CBSE Class 10 Science Updated Syllabus

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Explore the updated NCERT Class 10 Science Syllabus. This table outlines the revised curriculum, showcasing the essential topics and concepts students will encounter in their science studies. Stay informed about these changes to prepare effectively for your board exams.

Units No	Units	Marks
I	Chemical Substances-Nature and Behaviour	25
II	World of Living	25
III	Natural Phenomena	12
IV	Effects of Current	13
V	Natural Resources	05
Total		80
Internal Assessment		20
Grand Total		100

Theme: Materials

Chapter – 1: Chemical Reactions and Equations

Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, endothermic exothermic reactions, oxidation, and reduction.

Chapter – 2: Acids, Bases and Salts

Their definitions in terms of furnishing of H+ and OH- ions, General properties, examples, and uses, the concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Chapter – 3: Metals and Non–metals

Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Chapter – 4: **Carbon compounds**

Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes, and alkynes), the difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, addition, and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps, and detergents.

Theme: The World of the Living

Unit II: WORLD OF LIVING

Chapter – 6: Life Processes

'Living Being'. Basic concept of nutrition, respiration, transport, and excretion in plants and animals.

Chapter – 7: **Control and co-ordination in animals and plants**

Tropic movements in plants; Introduction of plant hormones; Control and coordination in animals: Nervous system; Voluntary, involuntary, and reflex action; Chemical coordination: animal hormones.

Chapter – 8: **Reproduction**

Reproduction in animals and plants (asexual and sexual) reproductive health - need and methods of family planning. Safe sex vs HIV/AIDS. Childbearing and women's health.

Chapter – 9: **Heredity and Evolution**

Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction: (topics excluded - evolution; evolution and classification and evolution should not be equated with progress).

Theme: Natural Phenomena

Unit III: NATURAL PHENOMENA

Chapter 10 Light: Reflection and Refraction

Reflection of light by curved surfaces; Images formed by spherical mirrors, center of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification.

Refraction; Laws of refraction, refractive index. Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula (Derivation not required); Magnification. Power of a lens.

Chapter 11: Human Eye and Colourful World

Functioning of a lens in the human eye, defects of vision and their corrections, and applications of spherical mirrors and lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life (excluding colour of the sun at sunrise and sunset).

Theme: How Things Work

Unit IV: EFFECTS OF CURRENT

Chapter – 12: Electricity

Electric current, potential difference, and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors, and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.

Chapter 13 Magnetic Effects of Current

Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

Theme: Natural Resources

Unit V: NATURAL RESOURCES

Chapter – 15: Our Environment

Eco-system, Environmental problems, Ozone depletion, waste production, and their solutions. Biodegradable and non-biodegradable substances.

CBSE Class 10 Science Practical List

Practicals to be Conducted Alongside Theory Classes

Unit I

1. Finding the pH:

- Use pH paper/universal indicator to find the pH of:
    - Dilute Hydrochloric Acid
    - Dilute NaOH solution

- Dilute Ethanoic Acid solution
- Lemon juice
- Water
- Dilute Hydrogen Carbonate solution

2. Properties of Acids and Bases:

- Study the properties of acids and bases (HCl & NaOH) based on their reactions with:
  - Litmus solution (Blue/Red)
  - Zinc metal
  - Solid sodium carbonate

3. Reaction Classification:

- Perform and observe the following reactions, classifying them as:
  - Combination reaction
  - Decomposition reaction
  - Displacement reaction
  - Double displacement reaction
  - Reactions include:
    - The action of water on quicklime
    - The action of heat on ferrous sulphate crystals
    - Iron nails in copper sulphate solution
    - Sodium sulphate and barium chloride solution reaction

4. Metal Reactivity:

- Observe the action of Zn, Fe, Cu, and Al on:
  - $ZnSO_4(aq)$
  - $FeSO_4(aq)$
  - $CuSO_4(aq)$
  - $Al2(SO_4)_3(aq)$
- Arrange Zn, Fe, Cu, and Al in decreasing order of reactivity.

5. Properties of Acetic Acid (Ethanoic Acid):

- Study:
  - Odour
  - Solubility in water
  - Effect on litmus
  - Reaction with Sodium Hydrogen Carbonate

6. Cleaning Capacity of Soap:

- Compare the cleaning capacity of a soap sample in soft and hard water.

Unit II

1. Temporary Mount of a Leaf Peel:

- Prepare a temporary mount to show the stomata.

2. Carbon Dioxide in Respiration:

- Experimentally shows that carbon dioxide is given out during respiration.

3. Binary Fission and Budding:

- Study binary fission in Amoeba and budding in yeast and Hydra using prepared slides.

4. Parts of an Embryo:

- Identify the different parts of an embryo of a dicot seed (pea, gram, or red kidney bean).

Unit III

1. Determination of Focal Length:

- Determine the focal length of:
    - Concave mirror
    - Convex lens by obtaining the image of a distant object

2. Ray of Light through Glass Slab:

- Trace the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, and angle of emergence, and interpret the result.

3. Rays of Light through a Glass Prism:

- Trace the path of rays of light through a glass prism.

Unit IV

1. Dependence of Potential Difference on Current:

- Study the dependence of potential difference (V) across a resistor on the current (I) passing through it, determine its resistance, and plot a graph between V and I.

2. Equivalent Resistance:

- Determine the equivalent resistance of two resistors when connected in series and parallel.

Prescribed Books for CBSE Board Class 10 Science

- Science-Textbook for class IX-NCERT Publication
- Science-Text book for class X- NCERT Publication
- Assessment of Practical Skills in Science-Class IX - CBSE Publication
- Assessment of Practical Skills in Science- Class X- CBSE Publication
- Laboratory Manual-Science-Class IX, NCERT Publication
- Laboratory Manual-Science-Class X, NCERT Publication
- Exemplar Problems Class IX – NCERT Publication
- Exemplar Problems Class X – NCERT Publication