

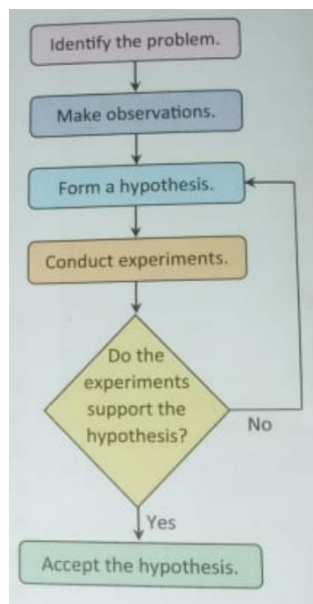
Introduction of Chemistry

1. What is Science?

Ans. Science is a systematic study of the world around us through observation and experimentation.

2. Write the methodical ways when science try to find explanations for anything around us.

Ans.



3. What is the difference between Hypothesis and Theory?

Ans. Hypothesis is a possible explanation for the phenomenon. They predict what will happen if the hypothesis is correct.

If the data support the hypothesis, scientists accept the hypothesis and it becomes a theory. If the data do not support the hypothesis it is rejected.

4. What are the three main branches of Science?

Ans. the three main branches of science are

- a. Chemistry
- b. Physics
- c. Biology

5. What is Chemistry?

Ans. Chemistry is a study of composition and properties of substances, their reactions and how they form new substances.

6. What is Chemical Reaction?

Ans. A chemical reaction is a process in which one or more substances (Reactant) react or come together to form new substances (Product).

And the Reactants and Products are called Chemicals.

7. What is Alchemy?

Ans. In ancient years a form of chemistry called alchemy was practiced in many parts of the world. Alchemists had a number of goals. These included finding:

- a. A method to convert ordinary metals such as copper, iron and lead to gold.
- b. A universal solvent, that is, a liquid that could dissolve any substances.
- c. An elixir of life, that is, a substance that would enable a person to achieve spiritual purity and live forever

8. What is Philosopher's Stone?

Ans. Alchemists wanted to create a material which could help change other metals to gold. This material is called Philosopher's Stone.

9. Why Fertilisers are used in Agriculture?

Ans. Nutrients such as Nitrogen, Phosphorus and potassium are present in the soil to help crops to grow well. Fertilisers are added to increase the amount of nutrients in the soil.

10. What are Pesticides? Give Example.

Ans. Pesticides are chemicals that are toxic or poisonous to pests.

Different pesticides are used to destroy different types of pests,

- a. **Insecticides**- Used to kill Insects.
- b. **Fungicides**- Used to kill Fungi.
- c. **Herbicides**- Used to kill Weeds.

11. What are the benefits to use Pesticides in the Agriculture?

Ans. Crops often attacked by pests, such as insects, fungi and unwanted plants called weeds. Pests can also destroy food grains during storage and transportation. Pesticides are chemicals that are toxic or poisonous to pests.

12. What are the uses of Chemicals in Food?

Ans. The food that we eat has various nutrients such as Carbohydrate, Protein, Fats, Vitamin and minerals. They are also naturally occurring Chemicals. They are added to food to increase their content.

13. What are the uses of Food Preservatives?

Ans. Salt, Sugar, Vinegars are the natural food preservatives. And Sodium Benzoate and Sorbic Acid are artificial food preservatives. They are added to destroy bacteria in food and stop them from growing.

14. What are the uses of Antioxidants?

Ans. Antioxidants are added to fatty food such as butter, cheese and oil to prevent them from becoming stale.

15. What are the uses of Natural and Synthetic Colors in food?

Ans. Natural and Synthetic Colors are added to sauces, jams and juices to make them attractive.

16. Why Natural and Synthetic Flavors are added in the food?

Ans. Natural and Synthetic Flavors are added to make food taste better or give it a particular test. The commonly used natural flavors are Salt, Sugar and Vanilla.

17. What are the uses of Synthetic fibers?

Ans. We make a whole range of synthetic fibers from chemicals. Nylon, Polyester are some examples of Synthetic Fibers. They are used to make Zips, buttons, elastic and threads etc.

18. Why cotton are uses to make summer clothes?

Ans. Cottons are porous in nature. So, in hot weather in summer it is very comfortable to wear cotton clothes.

19. Due to which property of wood, it is uses to make winter clothes?

Ans. Wools can retain heat. So that in winter season woolen clothes can provide us comfort from cold.

20. What are the properties of Nylon?

Ans. Nylons are strong, dries quickly, and wrinkle resistant. So that it is very useful in our daily life. It is used to make garments, jackets, swimming costumes, sleeping bags, rope, backpacks etc.

21. Why synthetic rubbers are used to make Raincoats, Umbrella?

Ans. Raincoat, Umbrella are used in winter season to protect ourselves from rain. Synthetic Rubbers are waterproof in nature so that they are used to make them.

22. What are the properties of Polyester?

Ans. Polyesters are soft and smooth and can dry quickly.

23. Which medicine are used to reduce fevers and relieve pain?

Ans. Paracetamol, Acetylsalicylic Acid are used to reduce fevers and relieve pain.

24. What are the uses of Morphine?

Ans. Morphine are used to reduce pain.

25. To rescue Stomach Acidity Which medicine are used?

Ans. Magnesium Hydroxide are used to rescue Stomach Acidity.

26. How can we make construction materials from natural sources?

Ans. Many minerals such as bricks, cements, metals, paints, glass, and concrete are used for constructing buildings. The raw minerals and metals of these materials are found in rocks. They are extracted or brought out from their natural stage and purifying them through various chemical processes and after that they are ready to use.

27. What are fuels?

Ans. Petrols, Diesels, Kerosene and LPG are sources of energy. They are collectively called Fuels. They are obtained from petroleum, Natural gases and coal etc. they are burned in chemical processes to release energy that are needed to run vehicles and machines.

28. What are petrochemicals?

Ans. Products obtained from petrols are called Petrochemicals.

29. What are the uses of Petrochemicals?

Ans. The petrochemicals are used to make Shampoos, Paints, Dyes, Wax Crayons, Plastics etc.

30. What are the uses of chemicals in Defense?

Ans. Chemicals are used in Defense not only weapons of war such as gun, bullets, bombs and mines etc. But also, vehicles, tents, and uniforms and so on.

TNT, RDX are used to make explosives. Special synthetic materials are used to make bulletproof vests as well as clothing for high-altitude warfare.

31. Name different products used in transport industry?

Ans. Many types of Plastics, Metals, Glasses and paints are used in Transport Industry.

32. What are the uses of Chemicals in Cosmetics?

Ans. Cosmetics are used to look attractive and to protect skins and hair.

Cosmetics contain many chemicals:

- a. Water: It is the base for all chemicals, lotions, shampoos and perfumes.
- b. Preservatives: They are used to prevent bacterial growth.
- c. Thickeners: They are added to make liquid cosmetics thicker and give them a smooth and creamy feel.
- d. Coloring agents and Fragrances: They are added to cosmetics to make them more attractive.

33. What is Talcum Powder?

Ans. Talcum Powders are widely used to absorb moisture and keep the skin dry and smooth. It contains talc, scents, colors and so on. It is obtained from a certain kind of rock.

34. What is Chemical Industry?

Ans. Chemical Industry is one of the largest industries in the world. Many chemicals like Ammonia, Caustic Soda, Methanol, Acetic Acid etc. produced in large quantity in chemical industry.

35. Why is called that our body is a Mini Chemical Factory?

Ans. Innumerable chemicals reactions take place within our body to keep us alive. During Respiration, we inhale oxygen, and exhale Carbon-di-Oxide. Our body produces chemicals that help in digestion, growth, withstanding stress, regulating the sleep cycle and so on.

36. What are the bad effects for using huge amount of chemicals?

Ans. The widespread use of chemicals in daily life has reduced in certain secondary effects that are undesirable and harmful.

Some of them are:

- a. The excessive mining of natural resources.
- b. The excess production of waste
- c. Unmergeable Pollution
- d. The creation of destructive weapons
- e. The production of harmful drugs and poisons.