

**PHYSICS**

**Physical quantities and measurement**

- Measurement of volume
- Measurement of density
- Relative density
- Factors affecting density
- Laws of floatation

**FORCE AND PRESSURE**

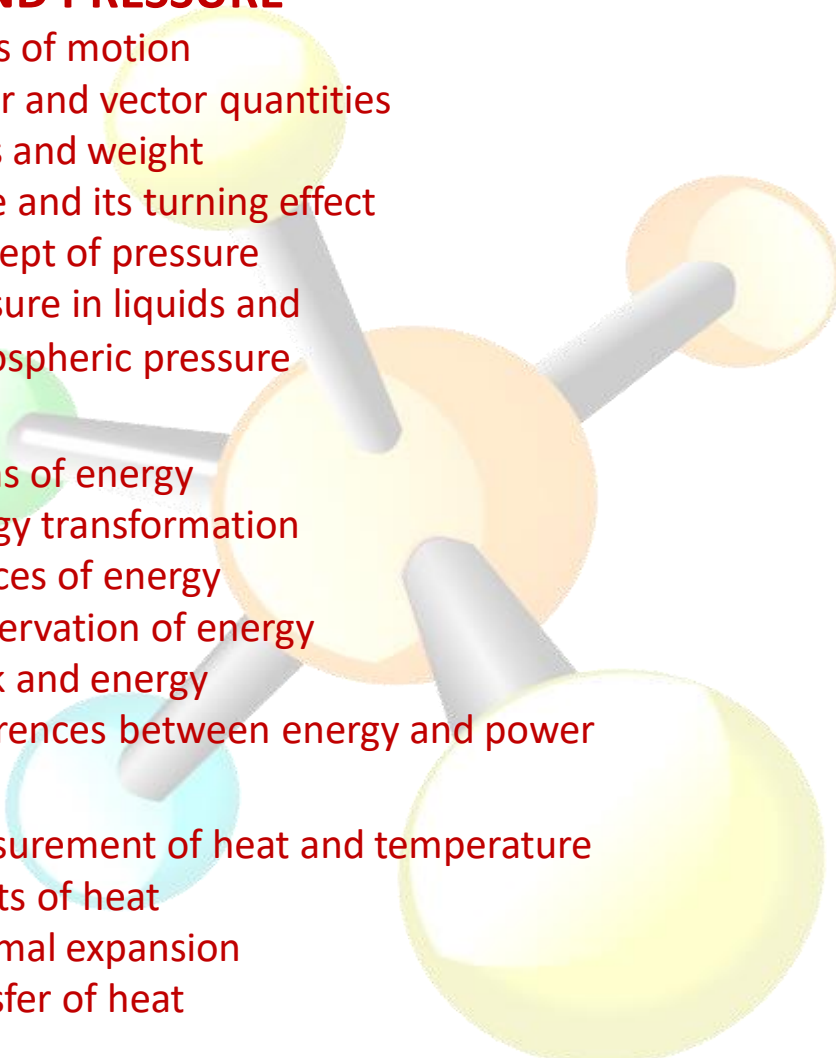
- Types of motion
- Scalar and vector quantities
- Mass and weight
- Force and its turning effect
- Concept of pressure
- Pressure in liquids and
- Atmospheric pressure

**ENERGY**

- Forms of energy
- Energy transformation
- Sources of energy
- Conservation of energy
- Work and energy
- Differences between energy and power

**HEAT**

- Measurement of heat and temperature
- Effects of heat
- Thermal expansion
- Transfer of heat





## Light energy

- Image formation in mirror
- Reflection
- Speed of light
- Primary and complementary colours
- Colour subtraction

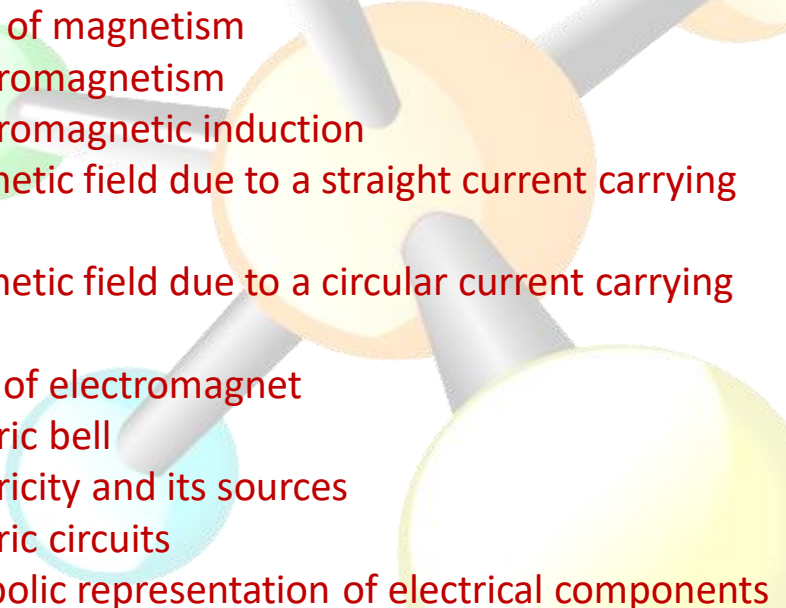
## SOUND

- Sources and production of sound
- Sound as longitudinal waves and terms related to sound wave
- Characteristics of sound waves
- Reflection of sound
- Sonar

## Matter

- Kinetic theory of matter
- States of matter
- Energy in the three states of matter
- Change of state of matter using the kinetic theory

## Electricity and magnetism

- Laws of magnetism
  - Electromagnetism
  - Electromagnetic induction
  - Magnetic field due to a straight current carrying wire,
  - Magnetic field due to a circular current carrying wire
  - Uses of electromagnet
  - Electric bell
  - Electricity and its sources
  - Electric circuits
  - Symbolic representation of electrical components
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# CHEMISTRY

## Physical and chemical changes

- Classification of changes as physical and chemical.
- Types of changes
- Exothermic
- Endothermic
- Slow
- Fast
- Periodic
- Non periodic
- Reversible
- Irreversible

## Elements ,compounds and mixtures

- Latin name and common name of elements with symbols.

## Chemical formula of compound

- Valency
- Separation of mixtures
- Crystallization
- Chromatography
- Centrifugation
- Handpicking

## Language of chemistry

- Molecular and chemical formulae of compounds.
- Valency
- Balancing chemical equation .



## Atomic structure

- Contribution of scientists towards the structure of atom.
- Electronic configuration of atom
- Fundamental particles of atom
- Radicals
- Position of elements in periodic table
- Isotopes

## Matter

- Kinetic molecular theory of matter.
- Interconversion of states of matter.

# BIOLOGY

## Cells

- Discovery of cells
- Cell theory
- Variations in cells
- Shape of cells
- Size of cells
- Number of cells
- Cell organelles and its function

## Tissues and its function

- Animal tissues
  - Epithelial
  - Muscular
  - Nervous
  - Connective
  - Plant tissues
  - Meristematic tissues and their characteristics
  - Permanent and their types
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## **Nutrition in plants and animals**

- Different components of food
- Deficiency diseases
- Balanced diet
- Nutrition in plants
- Photosynthesis
- Types of nutrition
- Food chain and food web

## **Transport of food and minerals in plants**

- Absorption of water by roots
- Conducting tissue
- Transpiration
- Guttation
- Transport of food and other substances
- Importance of minerals

## **Reproduction in plants and animals**

- Modes of reproduction
- Asexual reproduction in plants and animals
- Sexual reproduction in plants and human beings
- Tissue culture

## **Human body**

- Nervous system
  - Neuron
  - Human brain
  - Reflex action and reflex arc
  - Endocrine system
  - Circulatory system
  - Blood
  - Blood vessels.
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