

**Primary Six
Science
Continual Assessment Two**

Section A (30 x 2 marks)

For each question 1 to 30, four options are given. One of them is the correct answer. Make your choice (1,2,3 or 4). Write the correct answer in the box provided.

1. Which one of the following processes is affected by the change from day to night?

- (1) Reproduction in organisms.
- (2) Respiration of living things.
- (3) Photosynthesis in green plants.
- (4) Absorption of water by the roots of plants.

2. Which of the following statements are true of ferns?

- (A) Ferns produce seeds.
- (B) Ferns are non-flowering plants.
- (C) Ferns are non-green plants.
- (D) Ferns can carry out photosynthesis.

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

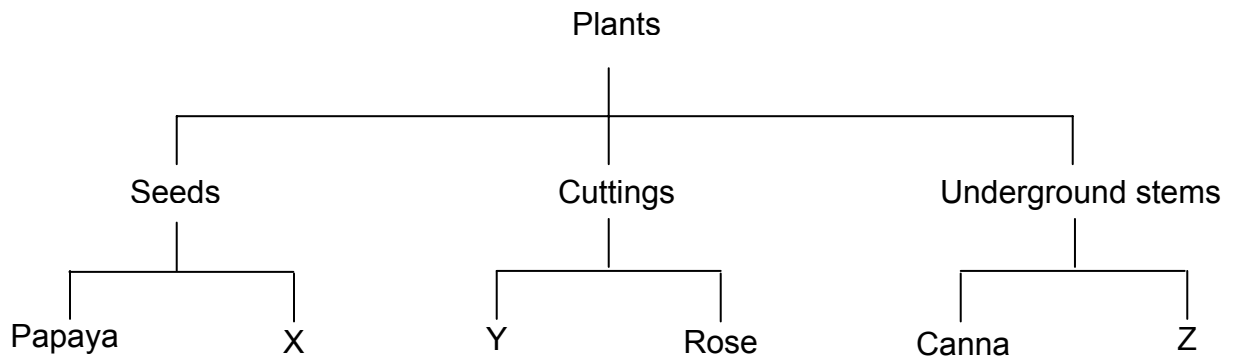
3. Which one of the following does **not** take place when a substance is heated?

- (1) An increase in weight.
- (2) A change in state.
- (3) A rise in temperature.
- (4) An increase in volume.

4. Which one of the following changes takes the longest time?

- (1) Winter changing to summer.
- (2) The Earth revolving around the sun.
- (3) Human embryo changing into a baby.
- (4) The moon revolving around the Earth.

5. Study the classification table given below.



Which one of the following lists of plants can fit into X, Y and Z respectively?

	X	Y	Z
(1)	Lotus	African violet	Water chestnut
(2)	Bougainvillea	Money plant	Onion
(3)	Balsam	Turnip	Ixora
(4)	Orchid	Bamboo	Ginger

6. Aquatic plants in a pond can survive because they get sunlight, oxygen, carbon dioxide and nutrients. Where do they get the carbon dioxide?

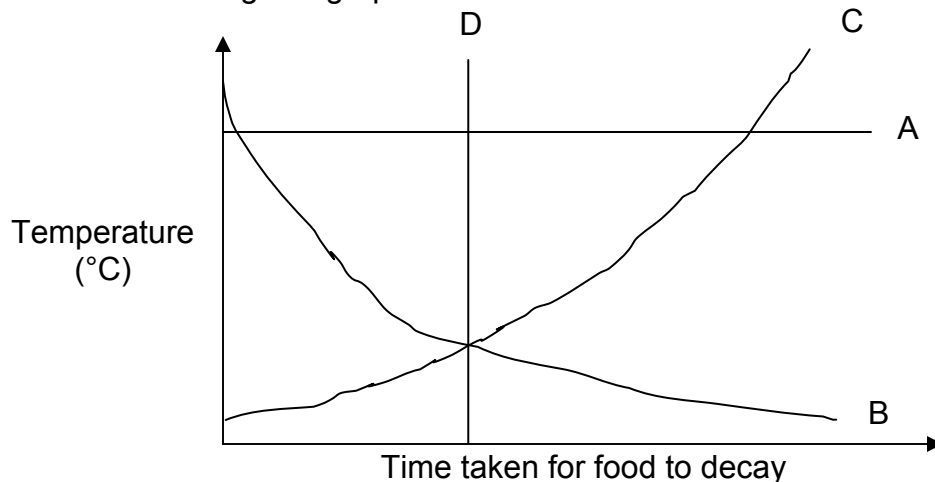
- (A) From the surrounding air.
- (B) From the mud and pebbles.
- (C) From the aquatic animals.
- (D) From the decaying organisms.

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

7. Joan wants to conduct an experiment to show whether the dampness of a material affects the rate of evaporation. She uses two handkerchiefs in her experiment. Which one of the variables **should not** be kept the same for a fair test to be carried out?

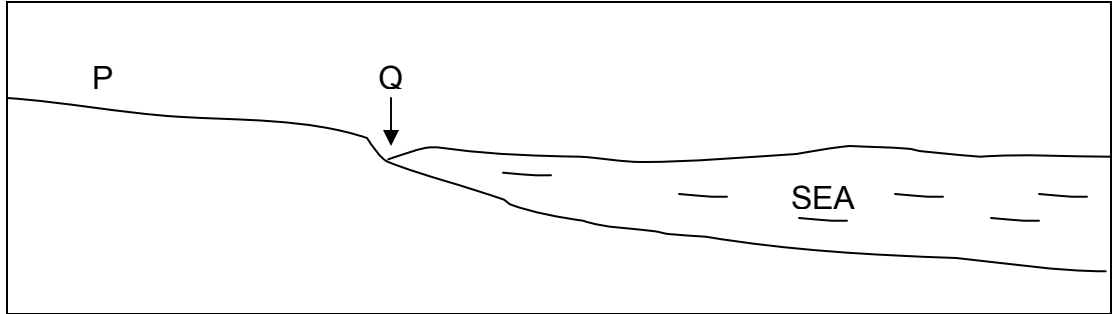
- (1) Size of handkerchiefs.
- (2) Amount of water in handkerchiefs.
- (3) Type of material.
- (4) Where the handkerchiefs are placed.

8. Nur studies the effect of temperature on the decay of food. Her conclusion is that the lower the temperature, the longer the food stays fresh. Which one of the following line graphs fits her conclusion?



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

9.



The diagram above shows the cross-section of the sea and its shore at high tide. From the list given below, which two organisms are most likely to be found at P and Q?

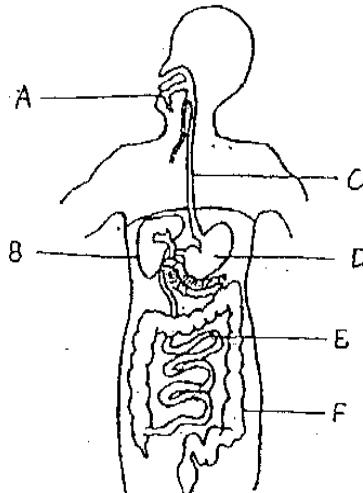
	P	Q
(1)	Seaweed	Shrimps
(2)	Frangipani tree	Hermit crab
(3)	Yellow Cassia tree	Fish
(4)	Casuarina tree	Barnacles

10. Which of the following descriptions of heat exchange is correctly matched to the change in the state of water?

	Change of state	Heat exchange
(A)	Liquid to gas	Heat is lost
(B)	Solid to liquid	Heat is gained
(C)	Gas to liquid	Heat is gained
(D)	Liquid to solid	Heat is lost

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

11. Study the diagram below.



Which of the labeled parts produce digestive juices for the digestion of food?

- (1) A, D and E. (2) C, B and F.
(3) A, C, D and E. (4) A, B, D and F.

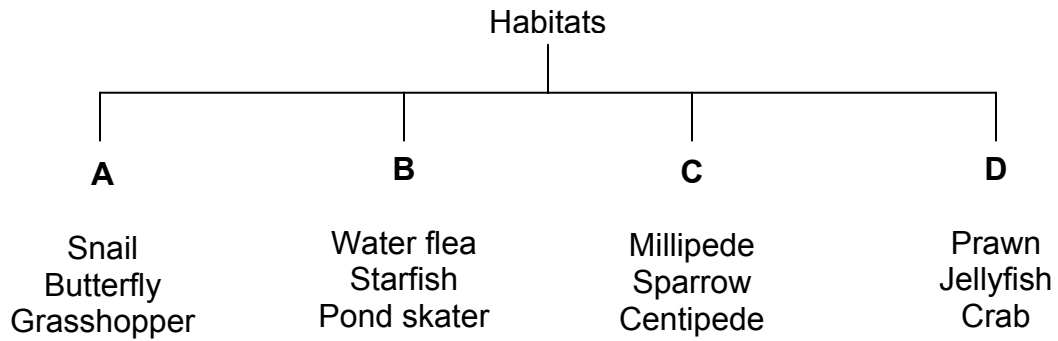
12. The passage that links the throat to the stomach is the _____.

- (1) Windpipe. (2) Gullet.
(3) Mouth. (4) Veins.

13. Our respiratory system consists of the _____.

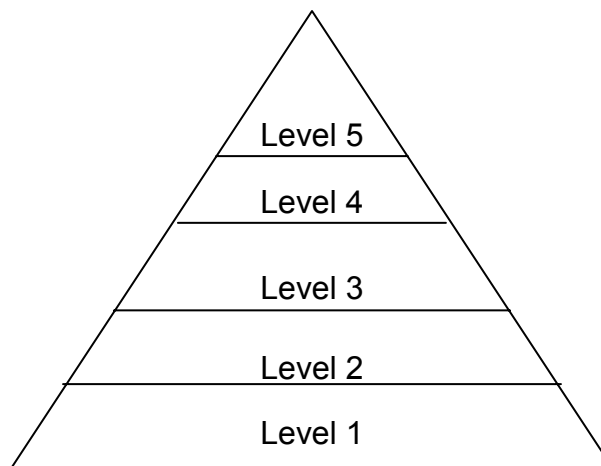
- (1) Mouth, lungs and heart.
(2) Heart, blood and blood vessels.
(3) Nose, windpipe and lungs.
(4) Mouth, stomach and intestines.

14. Which of the following part(s) mentioned below enable us to move our body?



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

- 15.

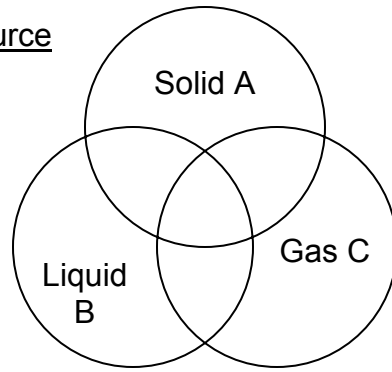


Snakes, owls, frogs and insects live together in a large garden. The food pyramid above shows how these organisms interact with one another. Which animals should be placed at **Level 2** and **Level 4** of the food pyramid respectively?

	Level 2	Level 4
(1)	Insects	Snakes
(2)	Frogs	Owls
(3)	Snakes	Frogs
(4)	Frogs	Insects

18.

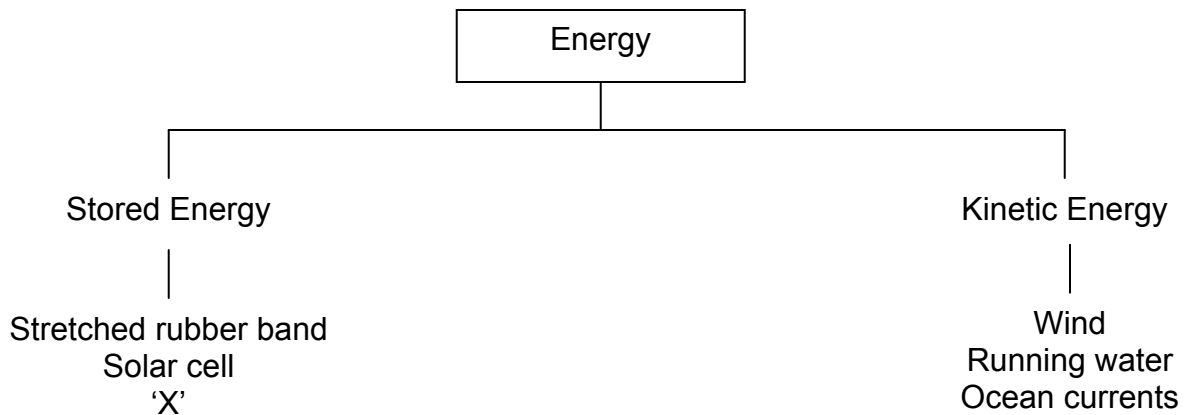
Energy Source



The Venn diagram above shows three types of energy sources, namely – solid fuel, liquid fuel and gaseous fuel. Which of the following groups correctly represents the type of energy sources shown above?

	A: Solid	B: Liquid	C: Gas
(1)	Diesel	Kerosene	Carbon monoxide
(2)	Coal	Chlorox	Carbon dioxide
(3)	Wax	Alcohol	Tank gas
(4)	Plastic	Cooking oil	Oxygen

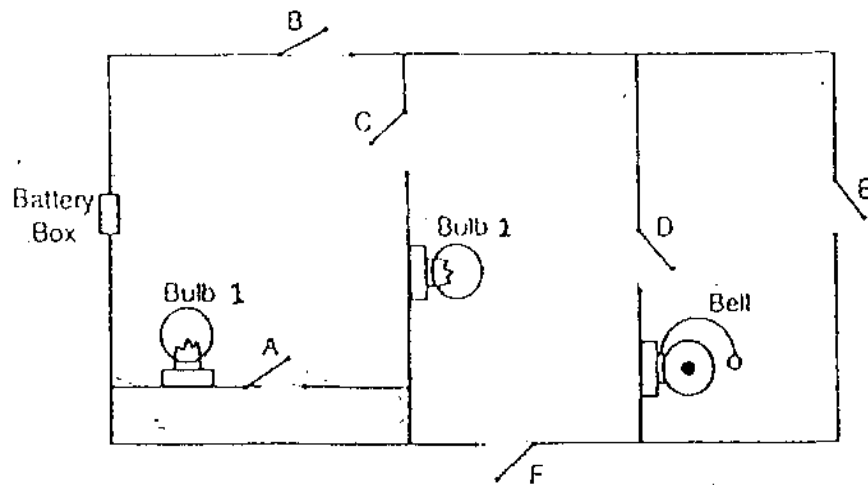
19. Study the classification table below.



Which of the following can replace 'X'?

- (1) Nichrome coil
- (2) Electric bulb
- (3) Friction
- (4) Rice

20.



The above shows a circuit connecting two bulbs 1 and 2 and a bell. In order to switch on bulb 1 and ring the bell only, which of the switches need to be closed?

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

21 Which of the following is an example of wheel and axle?



(1) Wheel barrow



(2) C-clamp

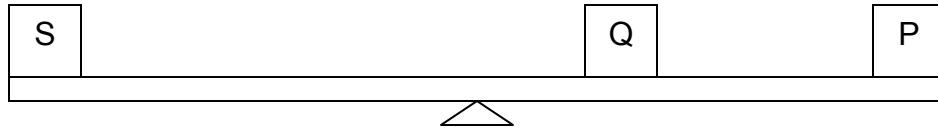


(1) Tap



(2) Screw

22. The diagram shows a lever being balanced by three weights: P, Q and S.



Which of the following statements are true of the experiment shown?

- (A) $S > P$
- (B) $P < Q$
- (C) $P + Q = S$
- (D) $P = S$

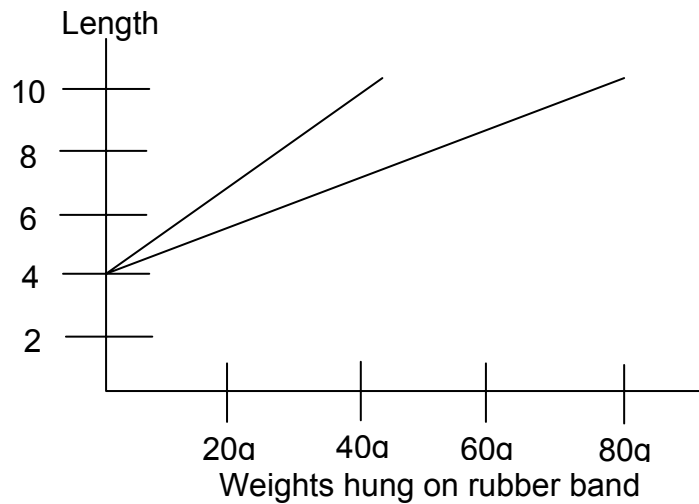
(1) A only

(2) B only

(3) A and B only

(4) C and D

23. Two rubber bands X and Y were tested to find out how much each would stretch. Different weights were hung at each end of the rubber band and its new length measured.

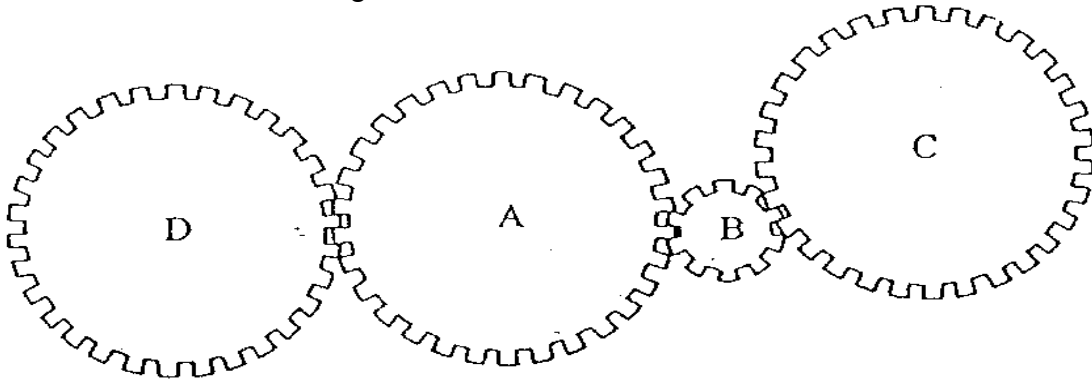


The graph shows the extension of the 2 rubber bands X and Y. Which of the following statements describe the results?

- (A) The original length of the rubber bands was the same.
- (B) Rubber band X is not so stretchable.
- (C) Rubber band Y is made from a lower grade of rubber.
- (D) Rubber band Y extends less than rubber band X when 40g was hung from each of them.

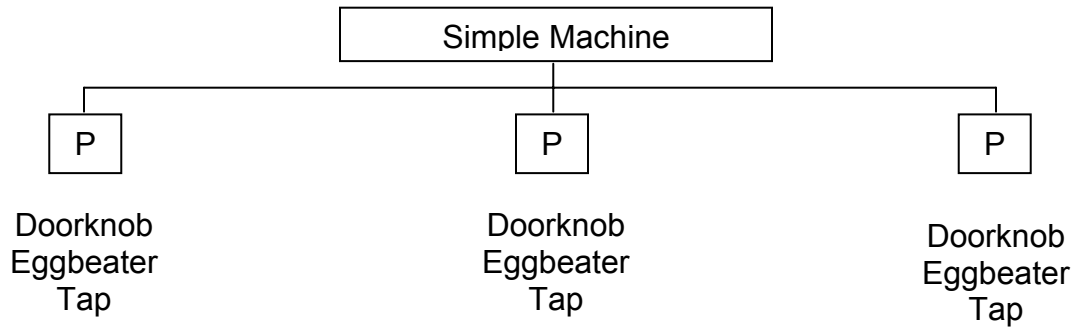
- (1) A and B
- (2) B and D
- (3) A and D
- (4) B and C

24. Study the gear system below. Which one of the following shows the directions of all the gears when C is turned clockwise?



	Gear A	Gear B	Gear D
(1)	Clockwise	Anti-clockwise	Anti-clockwise
(2)	Clockwise	Clockwise	Anti-clockwise
(3)	Anti-clockwise	Anti-clockwise	Clockwise
(4)	Anti-clockwise	Clockwise	Anti-clockwise

25. How are the simple machines in P, Q and R classified?



	P	Q	R
(1)	Gear	Inclined plane	Lever
(2)	Wheel and axle	Lever	Inclined plane
(3)	Gear	Pulley	Wheel and axle
(4)	Pulley	Lever	Gear

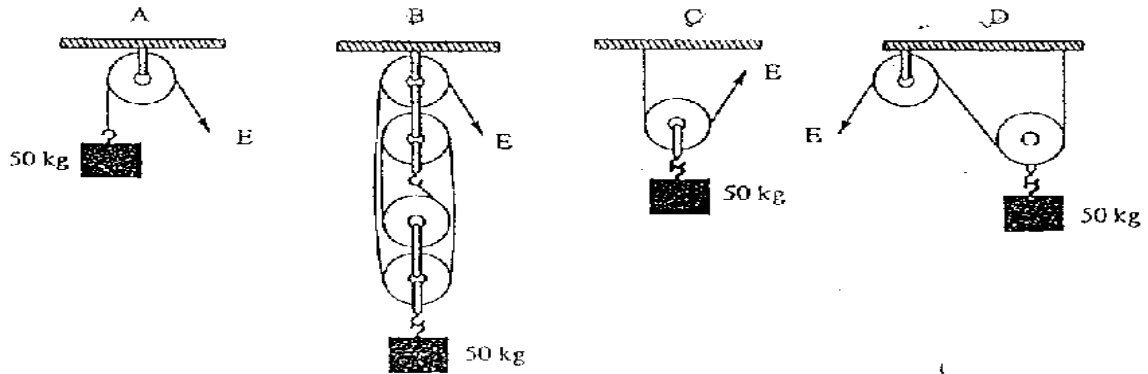
26.



Tom wants to find out if the distance of the load to the fulcrum affects the effort required to move the load. In order to make his test a fair one, which variables should Tom keep the same?

- (A) The load to be lifted.
 - (B) The length of the rod.
 - (C) The support.
 - (D) The distance of the fulcrum from the load.
- (1) A and B (2) B and C
 (3) A, B and C (4) B, C and D

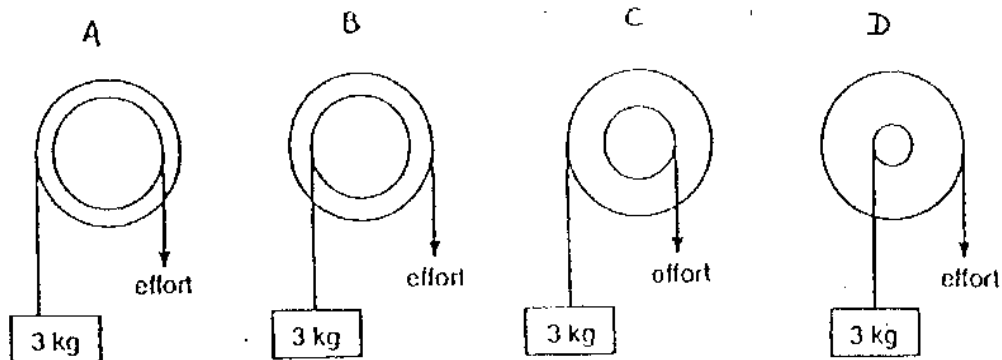
27. Study the pulley systems shown below.



Which of the above pulley systems can lift a load of 50kg when a 40kg force is applied on the effort?

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

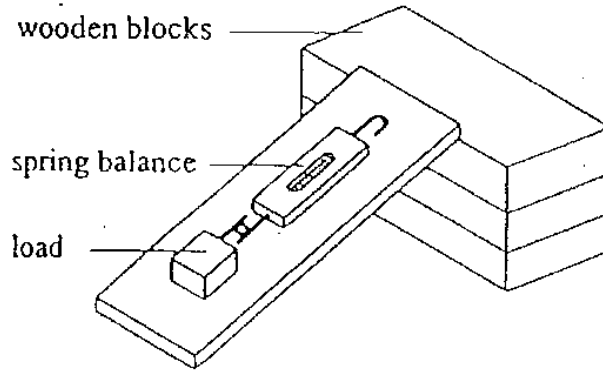
28.



Which one of the above wheels and axles A, B, C and D requires the smallest effort to lift a load of 3kg?

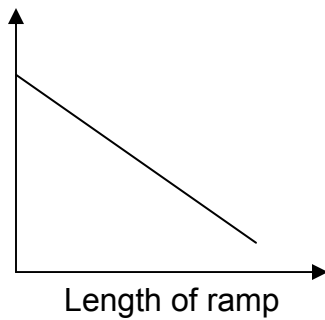
- (1) A
 (2) B
 (3) C
 (4) D

29. A ramp is used to pull a load up as shown.

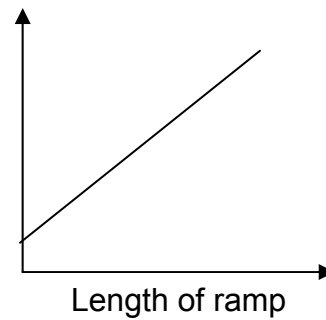


An experiment is carried out to find out how the force applied to pull the load up the ramp varies with the length of the ramp. Which of the following shows the correct relation between the force applied and the length of the ramp?

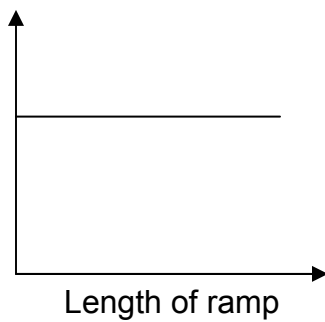
(1) Force Applied



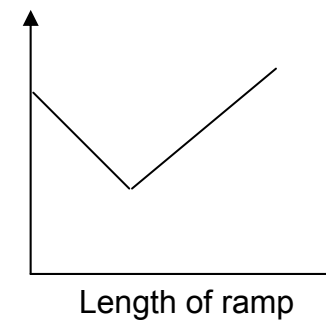
(2) Force Applied



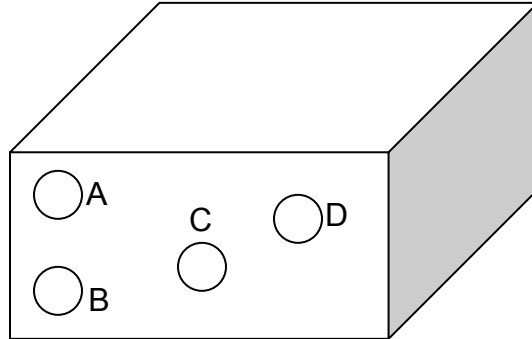
(3) Force Applied



(4) Force Applied



30. Sally has a tank as shown below. There are four holes of the same size, A, B, C, D on one side of it. She fits each hole with a cork and fills the tank with water to the brim. When her friends remove the corks simultaneously, water shoots out from the holes.



The jet of water from hole _____ will shoot out and land furthest from the tank.

- (1) A
(3) C

- (2) B
(4) D

Section B (40 marks)

Write your answers for each question 31 to 46 in the blank spaces provided. Marks will be deducted for wrong spelling of key words.

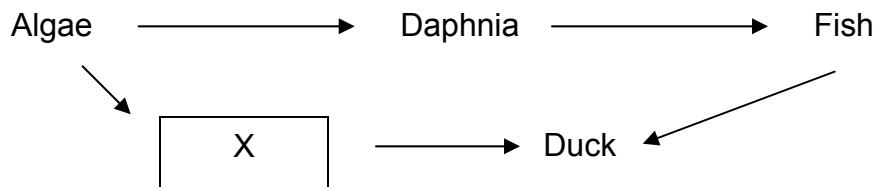
31. A group of boys carried out an experiment as shown:

Variables	Pot X	Pot Y
Number of plants	2	10
Type of soil	Garden soil	Garden soil
Amount of soil	1kg	1kg
Type of plant	Balsam	Balsam

(a) What were the boys trying to find out? (1m)

Based on the experiment the boys had set up, give one other variable that must be kept unchanged too. (1m)

32. Study the food web shown below:

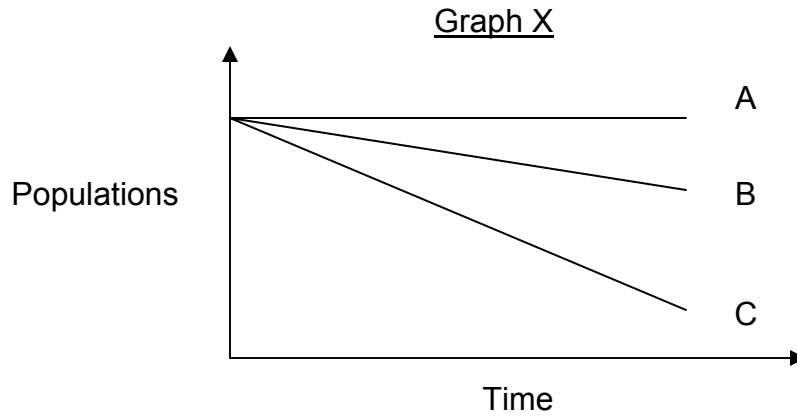


(a) The natural habitat for the above group of living organisms is the

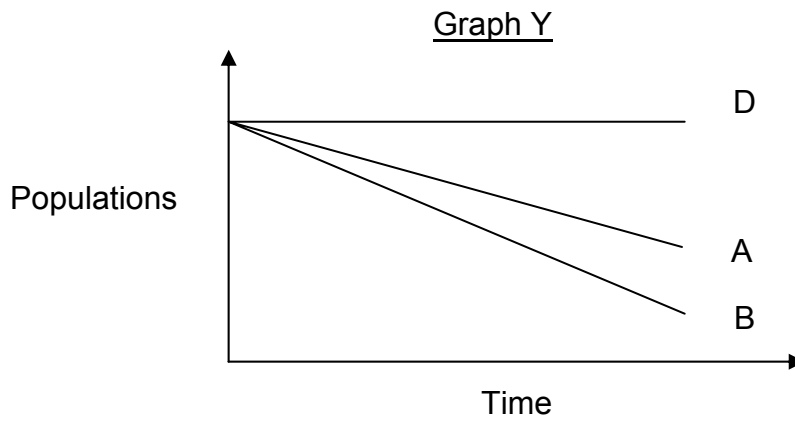
_____ . (1m)

(b) An animal that can be put into box X is the _____ . (1m)

33. A, B, C and D represent four organisms. Graph X shows changes in the populations of B and C when organisms A, B, C are put together.



Graph Y shows changes in the populations of A and B when A, B, D are put together.



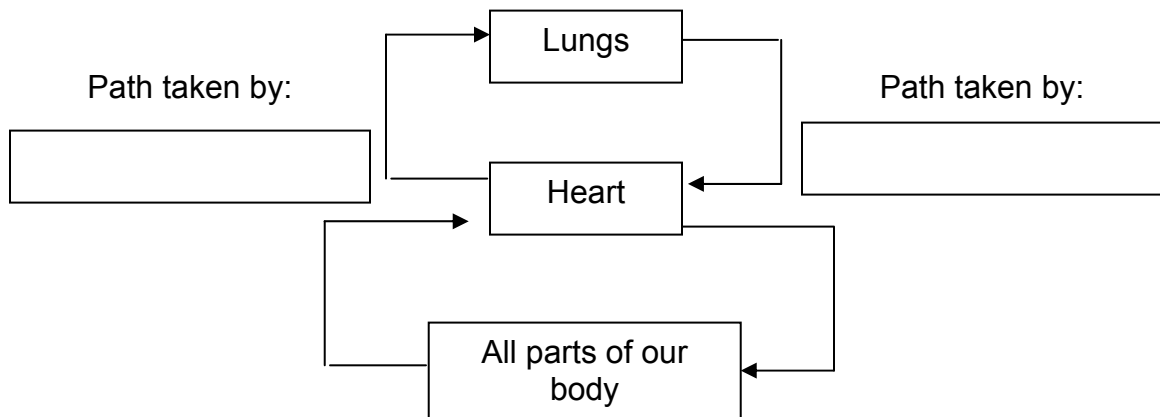
Based on the graphs above, fill in the correct letters in the boxes below.
(2m)

Food Producer	Predator	Prey	Predator and Prey

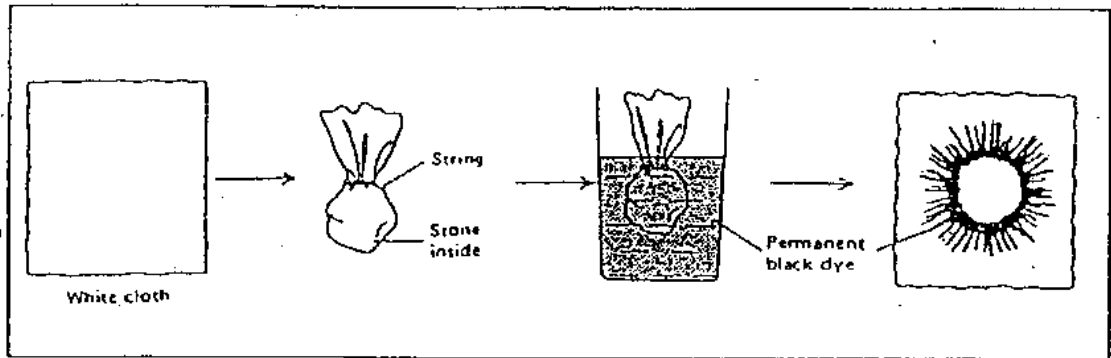
34. Tick the statements that are correct. (2m)
Our skeleton, which is made up of many bones:

(a) Gives us our body shape.	
(b) Helps to digest our food.	
(c) Protects our internal organs.	
(d) Enables the heart to pump blood around our body.	

35. The diagram below shows the circulatory system. The arrows indicate the path taken by oxygen and carbon dioxide in our body. Fill in the boxes with the correct gases. (2m)



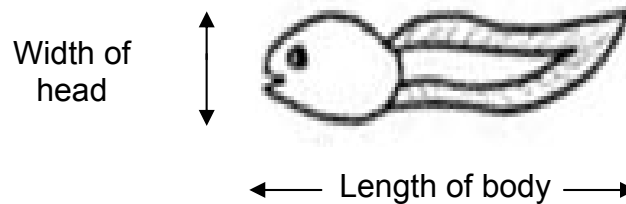
36.



The pictures above show how Annie carried out a simple tie and dye. Read each statement below and tick the appropriate box. (2m)

	True	False	Not possible to tell
(a) This is a reversible change.			
(b) The dye was dissolved in warm water.			
(c) A stone and a string were needed to form the pattern.			
(d) The dye and cloth interacted to cause the change.			

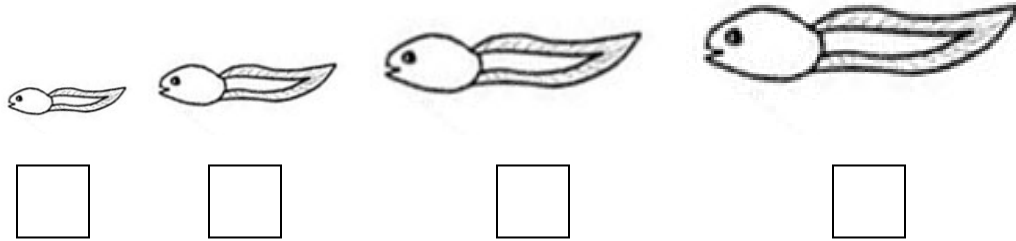
37.



Tim caught 4 tadpoles P, Q, R and S. He measured the lengths of their bodies and the widths of their heads. The results are recorded in the table below.

Tadpole	Length of body (cm)	Width of head (cm)
P	2.5	10
Q	1.0	3
R	2.0	8
S	1.3	5

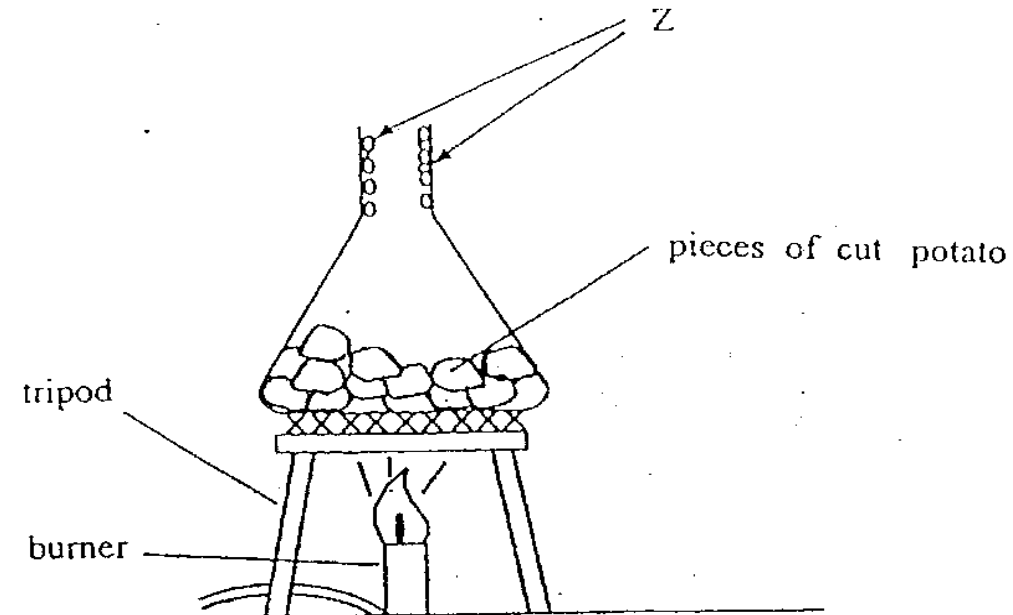
(a) Below shows 4 tadpoles. Identify them by their sizes by writing P, Q, R or S in the box below each diagram. (1m)



(b) What pattern do you observe about the length of their bodies and the width of their heads? (1m)

(c) From the data given above, describe the changes that have taken place in the tadpoles. (1m)

38.



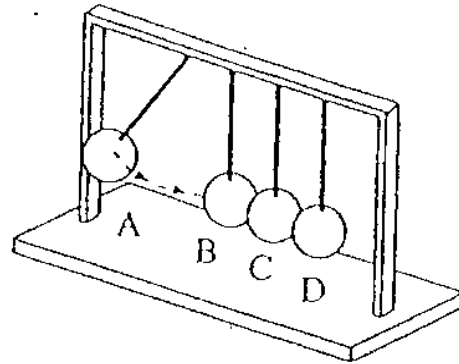
Dana set up an experiment as shown above. After 10 minutes of heating, she found Z forming on the inner part of the neck of the conical flask.

(a) What was Z? (1m)

(b) Explain how Z was formed. (1m)

(c) After another 10 minutes of continuous heating, she found that "Z" had disappeared and no more "Z" was collected on the inner part of the conical flask. Explain her observations. (2m)

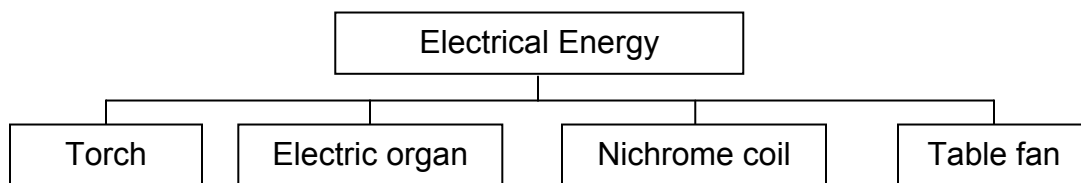
39. The diagram shows a device called Newton's Cradle.



(a) What will happen when ball A is pulled aside to hit ball B? (1m)

(b) Why do you say so? (1m)

40. Write the type of energy which each of the following equipment produces after being converted from electrical energy on the lines provided, (2m)



(a) _____ (b) _____ (c) _____ (d) _____

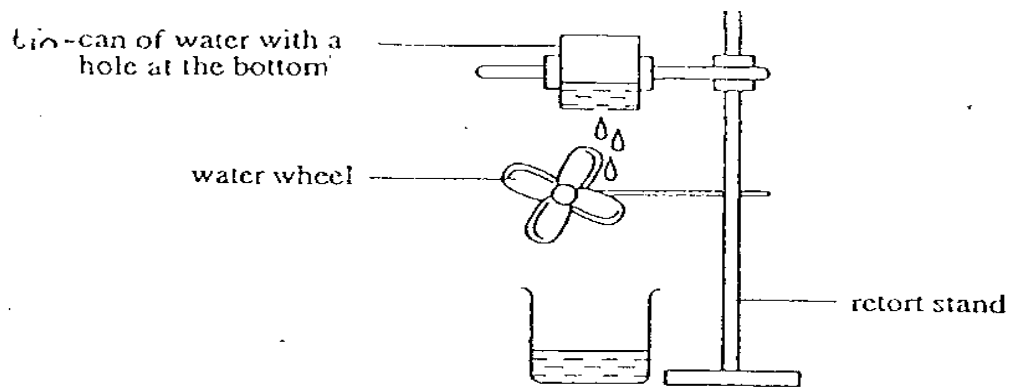
energy

energy

energy

energy

41.



Sarah carried out the above experiment as shown in the diagram above. The tin can of water was adjusted along different heights of the retort stand above the water wheel. She recorded the time taken for the wheel to turn five rounds in the table below.

Height of tin can (cm)	10	15	20	25
Time taken to turn 5 rounds (s)	21	19	13	9

(a) What was Sarah trying to find out? (1m)

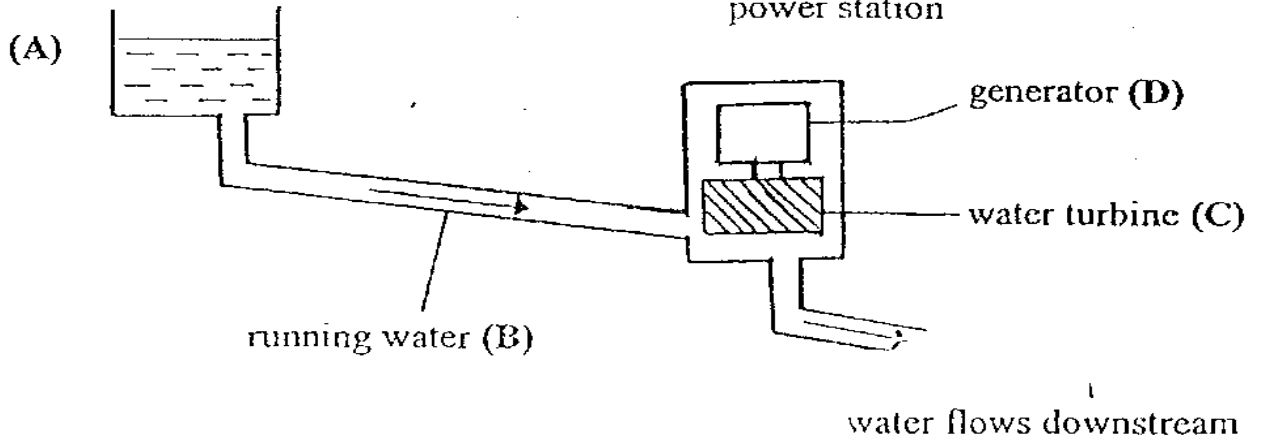
(b) At which height is the water wheel spinning at the fastest speed? (1m)

At the height of _____ cm, water wheel is spinning at the fastest speed.

(c) What does the above experiment show? (1m)

42.

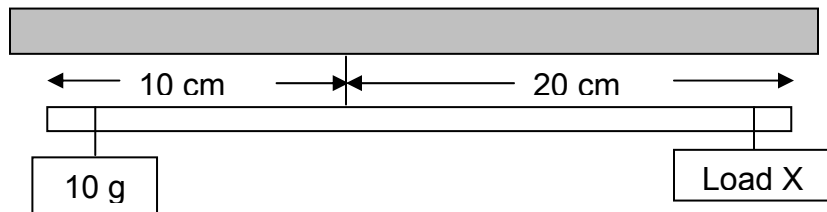
water in the dam



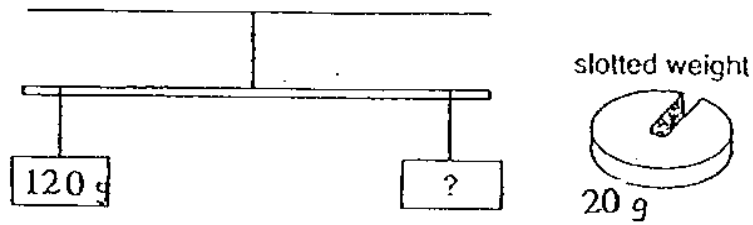
Water stored in a dam can be used to generate electricity in a hydroelectric power station. The above diagram shows how electricity is generated. Describe how the energy conversion takes place in the boxes A, B, C and D. (4m)

A	B	C	D
<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> energy	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> energy	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> energy	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> energy

43. Study the lever balance shown below.



(a) What is the weight of the load X in the above experiment? (1m)



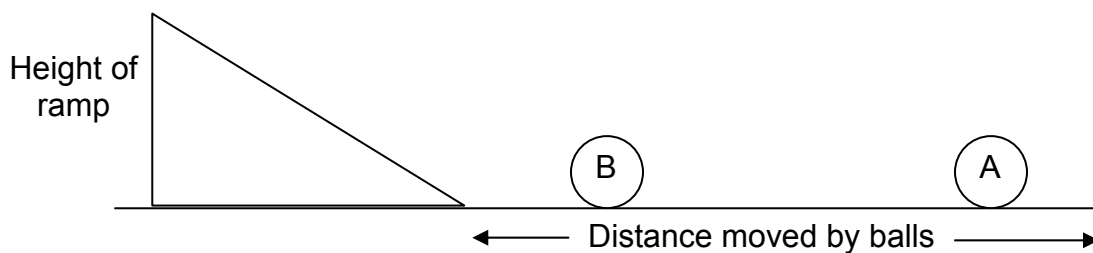
- (b) If 20g slotted weights are used to balance a load of 120g, how many such weights would be needed in the above diagram? (1m)

44. How do simple machines make work easier? List **two** ways how it makes work easier for us. (2m)

(a)

(b)

45. Two balls of the same size and weight, but of **different surface texture** were allowed to roll down a wooden ramp as shown.



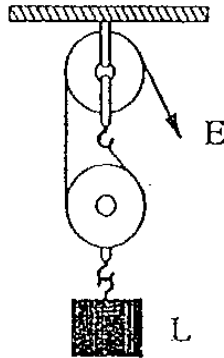
Ball A was found to roll a greater distance than ball B.

- (a) What was the aim of the experiment? (1m)

- (b) How would **raising the height of the ramp** affect the distance moved by the balls along the ground? (1m)

- (c) If Ball B is wrapped with cotton wool, what possible material or substance would Ball A be wrapped with? (1m)
-

46. Marianne carried out the following experiment using the pulley system as shown below.



Distance moved by load	Distance moved by effort
4 cm	8 cm
8 cm	16 cm
10 cm	20 cm

- (a) How high would the load move if the effort moved a distance of 26 cm? (1m)
-

- (b) What pattern do you see between the distance moved by the load and the distance moved by the effort? (1m)
-
-

- (c) If the load is 16 kg, what will be the Effort needed, E, to lift up this load? (1m)

Effort needed is _____ kg.