

Goa Board
Class VI Science
Term 2
Sample Paper - 1 Solution

SECTION-A

1. **(b)**
Top soil also called horizon A is washed away with flowing water when it rains heavily.
2. **(d)**
Papier mache is a mixture of clay, paper and rice husk.
3. **(b)**
All aquatic animals have webbed feet which helps them to swim and resist friction of water.
4. **(c)**
The gizzard of the red worms helps in grinding of food.
5. **(a)**
Condensation is the reverse of evaporation.
6. **(c)**
Reproduction is the process by which living organisms produce more organisms of their kind to continue their species on Earth.
7. **(a)**
The blue bin is used to collect materials which can be used again for various purposes.
8. **(c)**
Sieving allows the fine sand particles to pass through the holes of the sieve while the bigger stones and pebbles remain on the sieve.
9. **(c)**
In a solution, the substance in which another substance is dissolved is called the solvent.
10. **(b)**
Tar on heating changes to liquid and on cooling forms a solid mass.

11.(b)

Falling of a tree branch is an irreversible change.

12.(a)

Air is dissolved in water and it escapes when water is heated and therefore tiny bubbles are seen on the surface of boiling water.

13.(c)

Photosynthesis does not help in recycling back carbon dioxide back into air.

14.(a)

In an electric cell, metal cap is the positive terminal of the electric cell and the metal disc is the negative terminal.

15.(b)

Metal wires being good conductors of electricity can be used to make an electric circuit.

16.(a)

The first diagram has a complete circuit, and hence here the bulb glows.

17.(b)

Two batteries provide a greater flow of electricity than one and hence the bulb will glow more brightly.

18.(c)

The ball will move towards point III since its forces of attraction are more at point III due to the more number of magnets.

19.(d)

Maximum iron filings stick to the ends of the magnet where the poles are situated.

20.(b)

Bar magnets should be kept in pairs with their unlike poles on the same side. They must be separated by a piece of wood while two pieces of soft iron should be placed across their ends.

SECTION-B

- 21.** The water cycle is important because of the following reasons:
- Water cycle makes fresh water available in the form of rain.
 - It keeps the amount of water on the Earth's surface constant.
- 22.**
- Food colour
 - Pieces of dry leaves
 - Flower petals
 - Pieces of coloured paper
- 23.** Flattened fins give stability, and control the direction of movement during swimming. Slippery scales protect the fish and help in easy movement through water.
- 24.** Water from wet surfaces absorbs heat from the surroundings, and gets converted into vapours which escape into the atmosphere.
- 25.** A mixture of oil and water can be separated by decantation. If a mixture of oil and water is allowed to stand for some time, they form two separate layers. The component which forms the top layer i.e. oil can then be separated by decantation.
- 26.** The metal rim is made slightly smaller than the wooden wheel. On heating, the rim expands and fits onto the wheel. Cold water is then poured over the rim, which contracts and fits tightly onto the wheel.
- 27.** Carbon dioxide gas does not support combustion. When sprayed on a burning object, it cuts off the supply of oxygen and extinguishes the fire.
- 28.** Materials which are not attracted towards a magnet are called non-magnetic materials. Examples - rubber and plastic.
- 29.** Yes, the bulb will glow in the arrangement shown in the figure because the circuit is complete i.e. there is a continuity in the circuit without any break.
- 30.** While storing bar magnets, they should be kept in pairs with their unlike poles on the same side. They must be separated by a piece of wood while two pieces of soft iron should be placed across their ends.

SECTION-C**31.**

(a)

- i. We should not put wastes containing salt, oil and milk preparations in the pits, as the disease-causing small organisms start growing in the pit.
- ii. Mixing powdered egg shells or sea shells with the wastes help red worms in grinding their food well.

(b) Redworms do not survive in very hot or very cold surroundings. They grow well in moist surroundings.

32.

(a) The problems faced by people due to drought are:

- i. In drought conditions, the soil does not have sufficient moisture to grow crops well.
- ii. The vegetation such as grass and fodder does not grow well and leads to shortage of fodder for domestic animals.
- iii. Many people living in the areas of drought may have to migrate to other places along with their domestic animals in search of food and fodder.

(b) The basic idea behind rainwater harvesting is to catch water where it falls on the Earth's surface.

33.

(a) If garbage is not removed regularly from our homes and surroundings, they will become dirty. Some of the garbage will decay giving off a foul smell. The rotting garbage will become a breeding ground for disease causing organisms such as cockroaches, flies and mosquitoes.

(b) He should put broken glass pieces in the blue bin and used paper bags in the green bin.

34. All living organisms respond to stimuli by moving towards or away from it. Examples

- i. The increased secretion of saliva on seeing our favourite food is the response to the flavour of the food.
- ii. A bright flash of light makes us close our eyes or narrow them.
- iii. The leaves of the 'Touch-me-not' plant close on touching them.
- iv. The tip of the shoot moves towards light.

35. Mixtures are separated into their components for the following reasons:

1. To remove undesirable components

For example, tea is made by boiling tea leaves in water and then adding milk and sugar. After tea is made, the used tea leaves are an undesirable component of the mixture 'tea' and are removed from it by using a tea strainer.

2. To remove harmful components

For example, food grains like rice, wheat, pulses etc. usually contain small pieces of stones, some insects etc. These cannot be consumed and are hence removed from the food grains before use.

3. To obtain a pure sample of a substance

For example, tap water contains some impurities and dissolved salts in it making it an impure mixture. This water is made free of impurities or dissolved salts by the process of distillation and as a result, we get pure water.

4. To obtain a useful component

For example, buttermilk is a mixture from which the useful component 'butter' is separated.

36.

- (a) Inflating a balloon is a reversible change. When air is blown into a balloon, its shape and size change and the balloon gets inflated. Now when the air filled in the balloon is allowed to escape, the balloon comes back to its original size and shape. Hence, inflating a balloon is a reversible change.

Bursting of a balloon is an irreversible change. When a balloon filled with air is burst, the balloon cannot be changed back to its original shape and size. Since the change in the shape and size on bursting of a balloon cannot be reversed, it is an irreversible change.

- (b) Rolling of a roti is a reversible change. Roti is made by rolling a ball of dough into a circular shape. This rolled roti can be easily converted back to the ball of dough i.e. it is an action which can be reversed, hence it is a reversible change.

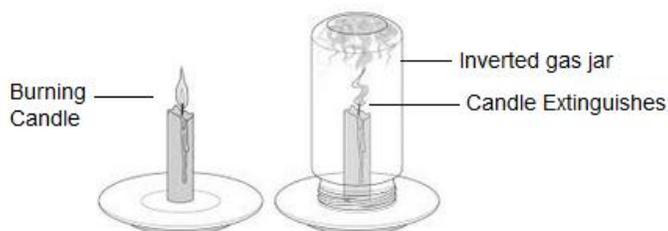
Baking a roti is an irreversible change. Baked roti cannot be changed back into the original ball of dough i.e. this action cannot be reversed. Hence, it is an irreversible change.

37.

(a) Combustion is the process of burning of a substance.

(b) Activity: Take a candle and fix it on a table. The candle is lighted. The candle will continue to burn due to continuously available fresh air providing the required oxygen for combustion.

Now cover the burning candle by putting an inverted gas jar over it. After a short time, the candle stops burning and gets extinguished. When the burning candle is covered with a gas jar, the candle takes away the oxygen necessary for burning from the air enclosed in the gas jar. After some time, when all the oxygen in the air inside the gas jar is used up, the burning candle gets extinguished. This proves that air is necessary for combustion of substances.



38.

(a)

- i. Bar Magnet
- ii. Horse-shoe magnet

(b) In the olden days, travellers used to find directions by suspending natural magnets with a thread. When suspended freely, these magnets point in north-south direction.

39. Take two drawing pins, a safety pin, two wires and a small sheet of thermocol or a wooden board. Insert a drawing pin into the ring at one end of the safety pin and fix it on the thermocol sheet. Make sure that the safety pin can be rotated freely. Now, fix the other drawing pin on the thermocol sheet in a way that the free end of the safety pin can touch it.

The safety pin fixed acts as a switch in this arrangement.



40. When iron fillings are spread on a sheet and a bar magnet is placed on it, the iron fillings cling to the bar magnet.

Yes, we find that the iron fillings attract more towards the regions close to the two ends of a bar magnet.

SECTION-D

41. The camel is adapted to desert conditions because of the following:
- Its limbs contain large pads which help it to move on hot and slippery sand.
 - The hump of the camel is a reservoir of food in the form of fat.
 - It drinks a large quantity of water and stores it in water-cells, muscles and connective tissues.
 - It can live without drinking water for about two weeks. It excretes very little water in the form of urine.
 - It can adjust its internal temperature according to the surrounding air. It sweats profusely in the bright sun to maintain its body temperature
- 42.
- (a) Rainwater harvesting in open spaces around buildings in a city is done by constructing percolation pits covered with concrete slabs having holes in them, and are connected to a recharge well through a pipe. The rainwater falling on the open spaces seeps into the percolation pit through the holes in its concrete slab cover. After filtration in the percolation pit, the rainwater now enters the recharge well through the outlet pipe and gradually seeps into the soil.
- (b) Rainwater harvesting can be done in two ways:
- Rooftop rainwater harvesting.
 - Rainwater harvesting from open spaces around buildings.
- 43.
- (a) Reversible changes are changes which can be reversed to form the original substance.
Irreversible changes are changes which cannot be reversed to form the original substance.
- (b)
- If we inflate a balloon, the size and shape of the balloon undergoes a change. However, the original size and shape of the balloon can be obtained back by allowing the air to escape from the balloon. This means that the change which occurs by inflating a balloon can be reversed. But, if the balloon bursts after being inflated, then its original size and shape cannot be obtained back. Thus, in this case, the change cannot be reversed.
 - If we fold a piece of paper, then the shape and size of the paper undergoes a change. In this case, the original shape and size of the paper can be obtained back. Thus, this change can be reversed. However, if we cut the piece of paper, the change in the shape and size of the paper cannot be reversed.
 - If we heat solid wax, it melts to form a liquid called molten wax. On cooling, the molten wax becomes a solid again i.e. melting of wax is a reversible change. But, if we light a candle, then the wax present in it starts burning to produce carbon dioxide gas, water vapour, soot, heat and light. These products obtained by

burning of wax cannot be combined to get back the original wax of the candle. Hence, burning of wax is an irreversible change.

44.

(a) The procedure to make a home-torch is as follows:

Take a torch bulb and a piece of wire. Remove the plastic covering at the two ends of the wire. Wrap one end of the wire around the base of the electric bulb. Fix the other end of the wire to the negative terminal of an electric cell with a rubber band. Now, bring the tip of the base of the bulb that is, its other terminal, in contact with the positive terminal of the cell. The bulb starts glowing.

(b) Materials which allow electric current to pass through them are called conductors. Examples - iron, pencil lead etc.