Menu

CBSE Class 10 Science Syllabus

CBSE Class 10 Science:

CBSE Class 10 Science syllabus is divided into two terms such as Term 1 and Term 2. Term 1 includes the following topics such as:

Term 1:

- Chemical substances- Nature and behavior
- World of living
- Effects of current
- Natural resources

Term 2 includes topics such as:

- Chemical substances-Nature and Behavior (Continued)
- World of Living (Continued)
- Natural Phenomena
- Natural Resources (Continued)

The above syllabus in detail are:

- **Chemical Substances- Nature and Behavior:**

In first Term the above chapter covers the topics such as Chemical reactions, acids, bases and salts, metals and non-metals. In the second Term it covers the chapter such as Chemical substances-Nature and Behavior, Periodic classification of elements.

grapes gets fermented and how foods are digested in our body. Thus, a chemical reaction can be defined as a process of conversion or transformation of a set of substances into another form. It is represented by a chemical equation which represents reactants, products and their physical states symbolically.

Any chemical equation is always in a balanced state so that the number of atoms of each type of reactant remains the same on the reactant and product sides of the equation.

The major topics which are covered under this chapter are

- Chemical equations and balanced chemical equations
- Types of chemical reactions
- Effects of oxidation in everyday life
- Understanding and writing chemical reactions

Acids, Bases and Salts:

This is a chapter which indicates the different taste that occurs in the food substances because of the acids and bases.

Some of the examples of acids and bases reactions are

1. Acids when reacts with a metal, hydrogen gas is evolved and a corresponding salt is formed.
2. When an acid reacts with the metal carbonate or metal hydrogen carbonate, it gives the corresponding salts, carbon dioxide and water.

A scale called as pH scale is used for testing the strength of the acid or alkali. This chapter also covers various topics on preparation and properties of beaching powder, washing soda, plaster of paris, common salt and baking soda.

Metals and non-metals:

Metals are ductile, malleable and are good conductors of heat and electricity. Except the metal Mercury, almost all metals are solids at the room temperature. The extraction of metals from their ores and then refining them for use if known as metallurgy.

Elements can be classified on the basis of the similarities in the properties. Elements can be arranged in an increasing order of atomic masses and according to their chemical properties. Thus, for reference a periodic table is formed mentioning every possible elements.

Examples:

1. Give an example of the metal which

- Is a liquid at the room temperature
- Is a best conductor of heat
- Is a poor conductor of heat
- Can be easily cut with knife

Answer:

- Mercury
- Silver
- Lead
- Sodium

2. Why curd and sour substances must not be kept in the brass and copper vessels?

Answer: Brass and copper vessel contains copper which reacts with the acids found in the curd or other sour substances. Thus, this reaction forms soluble salts which are poisonous in nature making curd unfit for the consumption.

3. Why sodium is kept immersed in kerosene oil?

Answer: Sodium reacting with oxygen catches up fire when kept in open place. Thus, sodium is always immersed in kerosene oil to avoid such accidents.

4. Why should a magnesium ribbon be cleaned before burning in air?

Answer: To remove the protective layer of basic magnesium carbonate from the surface of magnesium ribbon.

5. Write the balanced equation for the following:

- Hydrogen + Chlorine ->Hydrogen Chloride

Answer: H_2+ Cl_2->2HC

- **World of Living:**

This is a chapter which is covered in both first Term and second Term. In first term the topics which are

Life processes that take place in both plants and animals are covered under this topic. The topic life process includes nutrition, respiration, transportation, excretion in plants and animals. Life process in animals include Digestive system which explains the role of digestive enzymes in the digestion of food. Respiratory system is divided into two types as Aerobic respiration and anaerobic respiration. Aerobic respiration occurs in the presence of oxygen and by-products carbon dioxide, water and energy whereas Anaerobic respiration occurs in the absence of the oxygen and by products are ethanol and carbon dioxide.

Excretory system in animals is the taken place by the functions of nephron which is responsible for purification of blood and urine formation. Just like the life processes in animals, life process in plants is covered under this chapter. Topics such as Transportation of water and minerals, mechanism of Photosynthesis, Respiration during day and night, Excretion in plants, nutrition in plants and so on.

Control and coordination in animals and plants:

When humans step out in the bright sunlight, they partly close their eyes due to the excessive brightness of sunlight. In addition to this, they may start sweating as the temperature rises. These are called as the coordinated responses to stimuli. This not only occurs in humans but also in plants and animals.

Reproduction:

This chapter covers the reproduction process in both plants and animals. It covers many concepts like budding, fragmentation, spore formation and sexual reproduction in humans and plants.

Heredity and Evolution:

This chapter deals with the relationship between our physical appearance and resemblance to our family members. Evolution can be defined as change in the characteristics of living organisms over generations.

Examples:

1. Name the excretory unit of the kidney?

Answer: Nephron

2. Explain the process of Photosynthesis in plants:

Answer: Photosynthesis is a process in which plants use sun light, chlorophyll, carbon dioxide and water to synthesize food.

3. Why does a plant cool the atmosphere? What is that term called as?

Answer: Transpiration

- **Effects of Current:**

Examples:

1. Define the unit of the current?

Answer: SI unit of the electric current is Ampere

2. List any one property of the magnetic lines of force?

Answer: No two magnetic field lines intersect each other

- **Natural Phenomena:**

This covers the topics such as reflection of the light by the curved surfaces, mirror formula, concave mirror, convex mirror, reflection and refraction, focal length, principal focus, laws of refraction, etc. Reflection means change in the path of the wave when the bounce-off a barrier. Refraction of the waves means change in the direction of waves when they pass from one medium to another.

Examples:

1. The radius of the curvature of the spherical mirror is 20 cm. What is its focal length?

Answer: 10 cm

2. Name the mirror which can give you an erect and enlarged image of an object?

Answer: Concave mirror

- **Natural Resources:**

In First Term it covers the topic such as Sources of energy and in the second Term it covers the topics such as regional environment, our environment and management of natural resources.

Sources of energy:

This chapter is based on the concept that “Energy can neither be created nor be destroyed but can be converted to one form to another”.

Management of natural resources:

This covers the topics such as how to conserve and manage the natural resources such as Forest, wildlife, water and mineral. It explains about three R’s such as Reduce, Recycle and Reuse.

organisms. Environmental problems arise due to non-biodegradable waste generated by the humans such as plastics, detergent, dyes which get settled into the soil and water bodies and harm our environment.

Examples:

1. What is a good fuel?

Answer: A good fuel is that which releases more heat during burning but do not cause any environmental problems.

2. What are the qualities necessary for a good source of energy?

Answer:

- It should be easily available
- It should be easy to store and transport
- In should not cause any environmental problems
- It should be economical
- It should have high calorific value

3. In what way does a biodegradable substance effect the environment?

Answer: It gives foul smell, thus causing air pollution

4. Examples for biodegradable and non biodegradable substances?

Answer:

Biodegradable: Vegetable waste, cotton, paper

Non-biodegradable: Plastic, glass and polythene

Thus, above are the topics which are covered under the syllabus of CBSE Class 10 Science.

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