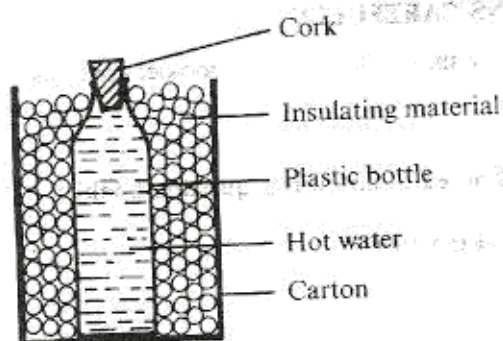


1. The splitting of white light into its constituent colours is called
- reflection
 - diffraction
 - refraction
 - dispersion.

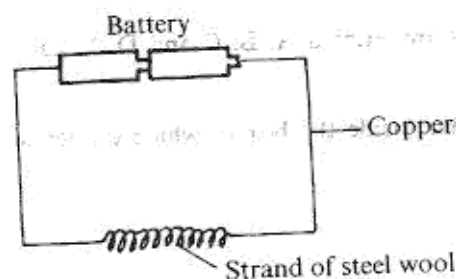
2. A plastic bottle was placed in a carton and insulating material put around the bottle as shown in the diagram below. The bottle was then filled with hot water.



Which one of the following would help keep the water hot for a longer time?

- Putting a lining of aluminium foil around the carton.
- Using insulating material with large air spaces.
- Using black insulating material.
- Using a metal box instead of a carton.

3. The diagram below represents a set up that can be used to demonstrate a certain effect of electricity.



The effect demonstrated is made use of in making

- electromagnets
- light bulbs
- switches
- conductors.

4. The function of haemoglobin in the blood is to
- fight germs
 - transport food substances
 - cause clotting of blood
 - combine with oxygen.

5. Which one of the following pairs of plants has root nodules?

- Tomatoes and beans.
- Cabbage and millet.
- Groundnuts and peas.
- Maize and potatoes.

6. Bile mixes with food in the
- stomach
 - duodenum
 - small intestine
 - large intestine.

7. Which one of the following is likely to happen if a disease gradually kills antelopes in a grassland inhabited by lions and vultures?

Grass	Lions	Vultures
A. Increase	Decrease	Increase
B. Decrease	Increase	Increase
C. Increase	Increase	Increase
D. Increase	Decrease	Decrease

8. Which one of the following plants has roots similar to the type found in carrots?

- Onion.
- Cassava.
- Sweet potato.
- Arrow root.

9. The table below shows characteristics of some invertebrates.

Name	Number of body parts	Number of legs
Weevil	3	X
Y	2	8
Wasp	Z	6

X, Y and Z represent

- | X | Y | Z |
|------|-----------|---|
| A. 8 | cockroach | 3 |
| B. 6 | spider | 2 |
| C. 6 | tick | 3 |
| D. 8 | crab | 2 |

10. The mass of 1 cm^3 of a substance is its

- volume
- density
- weight
- surface area.

11. In which one of the following methods of separation would only one substance be recovered from mixture of two substances?

- Evaporation.
- Filtration.
- Decanting.
- Distillation.

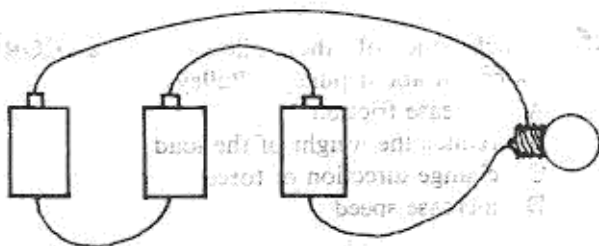
12. Which one of the following materials can be recycled?
- Ash.
 - Cowdung.
 - Coffee husks.
 - Scrap metals.

13. In which one of the following pairs of levers is the arrangement of the positions load, fulcrum and effort the same?
- Crowbar and wheelbarrow.
 - Pair of scissors and nail cutter.
 - Fishing rod and beam balance.
 - Nutcracker and pincers.

14. Which one of the following weather instruments DOES NOT work on the fact that matter occupies space?
- Rain gauge.
 - Air thermometer.
 - Windsock.
 - Windvane.

15. The soil that can be used to make long ribbons has
- cracks when dry
 - large air spaces
 - rough texture
 - low capillarity.

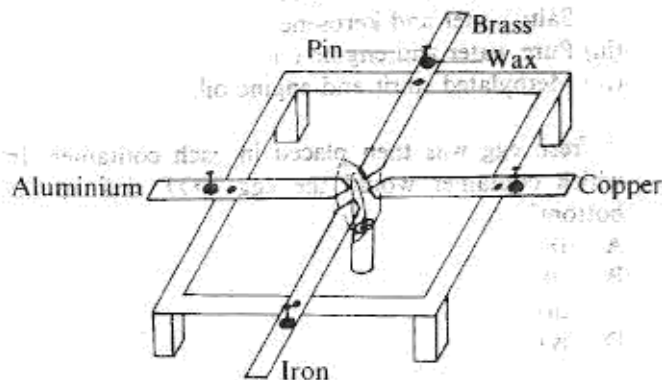
16. The diagram below represents a circuit.



Which one of the following statements is TRUE about the circuit. The

- bulb uses power from three cells
 - bulb uses power from one cell
 - cells are connected in series
 - cells are connected in parallel.
17. Which one of the following pairs consists of renewable sources of energy?
- Firewood and kerosene.
 - Waterfall and petrol.
 - Biogas and charcoal.
 - Wind and coal.

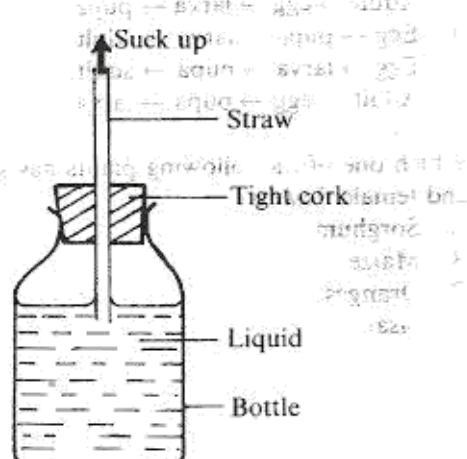
18. The diagram below represents a set up used by pupils to compare the rate at which heat is conducted in metals.



Pupils would make wrong conclusions if they used

- metals of different thickness
- different types of pins
- metals of different lengths
- different types of metals.

19. The diagram below represents a straw fitted in an airtight glass bottle containing a liquid.



The sucking of the liquid is difficult because

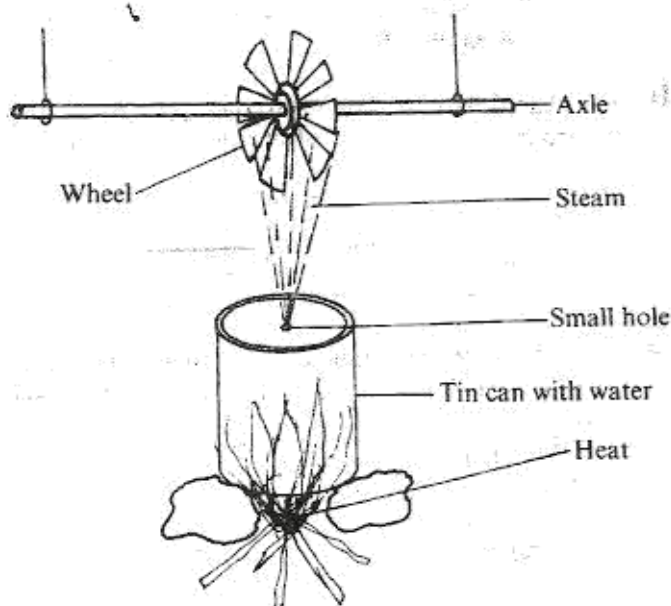
- the straw does not reach the bottom
- the liquid does not fill the bottle
- the air inside the straw prevents the liquid from rising
- air pressure does not act on the liquid.

20. In an experiment equal amounts of the following pairs of liquids were put in four identical containers:
- (i) Kerosene and pure water.
 - (ii) Salty water and kerosene.
 - (iii) Pure water and engine oil.
 - (iv) Methylated spirit and engine oil.

A fresh egg was then placed in each container. In which container would the egg **NOT** sink to the bottom?

- A. (i)
 - B. (ii)
 - C. (iii)
 - D. (iv).
21. Choose a group of substances where all the three are acidic.
- A. Toothpaste, clover, wood ash.
 - B. Wood ash, sour milk, vinegar.
 - C. Lemon juice, toothpaste, baking powder.
 - D. Clover, vinegar, sour milk.
22. Which one of the following represents the correct order of stages in the life cycle of a butterfly?
- A. Adult → egg → larva → pupa.
 - B. Egg → pupa → larva → adult.
 - C. Egg → larva → pupa → adult.
 - D. Adult → egg → pupa → larva.
23. Which one of the following plants has separate male and female flowers?
- A. Sorghum.
 - B. Maize.
 - C. Oranges.
 - D. Sisal.

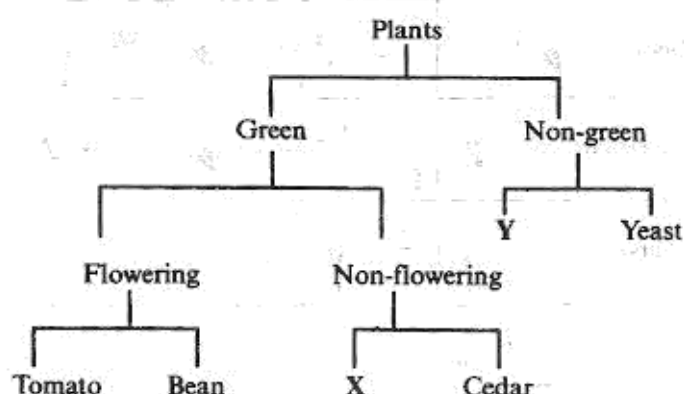
24. Steam can be used to drive a wheel as in the set up shown in the diagram below.



- Which one of the following **CANNOT** increase the speed of the rotating wheel?
- A. Using blades made from lighter material.
 - B. Increasing the size of blades.
 - C. Increasing the size of the small hole.
 - D. Increasing the amount of heat.
25. Which one of the following is a **CORRECT** statement about pulleys? Pulleys
- A. increase friction
 - B. reduce the weight of the load
 - C. change direction of force
 - D. increase speed.
26. Which one of the following is an example of force?
- A. Weight.
 - B. Energy.
 - C. Pressure.
 - D. Work.
27. Which one of the following is **NOT** an example of an inclined plane?
- A. Crowbar.
 - B. Staircase.
 - C. Wedge.
 - D. Screw.
28. Which one of the following will **NOT** change when loam soil is added to sandy soil?
- A. Texture.
 - B. Capillarity.
 - C. Colour.
 - D. Fertility.

29. Choose a pair where any of the methods can be used for making water safe for drinking.
- Addition of chemicals, filtration.
 - Decantation, boiling.
 - Boiling, addition of chemicals.
 - Filtration, decantation.

30. The chart below represents a simplified classification of plants.



Which plants are represented by X and Y?

X

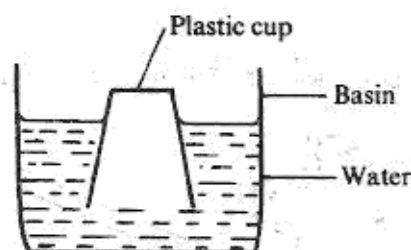
Y

- | | |
|--------------|-------------|
| A. Cypress | Mushroom |
| B. Sugarcane | Toadstool |
| C. Moss | Fern |
| D. Grass | Bread mould |
31. The tips of thread-like structures found in the maize cob are
- anthers
 - filaments
 - styles
 - stigmas.
32. Which one of the following helps a cactus plant reduce loss of water?
- Deep roots.
 - Swollen stem.
 - Thorn-like leaves.
 - Green stem.
33. Which one of the following pairs of insects has a larva stage in their life cycle?
- Moth and bee.
 - Housefly and cockroach.
 - Mosquito and grasshopper.
 - Termite and locust.

34. During the growth of a tadpole, the following parts develop in stages.
- Hind limbs.
 - Lungs.
 - Front limbs.
 - External gills.
 - Tail.

The correct order in which the stages occur is

- (iv), (i), (v), (ii), (iii)
 - (iii), (i), (ii), (iv), (v)
 - (v), (iv), (ii), (i), (iii)
 - (ii), (iii), (iv), (i), (v).
35. A plastic cup was inverted over water in a basin as shown in the diagram below. It was observed that the water did not enter the cup.



Which one of the following could be done to make water enter the cup?

- Pushing the cup to the bottom.
 - Adding more water to the basin.
 - Reducing the size of the cup by cutting.
 - Making a hole at the bottom of the cup.
36. In which of the following activities can **CORRECT CONCLUSION** be drawn about evaporation of equal amounts of water and spirit?
- Putting the liquids in bottle tops and placing both in the sun.
 - Putting one liquid in a bottle top and the other in a shoe polish tin lid then placing the two in the sun.
 - Putting the liquids in bottle tops then placing one in the sun and heating the other with a candle.
 - Putting one liquid in a bottle top and the other in a shoe polish tin lid then heating both of them with a candle.

37. Which one of the following is **NOT TRUE** about pressure exerted by liquids?

Pressure in liquids increases when the

- amount of liquid is increased
- diameter of container is reduced
- depth of liquid is increased
- container with liquid is raised.

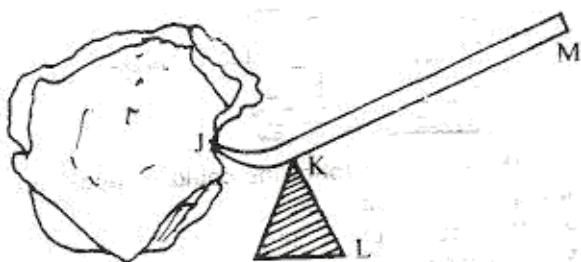
38. Which one of the following is a difference between solids and gases?

- A. Solids have mass whereas gases do not.
- B. Solids have definite shape whereas gases do not.
- C. Solids have definite shape whereas gases take the shape of the container.
- D. Solids can change to liquids whereas gases cannot change to liquid.

39. When lime powder was mixed with juice obtained from hibiscus flower, it changed colour. Which of the following substances **WOULD NOT** make hibiscus flower juice change to the same colour?

- A. Wet wood ash.
- B. Sour milk.
- C. Baking powder.
- D. Chalk dust.

40. The diagram below represents a lever in use.



The load would be moved with least effort if the distance is increased between points

- A. J and M
- B. K and L
- C. K and M
- D. J and K

41. Which one of the following pairs consists of the smallest planet and the largest planet in the solar system?

- A. Earth and Mars.
- B. Mercury and Jupiter.
- C. Venus and Uranus.
- D. Pluto and Saturn.

42. The chart below represents a weather record for four days.

DAY	MORNING		AFTERNOON	
	8.00 - 10.00	10.00 - 12.00	12.00 - 2.00	2.00 - 4.00
Monday	Sunshine, Windy	Sunshine, Windy	Clouds, Windy	Rain, Windy
Tuesday	Windy	Clouds, Windy	Clouds, Windy	Sunshine, Windy
Wednesday	Sunshine, Windy	Windy	Clouds, Windy	Clouds, Windy
Thursday	Clouds, Windy	Sunshine, Windy	Clouds, Windy	Sunshine, Windy

	Sunshine
	Clouds
	Rain
	Windy
	Calm

On which day did it rain immediately after being windy?

- A. Monday.
- B. Tuesday.
- C. Wednesday.
- D. Thursday.

43. Which one of the following pairs of forms of energy can be transmitted only when there is a medium?

- A. Heat and light.
- B. Sound and electricity.
- C. Sound and light.
- D. Heat and electricity.

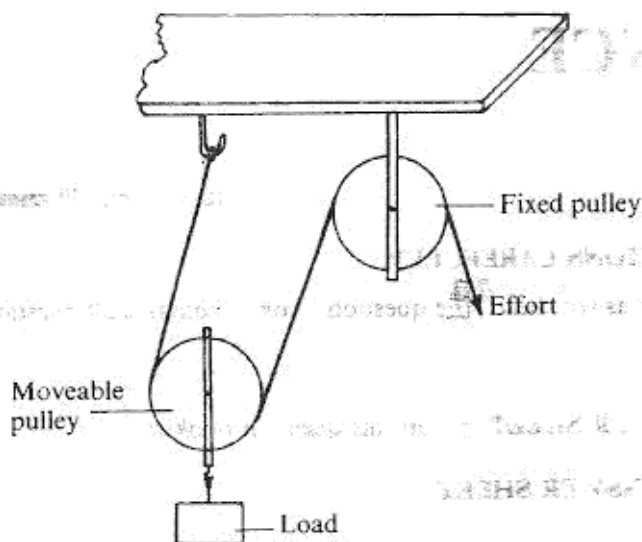
44. The following are functions of stems.

- (i) Support the shoot.
- (ii) Storage of food.
- (iii) Transport water to the leaves.
- (iv) Manufacture food for the plant.

Which functions are performed by all stems?

- A. (i) and (iii).
- B. (iii) and (iv).
- C. (i) and (ii).
- D. (ii) and (iv).

45. The diagram below represents a pulley system in use.



Which one of the following statements is true about the distance moved by the load and the effort?

The distance the load moves is

- A. three times the distance moved by the effort
- B. twice the distance moved by the effort
- C. the same distance as that moved by the effort
- D. half the distance moved by the effort

46. Which one of the following pairs of drugs consists of a stimulant and a depressant?

- A. Khat and tobacco.
- B. Cocaine and alcohol.
- C. Cobbler's glue and heroin.
- D. Bhang and Caffein.

47. Which of the following substances is prohibited in Kenya when used as a drug?

- A. Beer.
- B. Khat.
- C. Tobacco.
- D. Cobbler's glue.

48. The activities below are carried out when separating a mixture of salt, iron filings and sand but not in their correct order.

- (i) Filter the mixture through a sieve.
- (ii) Add water to the mixture.
- (iii) Leave mixture in the sun.
- (iv) Pass a magnet through the mixture.

The correct order of activities is

- A. (iv), (ii), (i), (iii)
- B. (ii), (iii), (i), (iv)
- C. (ii), (iii), (iv), (i)
- D. (iv), (i), (ii), (iii)

49. When a transparent bottle filled with garden soil and water was shaken and left to stand, layers formed.

The order in which the layers formed depended on

- A. density of components
- B. amount of water
- C. size of components
- D. mass of components

50. Which one of the following statements is NOT true about Bhang and Khat?

Both

- A. are addictive drugs
- B. are from plant material
- C. are prohibited drugs
- D. affect the nervous system.