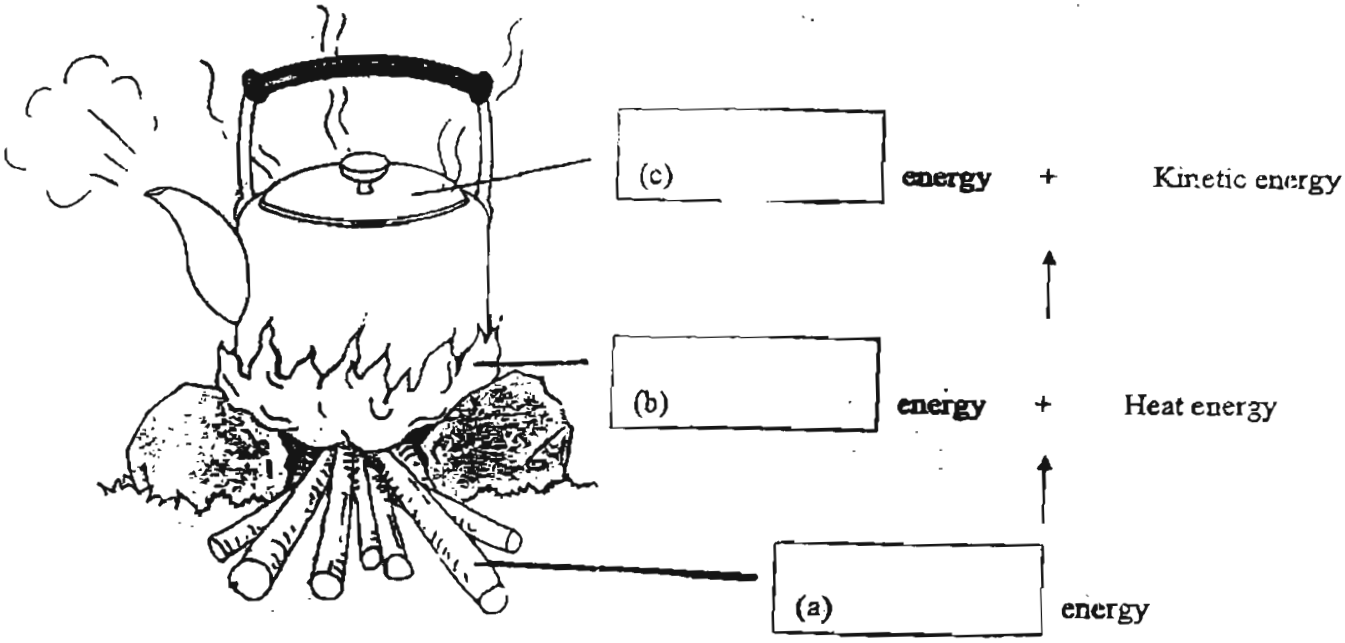
Number of try	Type of ball	Mass of ball (grams)	Depth of the impression made in the clay (cm)
1st try	Polystyrene	15	7
2nd try	Glass	35	9
3rd try	Iron	50	11

(a) Which type of ball has the greatest mass? [1]

(b) What could he conclude about the mass of an object and its kinetic energy? [1]

2

39. During a camp fire, some campers used some burning wood to boil a kettle of water. After some time, the water began to boil and the kettle lid stated to rattle. Complete the blanks in the diagram to show the conversion of energy from one form to another. (Note: Each blank should be filled with a different form of energy.) [2]



40. James used a wind-up toy car to conduct an experiment. He turned the key of the toy car and released it. The distance travelled by the toy car was recorded in the table shown below.

Number of turns of key	2	4	6	8	10
Distance travelled (m)	0.6	1.2	1.8	2.4	3

(a) What do you think James was trying to find out? [1]

_____

_____

(b) How many times should he turn the key if he wants the car to travel 4.2 m? [1]

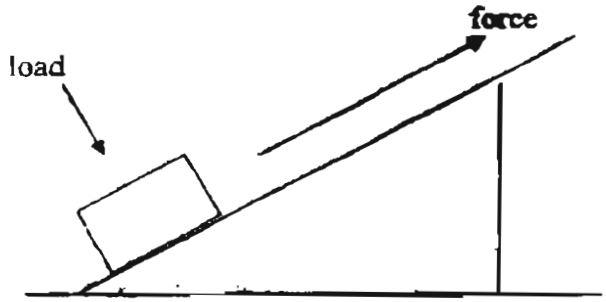
_____

_____

4

23

41.



The above diagram shows a set-up for an experiment to find out how the height of a ramp affects the force used to pull up the load.

(a) Give two variables which must be kept constant to ensure a fair test. [2]

i) _____

ii) _____

(b) What energy is gained by the load as it is pulled up the ramp? [1]

_____

_____

(c) How does the surface of the ramp affect the force used to pull the load? [1]

_____

_____

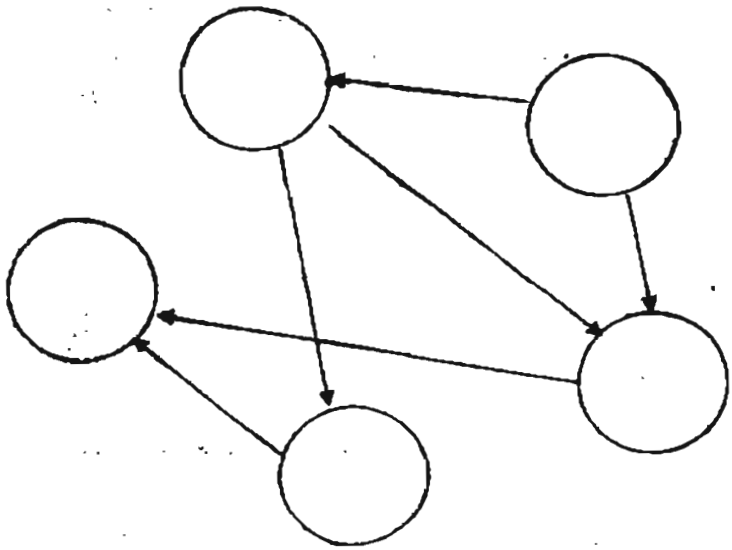
4

24

42. P, Q, R, S and T are five organisms in a community. Using the information given below, complete the food web. [2]

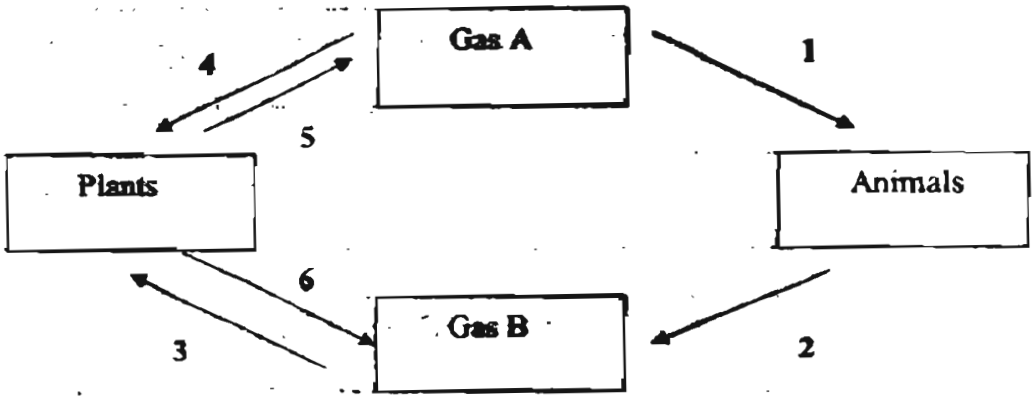
Write the correct letter P, Q, R, S and T in each circle.

S is a food producer
S is eaten by Q and R
P eats T and R
Q is eaten by R and T



2

41. Study the diagram below.



(a) Name [1]

i) Gas A: _____

ii) Gas B: _____

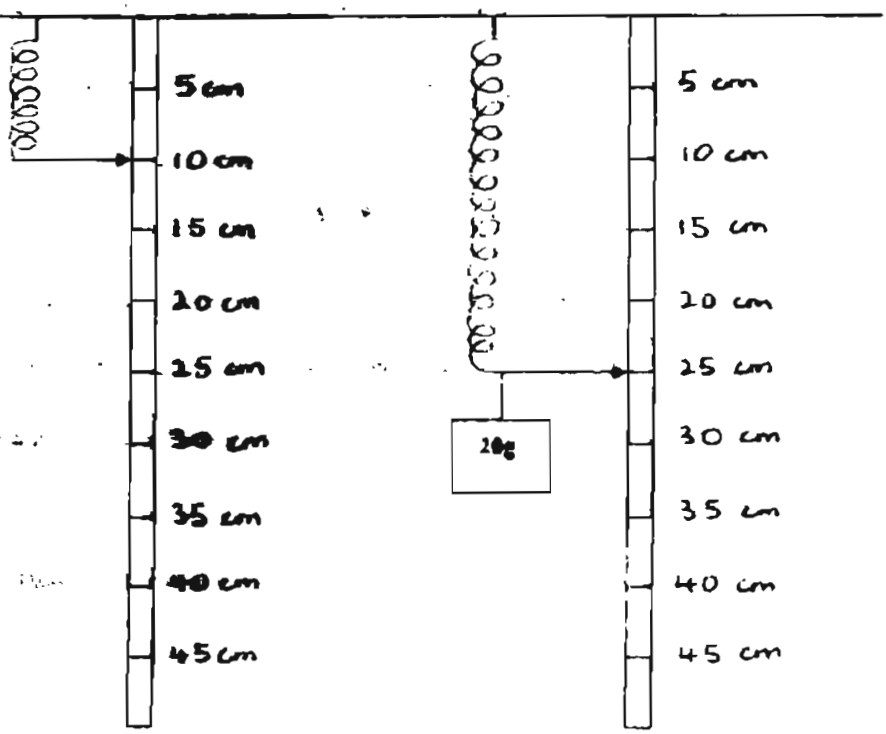
(b) Which two arrows show the exchange of gases during photosynthesis? [1]

_____

2

26

44. Susan hangs a 20g load on a spring as shown in the diagram below.



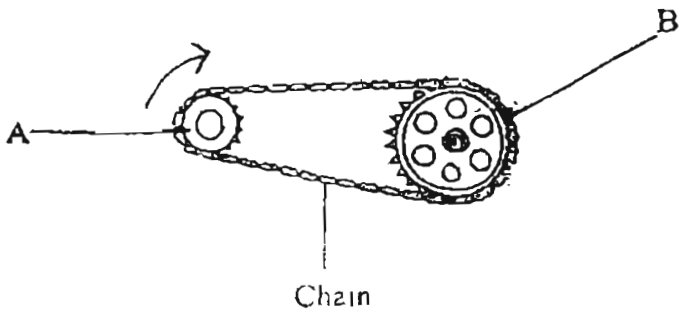
(a) When the load is 40g, the extension of the spring will be _____ cm. [1]

(b) If a 80g load is hung on the spring, it will be _____ cm long. [1]

2

27

45.



The diagram above shows 2 gears, A and B, which are connected by a chain.

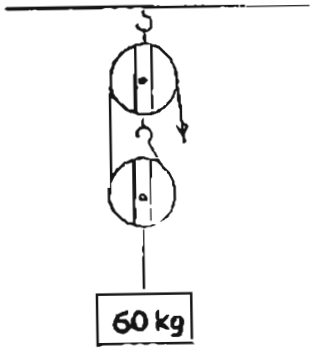
(a) If gear A turns in the direction as indicated by the arrow, in which direction will gear B turn? [1]

(b) If gear A has 6 teeth and gear B has 12 teeth, how many turns will gear B make when gear A makes 8 turns? [1]

2

28

46. Study the pulley system shown below.



(a) What can you say about the direction of the force in relation to the load? [1]

_____

(b) What is the advantage of using such a pulley system? [1]

_____

_____

2

THE END

Please Check Your Work Carefully!

CA1

AI TONG SCHOOL
2005 CONTINUAL ASSESSMENT 1
PRIMARY SIX
SCIENCE

1) 3
2) 1
3) 2
4) 3
5) 3
6) 2
7) 4
8) 1
9) 1
10) 3
11) 1
12) 3
13) 3
14) 4
15) 2
16) 1
17) 4
18) 2
19) 3
20) 4
21) 2
22) 1
23) 1
24) 3
25) 3
26) 3
27) 4
28) 3
29) 2
30) 4

31) C F A B

32) a) Both are metals

b) Group B

c) Iron and steel in group A are magnetic materials. Silver and gold in group B are non-magnetic materials. Aluminium foil is a non-magnetic material.

33) a) Non-conductors of electricity

b) Material B is non-magnetic but is a conductor of electricity.

34) a) A) by underground stems

C) By leaves parts

pineapples bryophyllum

35) a) Place the bar magnet close to the objects The objects that are attracted to the magnet are made of magnetic material.

b)

36) a) Toy car A.

b) It was placed at a higher position and has more gravitational potential energy than car B. When car A was released, more potential energy was changed to kinetic energy as compared to car B. Car A had more kinetic energy to move further than car B.

37) a) Hold the wheel at a lower position.

b) Turn the tap to a bigger capacity so that more water flows out.

38) a) The iron ball.

b) The greater the mass of an object, the more kinetic energy it has.

39) a) chemical b) light c) sound

40) James was trying to find out how the number of turns of key affected the distance travelled by the car.

b) 14 times.

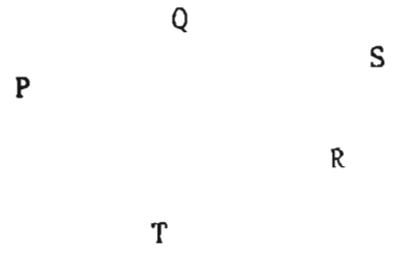
41) a) i) The mass of the load

ii) The surface of the ramp

b) Potential energy

c) If the surface of the ramp is rougher, there will be more friction so a greater force is required to pull the load.

42)



43) a) i) Oxygen

ii) Carbon dioxide

b) Arrows 3 and 5

44) a) 30 b) 70

45) a) Gear B will turn in clockwise direction.

b) Gear B will make 4 turns.

46) a) The force moves in the opposite direction of the load.

b) The effort needed is less than the load.