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**TAO NAN SCHOOL**  
Primary 6 Science Continual Assessment 1 - 2004

Name : \_\_\_\_\_ ( )  
Class : Primary 6 ( )

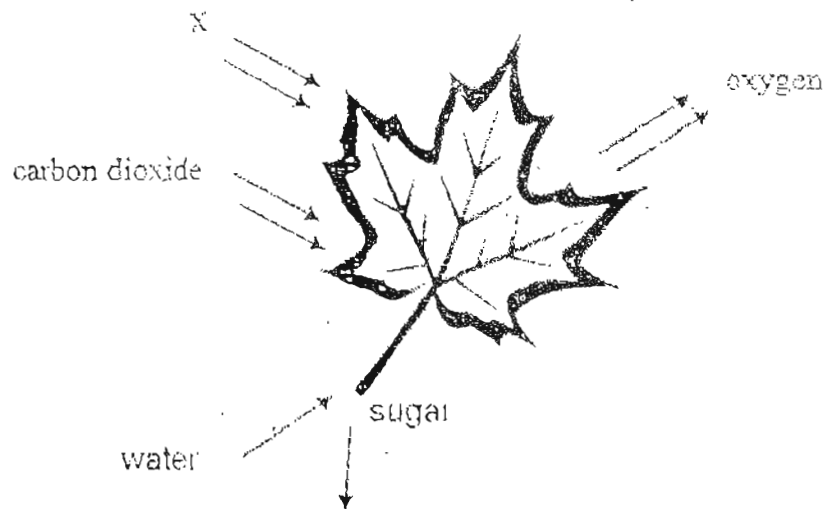
Date : 3<sup>rd</sup> March 2004  
Duration : 1h 45 min

Parent's Signature : \_\_\_\_\_

Marks : \_\_\_\_\_ /100

Section A (30 x 2 marks)

For each question, four options are given. Select the correct option and shade its corresponding oval (1, 2, 3 or 4) on the Optical Answer Sheet.



1. During the process of photosynthesis, the green leaf shown above makes food. What does X refer to?
- (1) starch
  - (2) sunlight
  - (3) chlorophyll
  - (4) mineral salts

2. The items A, B, C and D were found in a lighted room. Which of them reflect(s) light?



A



B



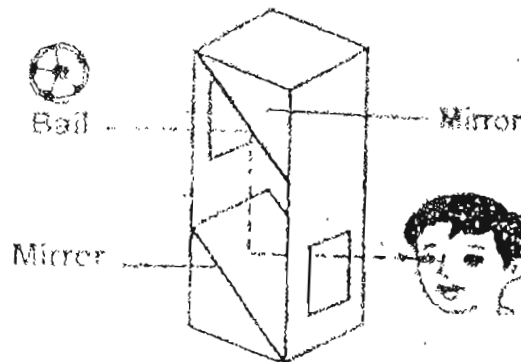
C



D

- (1) D only.
- (2) A, B, and C only
- (3) All of them
- (4) None of them

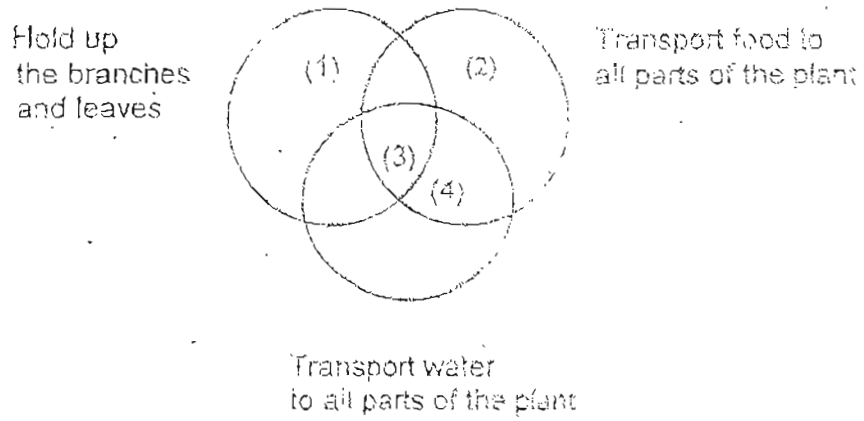
3. The diagram below shows a periscope.



Which one of the following statements explains why the boy can see the ball?

- (1) Mirrors reflect light.
- (2) Light travels in all directions.
- (3) Light travels in a zigzag direction.
- (4) Mirrors allow light to pass through them.

4. Study the Venn diagram below carefully.



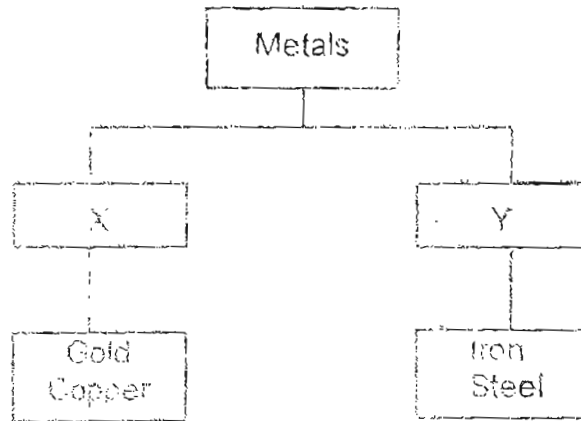
Which one of the above best represents the main function(s) of the stem?

5. Which of the following are natural light sources?

- A: Sun
- B: Star
- C: Moon
- D: Firefly
- E: Lighted candle

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

6. Study the classification table below carefully.



How are the metals above classified?

	X	Y
(1)	Transparent	Opaque
(2)	Non-magnetic	Magnetic
(3)	Good conductors of heat	Poor conductors of heat
(4)	Good conductors of electricity	Poor conductors of electricity

7. Where does the energy needed for our hearts to pump come from?

- (1) The food we eat.
- (2) The heart muscle.
- (3) The oxygen from our lungs.
- (4) The electrical energy in our nerves.

8. Which of the following make up the human circulatory system?

- A: veins
- B: heart
- C: nerves
- D: arteries

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

9. Which one of the following statements is true of fertilisation?
- (1) Fertilisation occurs in all living things
  - (2) When fertilisation occurs, pollination takes place.
  - (3) When the sperm meets the egg, fertilisation occurs.
  - (4) Fertilisation takes place when the sperm fuses with the egg.
10. Which one of the following consists of plants with edible underground stems?
- (1) Ginger, garlic, potato and onion
  - (2) Turnip, tapioca, radish and ginseng
  - (3) Carrot, sweet potato, tapioca and ginger
  - (4) Water chestnut, peanut, walnut and hazelnut
11. Study the classification table below carefully.

Group X	Group Y
ostrich	dog
chicken	rabbit
platypus	dolphin

How are the two groups of animals classified?

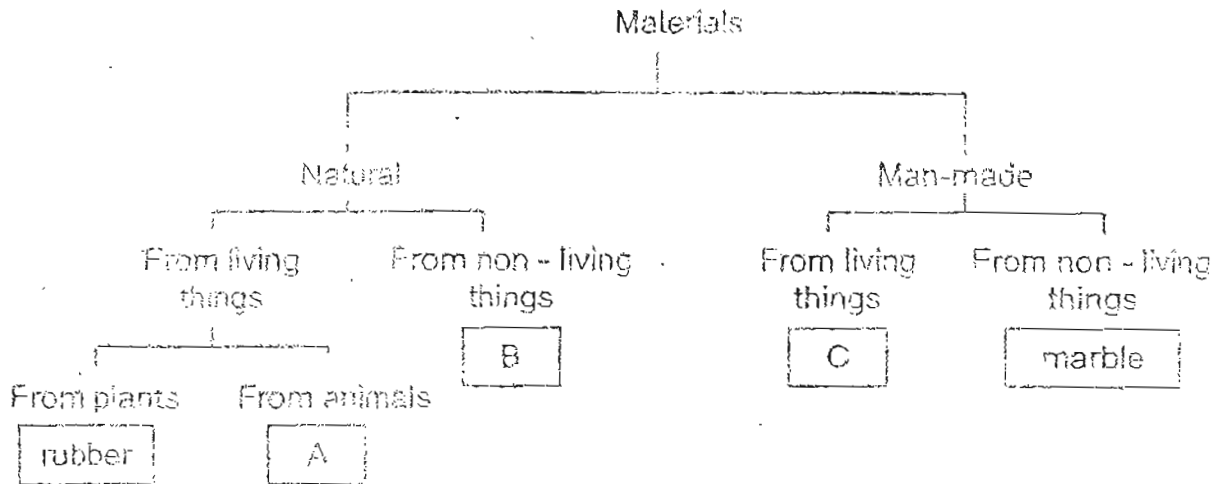
- (1) According to what they eat.
  - (2) According to where they live.
  - (3) According to how they reproduce.
  - (4) According to how they move about.
12. The plants below have been classified according to their ways of reproduction.

A	B	C
apple mango rambutan	banana pineapple sealing wax palm	bryophyllum African violet y

Which one of the following plants is represented by 'y'?

- (1) potato
- (2) papaya
- (3) begonia
- (4) coconut

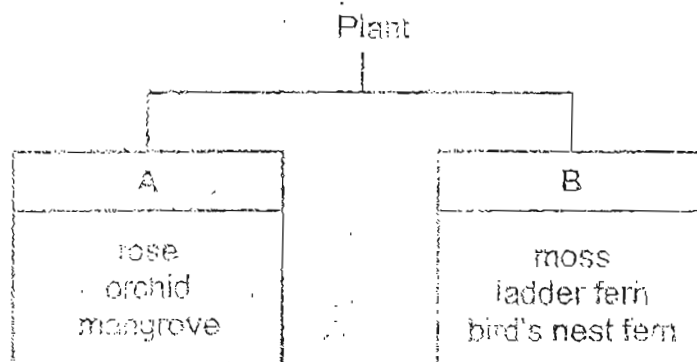
13. Study the classification key below carefully.



Which one of the following groups of items best represents A, B and C respectively?

	A	B	C
(1)	Wood	Ceramic	Glass
(2)	Silk	leather	Cotton
(3)	Fur	Rock	Paper
(4)	Sand	Coal	Plastic

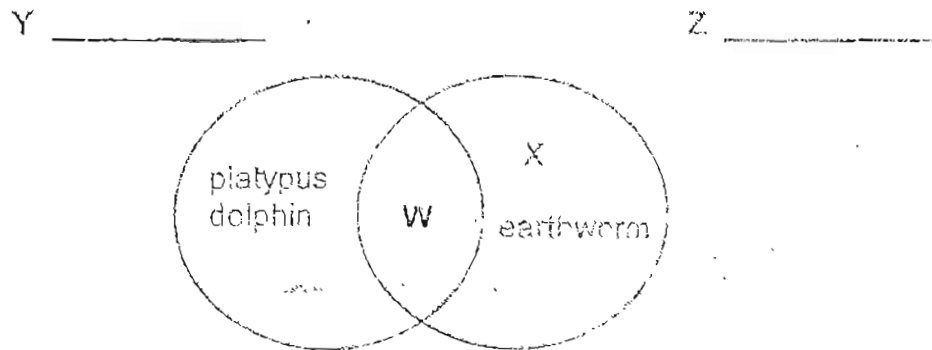
14. The chart below shows how plants can be classified.



Which one of the following pairs of headings best represents A and B respectively?

	A	B
(1)	Flowering	Non-Flowering
(2)	Do not produce fruits	Produce fruits
(3)	Dispersal by splitting	Dispersal by wind
(4)	Reproduce by seeds	Reproduce by underground stems

Study the Venn diagram below carefully and answer Questions 15 and 16.



15. Which one of the following pairs of headings best represents Y and Z respectively?

	Y	Z
(1)	Live on land	Live in water
(2)	Breathe with lungs	Breathe through skin
(3)	Give birth to young alive	Lay eggs
(4)	Feed on plants and animals	Feed on plants

16. Which of the following organisms can be placed at X and W respectively?

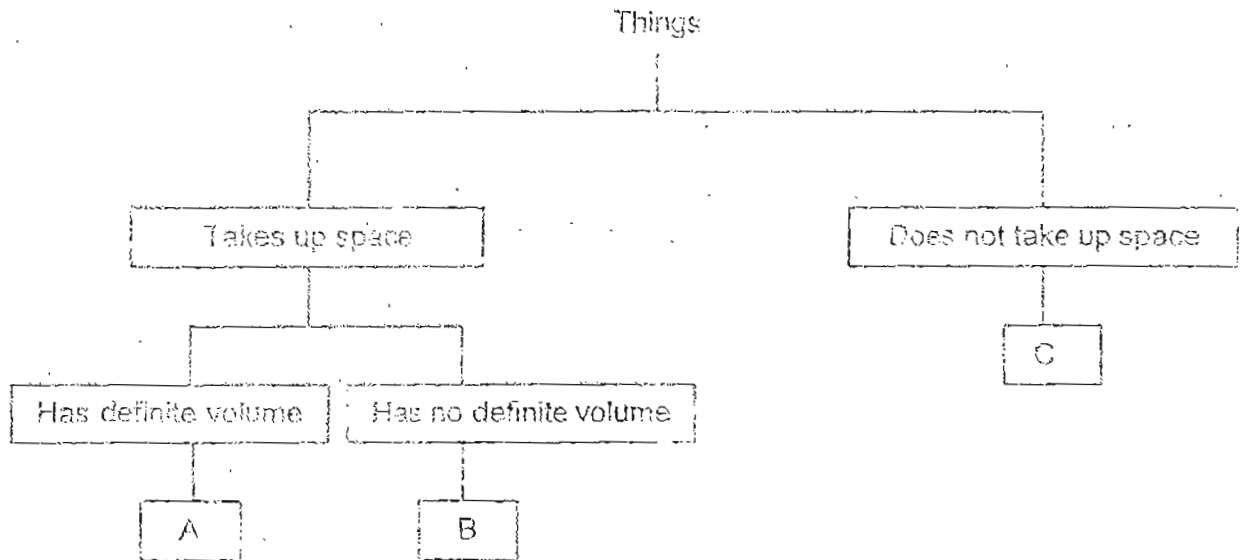
- (1) fish, hen
- (2) turtle, prawn
- (3) lizard, rabbit
- (4) tubifex worm, frog

17. Peter wanted to find out whether the amount of water affects the fishes living in an aquarium. The fishes were placed in 4 similar tanks, A, B, C and D. Which of the following tanks, A, B, C and D should he use to carry out a fair test?

Tank	Amount of water (cm <sup>3</sup> )	Number of Fishes	Types of fishes
A	500	20	Guppy
B	5000	10	swordtail
C	10 000	20	swordtail
D	10 000	20	Guppy

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

18. Study the classification chart below carefully.



What is A, B and C?

	A	B	C
(1)	Diamond	Jelly	Shadow
(2)	Book	Air	Light
(3)	Marble	Plasticine	Music
(4)	Water	Oxygen	Air



Three pupils classified the same materials in different ways. Study their classification tables below carefully and answer Questions 19 to 21.

Tom	
A	B
Silk	Steel
Paper	Iron
	Plastic
	Gold

John	
C	D
Silk	Iron
Gold	Steel
Paper	
Plastic	

Susan	
E	F
Silk	Iron
Plastic	Gold
Paper	Steel

19. What can the headings for Tom's classification table be?

	A	B
(1)	Non-metals	Metals
(2)	Not waterproof	Waterproof
(3)	Poor conductors of heat	Good conductors of heat
(4)	Good conductors of electricity	Poor conductors of electricity

20. Which pupil used a magnet to classify the materials into two groups?

- (1) Tom
- (2) John
- (3) Susan
- (4) None of them

21. Which of the following headings are appropriate for F ?

- A: Metals
- B: Magnetic materials
- C: Good conductors of heat
- D: Good conductors of electricity

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

22. Which one of the following correctly shows the energy conversion when a television set is switched on?

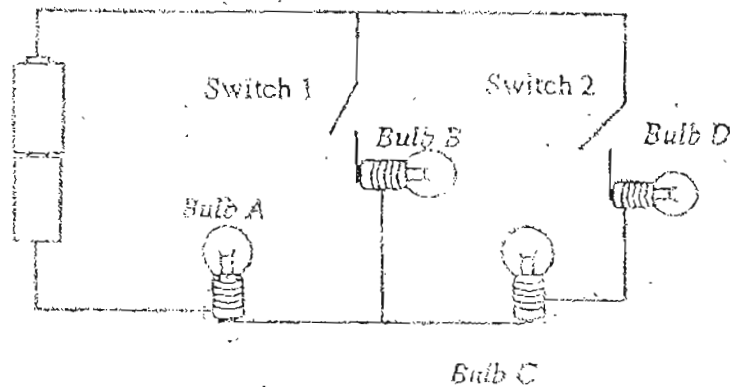
- (1) Light energy  $\rightarrow$  heat energy + sound energy
- (2) Electrical energy  $\rightarrow$  light energy + heat energy + sound energy
- (3) Potential energy  $\rightarrow$  light energy  $\rightarrow$  heat energy + sound energy
- (4) Chemical energy  $\rightarrow$  electrical energy  $\rightarrow$  light energy + sound energy

23. Annie is playing tennis. Which of the following statements are true?

- A: Annie's arm has kinetic energy when she swings her racket.
- B: When the racket hits the ball, kinetic energy is transferred to the ball.
- C: The ball has both kinetic and gravitational potential energy when it is flying over the net.

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

24.



Which one of the following statements correctly describes what happens when one of the switches is closed and one of the bulbs is fused?

	Switch that is closed	Bulb that is fused	Bulbs that light up
(1)	Switch 1	A	C and D
(2)	Switch 1	D	A and B
(3)	Switch 2	A	C and D
(4)	Switch 2	D	A and C

25. John conducted several tests to find out the properties of material X and tabulated his results as shown below.

Can be magnetised	Yes
Conducts electricity	Yes
Good conductor of heat	Yes
Allows light to pass through	No

Which of the following can he conclude based on his results?

- A: Material X is iron.
- B: Material X is strong.
- C: Material X is not copper.
- D: Material X will sink in water.

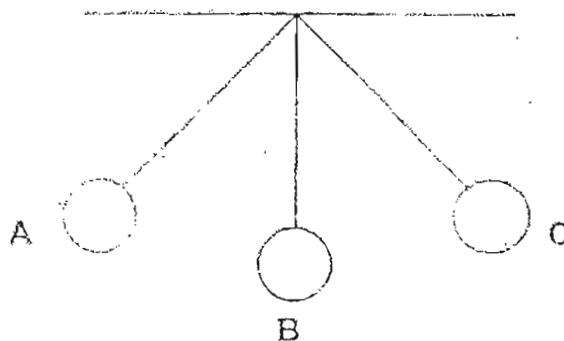
- (1) C only
- (2) B and D only
- (3) A, B and D only
- (4) A, B, C and D

26. Which of the following are forms of energy?

- A: Heat
- B: Sound
- C: Friction
- D: Electricity

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

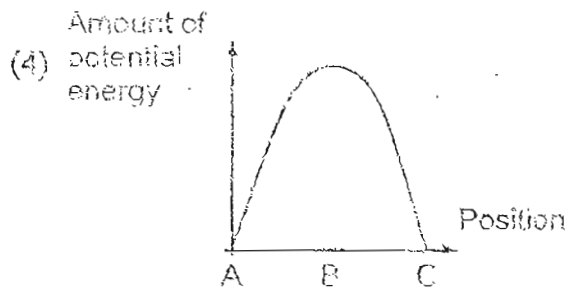
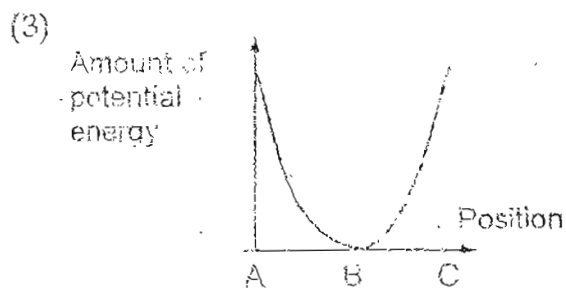
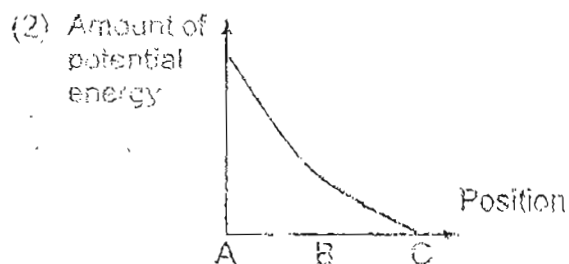
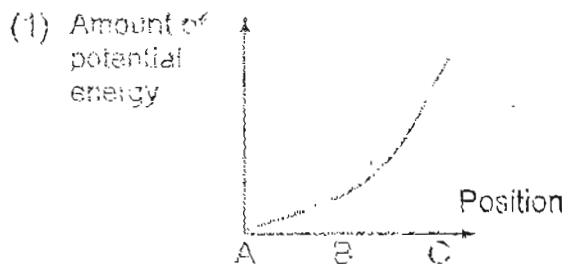
Study the diagram below carefully and answer Questions 27 and 28.  
 A pendulum is released at position A. It swings past position B and stops momentarily at position C.



27. Which one of the following statements is true?

- (1) The ball possesses the least kinetic energy at B.
- (2) The ball possesses the most kinetic energy at B.
- (3) The ball possesses the most potential energy at A and B.
- (4) The ball possesses the least potential energy at A and C.

28. Which one of the following graphs correctly shows the amount of potential energy the pendulum possesses at the different positions?

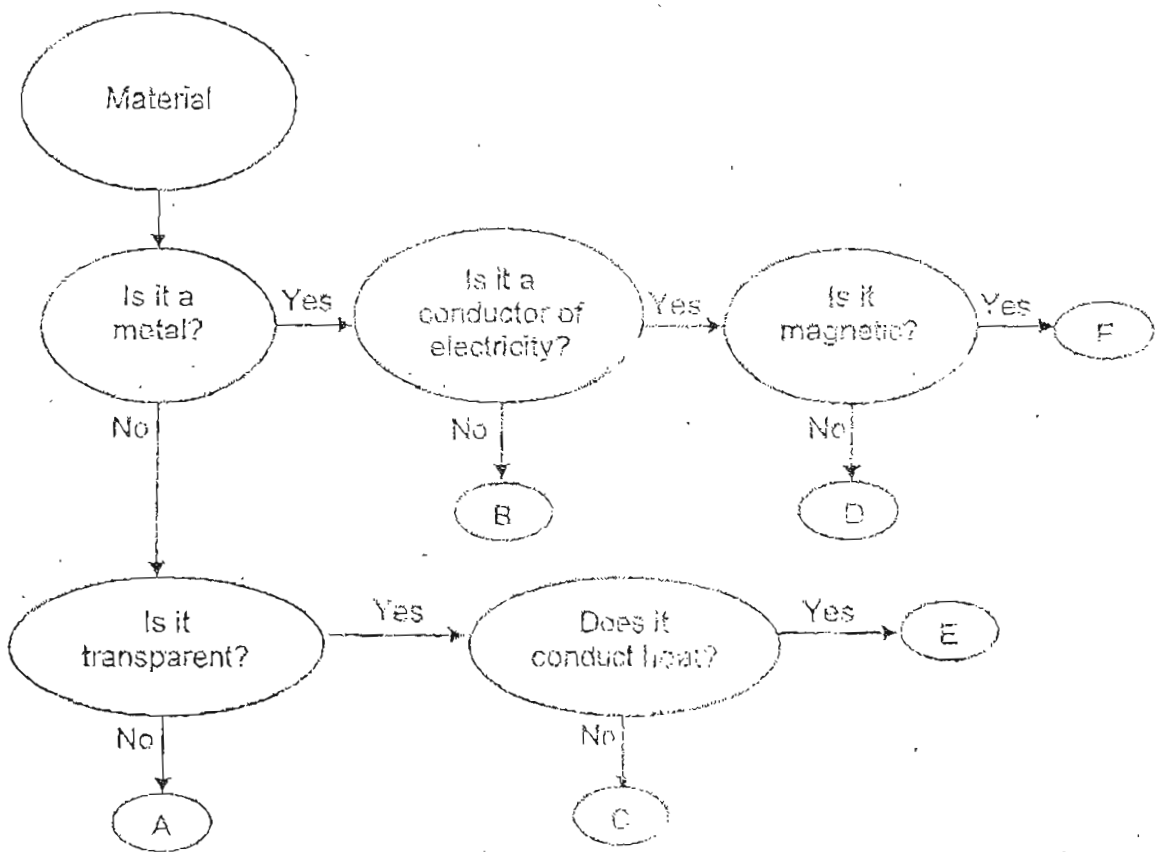


29. Which of the following possess potential energy?

- A: A candle
- B: A rubber band
- C: A charged battery
- D: A stone on the ground

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

30. Study the flow chart below carefully.



What can the materials E and F be?

	E	F
(1)	Water	Gold
(2)	Clear plastic	Copper
(3)	Frosted glass	Steel
(4)	Glass	Iron

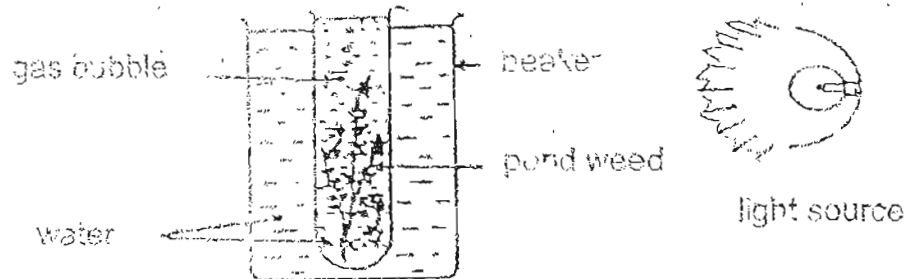
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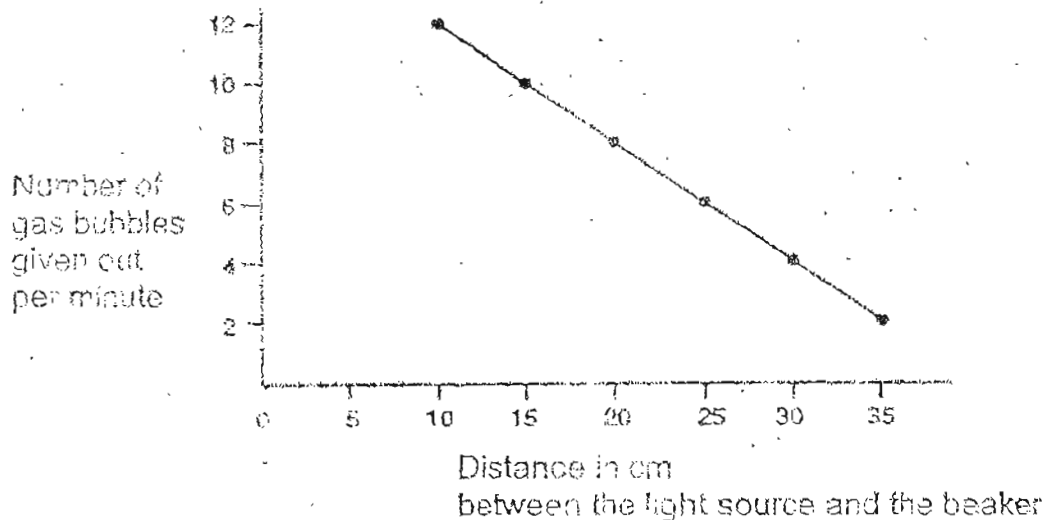
Section B (40 marks)

Write your answers for questions 31 to 46 in the spaces provided.

31. Roslan set up an experiment as shown below.



He recorded the distance between the light source and the beaker and the number of gas bubbles given out by the pond weed. Subsequently, he plotted the graph as shown below.



a. From the graph, what can you conclude about the relationship between the number of gas bubbles given out per minute and the distance between the light source and the beaker? (1 mark)

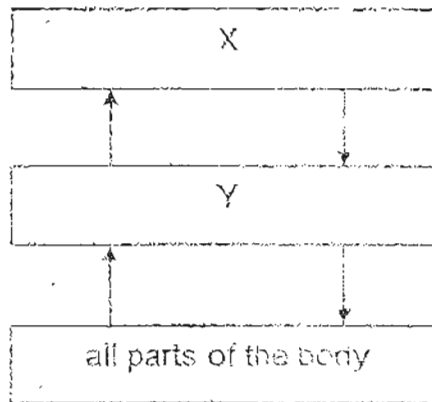
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b. Name the process taking place in the pond weed. (1 mark)

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32. Study the diagram below carefully. The arrows represent blood vessels carrying blood in the body through organs X and Y.



- a. Name the organs which X and Y represent. (1 mark)

X : \_\_\_\_\_

Y : \_\_\_\_\_

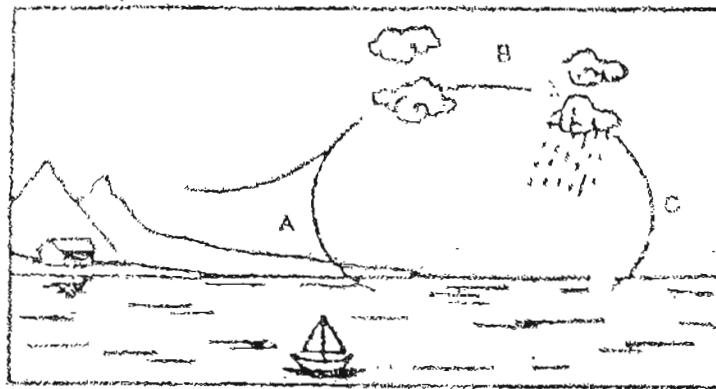
- b. What do you think happens in organ X? (1 mark)

\_\_\_\_\_

\_\_\_\_\_

- c. Blood vessels that carry oxygen-rich blood are called arteries. They branch into very fine blood vessels called \_\_\_\_\_ . These vessels have very thin walls which allow oxygen, digested food and water from the blood to pass into the cells. (1 mark)

33. Study the diagram of the water cycle below carefully.



a. Draw in the arrowheads on the lines A, B and C to show the movement of water in the cycle. (1 mark)

b. How does the sun's energy help in the change of state of water? (1 mark)

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34. Sean wants to find out whether the voltage of batteries used in a circuit affects the brightness of a bulb. Which is/are the variable(s) he should keep constant or change to ensure a fair test?

Tick (✓) the appropriate boxes. (1 mark)

Variables	Keep the same	Change
Voltage of the bulb		
Number of batteries		
Voltage of batteries		
Length of wires used		

b. Name another variable that should be kept constant. (1 mark)

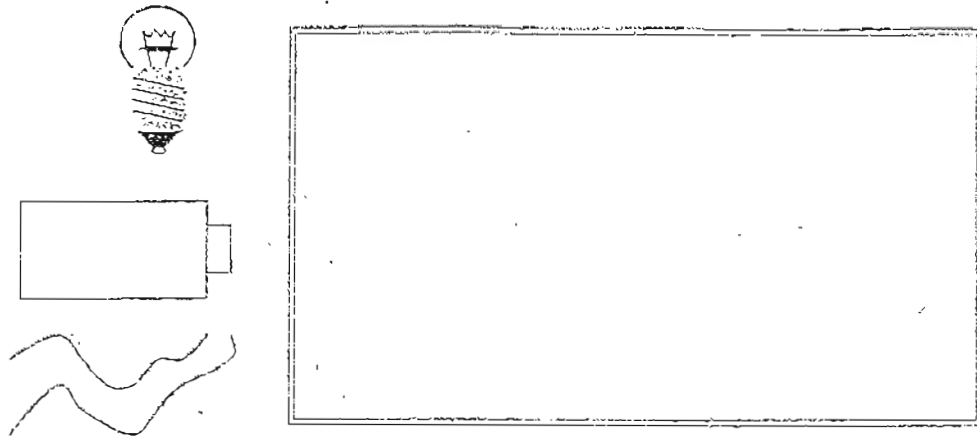
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35. In the box provided, use the bulb, battery and two wires (as shown below), to design a device to differentiate the conductors of electricity from the non-conductors of electricity. (2 marks)



36. Classify the living things below based on how they obtain their food. (3 marks)

rubber tree	bracket fungi	cat
mushroom	bird's nest fern	duck

Make their own food

Feed on decaying organisms

Find food

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

37. Patsy classified some animals into three groups as shown below.  
(3 marks)

A	B	C
Cow	Pig	Lion
Hippopotamus	Duck	Tiger

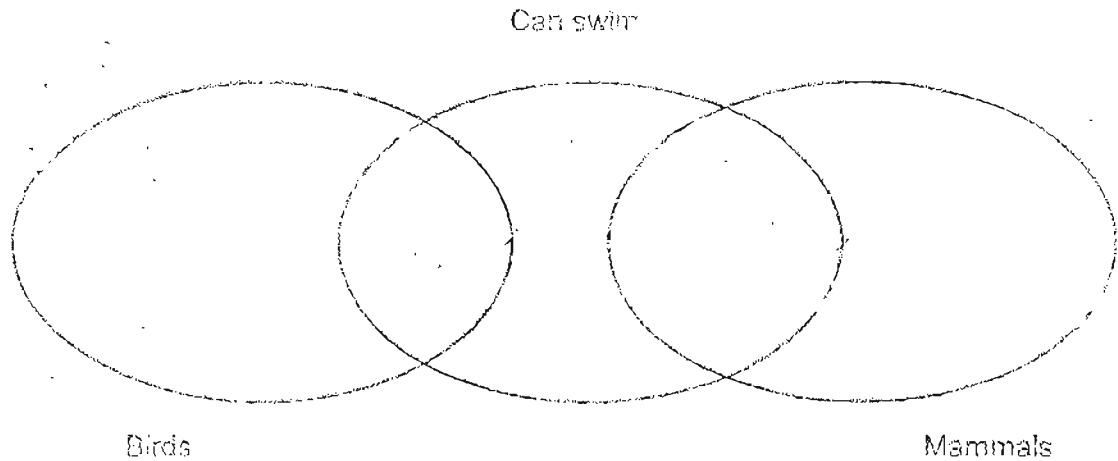
How did she classify them?

A: \_\_\_\_\_

B: \_\_\_\_\_

C: \_\_\_\_\_

38. Study the Venn Diagram below carefully.



a. Mark with dots (\*) and label where dolphin and penguin should be in the Venn Diagram. (2 marks)

b. Describe the dolphin. (1 mark)

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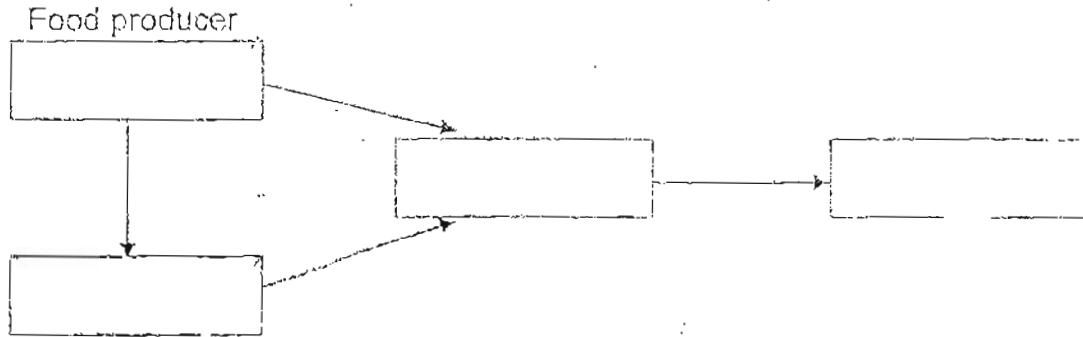


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39. The table below shows the sources of energy for some living things

Living Things	Energy Source
D	Q
P	Sun
R	P
Q	P and R

Show the energy transfer amongst the living things above by completing the food web below. (2 marks)



40. The following statements are made about the properties of some metals. Put a tick (✓) in the correct box in the table below. (2 marks)

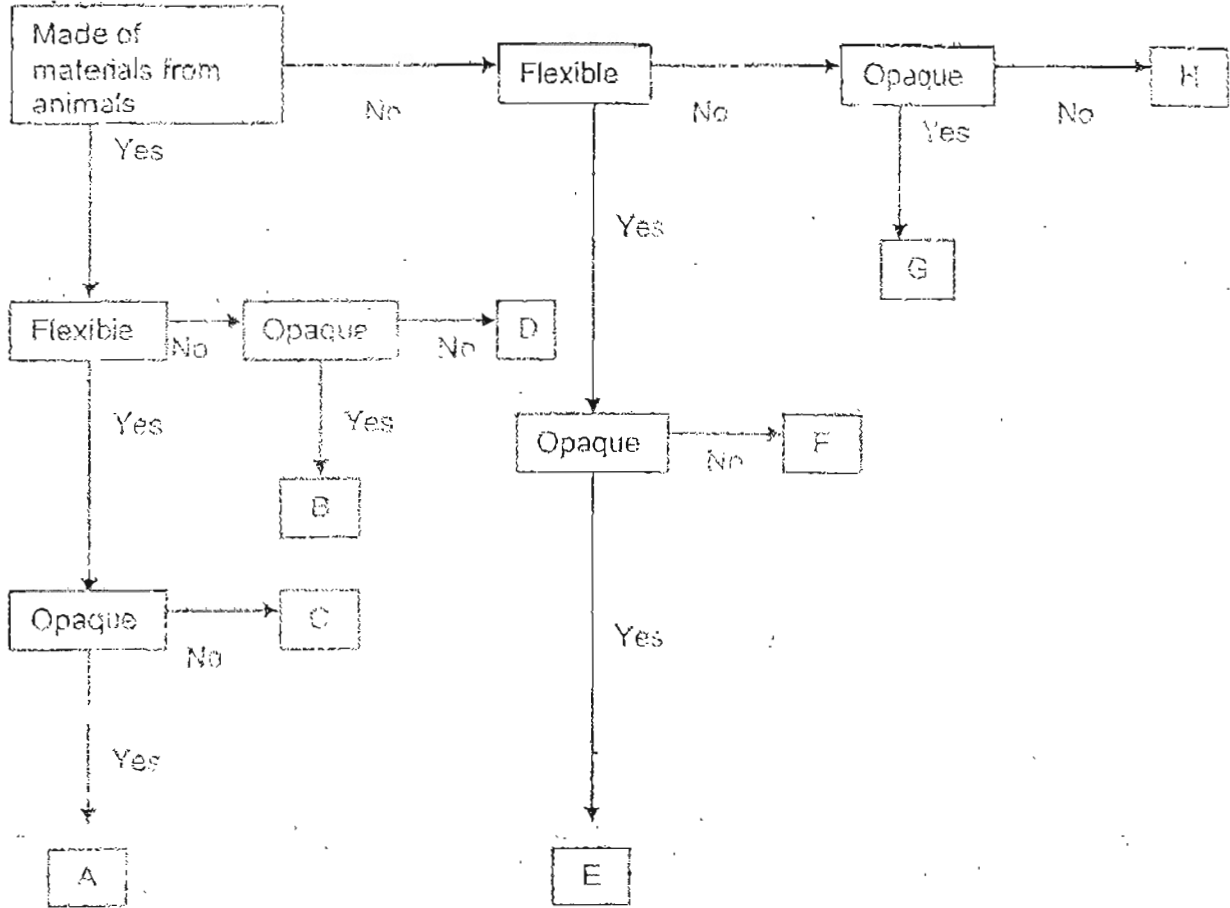
Statements	True	False	Not possible to tell
a. Gold can conduct electricity.			
b. Tungsten cannot conduct electricity.			
c. Cobalt cannot be attracted by magnet.			
d. An alloy of aluminium and iron can be attracted by a magnet.			

41. The results of tests conducted on the properties of different types of plastics are shown in the table below. (2 mark)

Property	Plastic A	Plastic B	Plastic C	Plastic D
Flexible	No	Yes	Yes	Yes
Lightweight	Yes	Yes	Yes	No
Heats up easily	Yes	Yes	No	Yes

Which type of plastic is most suitable as material for an inflatable swimming vest for a child? Explain the reason for your choice.

42. The chart below shows the characteristics of 8 different objects:



- What characteristic(s) do objects B and G have in common? (1 mark)  


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- Which object (A, B, C, D, E, F, G or H) best represents leather? (1 mark)  


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- Write down the steps that you would take to test whether an object is opaque. (2 marks)  


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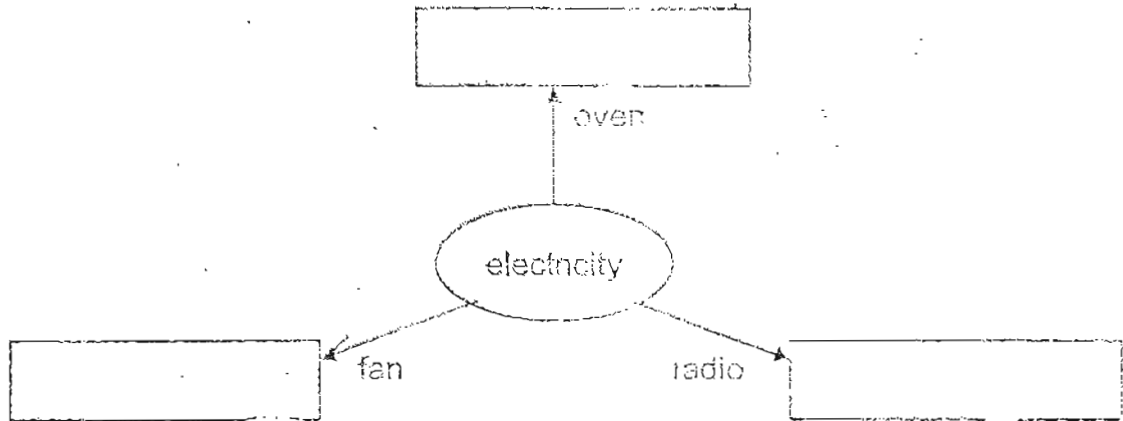


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43. The following electrical appliances convert electricity to useful forms of energy. Fill in the boxes with the useful forms of energy converted by these appliances. (3 marks)

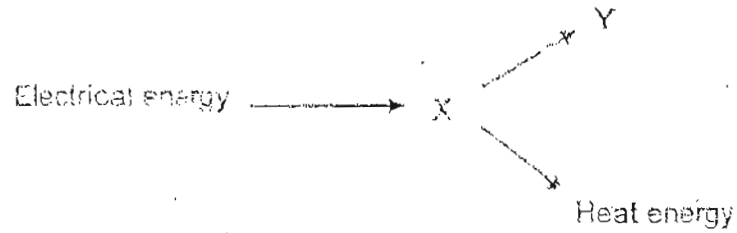


44. Classify the animals listed below into two groups with the given headings. (3 marks)

Butterfly	Lizard	Frog
Hen	Mosquito	Clown fish

Lay eggs in water	Lay eggs on land

45.



The diagram above shows that electrical energy is changed to other forms of energy when an electric drill is used. What forms of energy do X and Y represent? (1 mark)

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46. Tom can reach his apartment by climbing 3 flights of stairs or by using an elevator. (3 marks)

a. What form of energy did Tom have when he reached his apartment by climbing the stairs?

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b. What form of energy did he have when he reached his apartment by the elevator?

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c. The amount of energy in (a) and (b) are equal. Explain why.

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

- 27) 2
- 28) 3
- 29) 1
- 30) 4

31) a) The nearer the light source is to the beaker, the more gas bubbles given out by the pond weed per minute.

b) Photosynthesis.

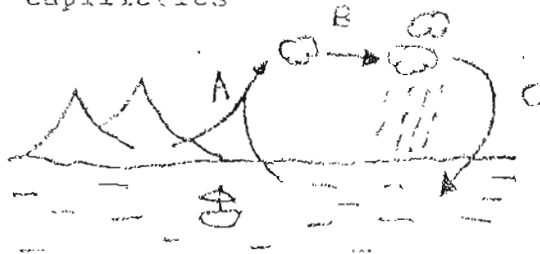
32) a) Lungs

Heart

b) Water vapour and carbon dioxide is given out and oxygen is taken in.

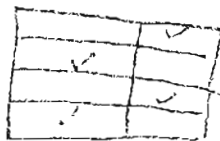
c) capillaries

33) a)



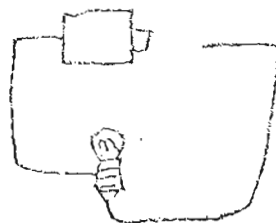
b) It changes water from a liquid state into a gaseous state.

34) a)



b) The way the batteries are arranged.

35)



- 36) rubber tree      bracket fungi      cat  
 bird's nest      mushroom      duck  
 fern

37) A : Herbivores

B : Omnivores

C : Carnivores

38) a)



b) It can swim and it is a mammal

39)

P

Q

D

R

40) a) True

b) False

c) False

d) True

41) Plastic C. It does not heat up easily so the child will not be burnt after swimming for a while.

42) a) They are both opaque and not flexible.

b) A

c) Shine a bright light at it. If no light passes through and a shadow is formed, it is opaque.

43)

Heat energy

Kinetic energy

Sound energy

44) Frog

Lizard

Mosquito

Butterfly

Clown Fish

Hen

45) X is kinetic energy. Y is sound energy.

46) a) Gravitational potential energy.

b) Gravitational potential energy.

c) His apartment was still the same height above the ground.