

Class VII

SCIENCE

## PHYSICS

### Matter

- Composition of matter
- Characteristics of matter
- States of matter
- Properties of solid, liquid and gas
- Molecular model of solid, liquid and gas.
- Change in states of matter

### Physical quantities and measurement

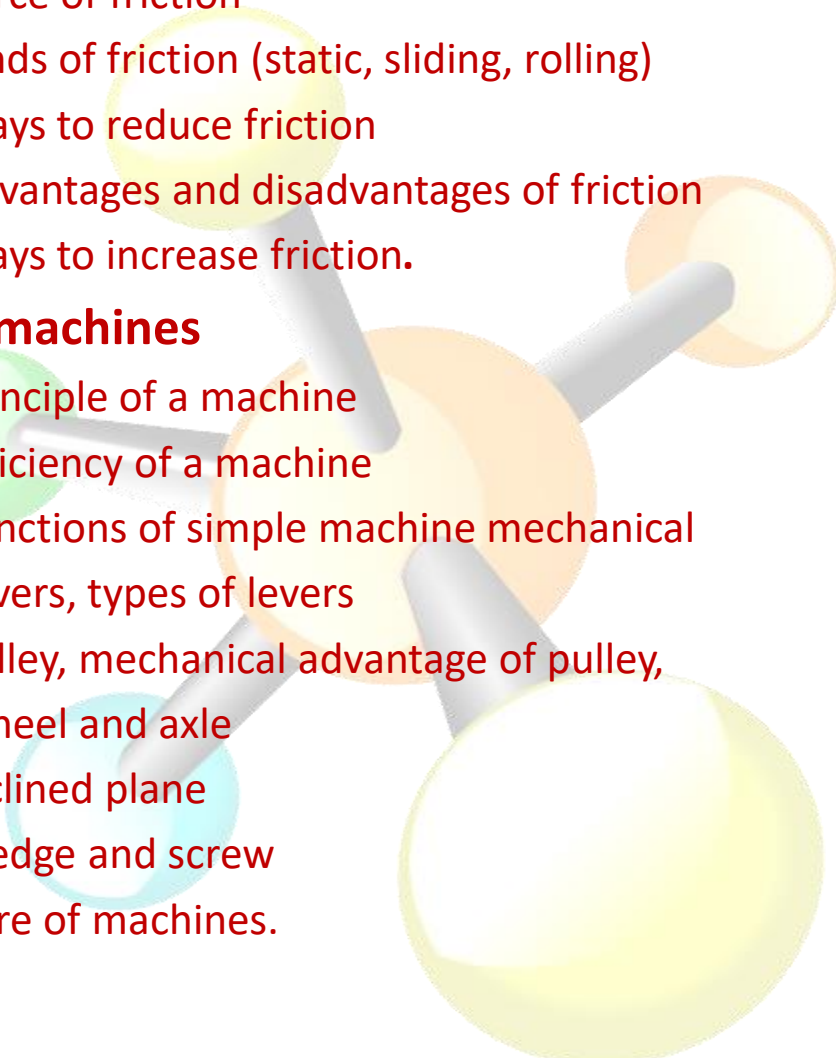
- Measurement and its importance
- Basic physical quantities
- Measurement of length, devices for measuring length
- Measurement of mass, devices for measuring mass
- Measurement of time
- Measurement of temperature
- Measurement of area
- Measurement of volume
- Measurement of regular solids and irregular solids
- Measurement of density.



## Force and motion

- Rest and motion are relative
- Types of motion
- Scalar and vector quantities.
- Speed (measurement of speed)
- Mass and weight.
- Force and effects of force
- Kinds of force (contact and non-contact)
- Force of friction
- Kinds of friction (static, sliding, rolling)
- Ways to reduce friction
- Advantages and disadvantages of friction
- Ways to increase friction.

## Simple machines

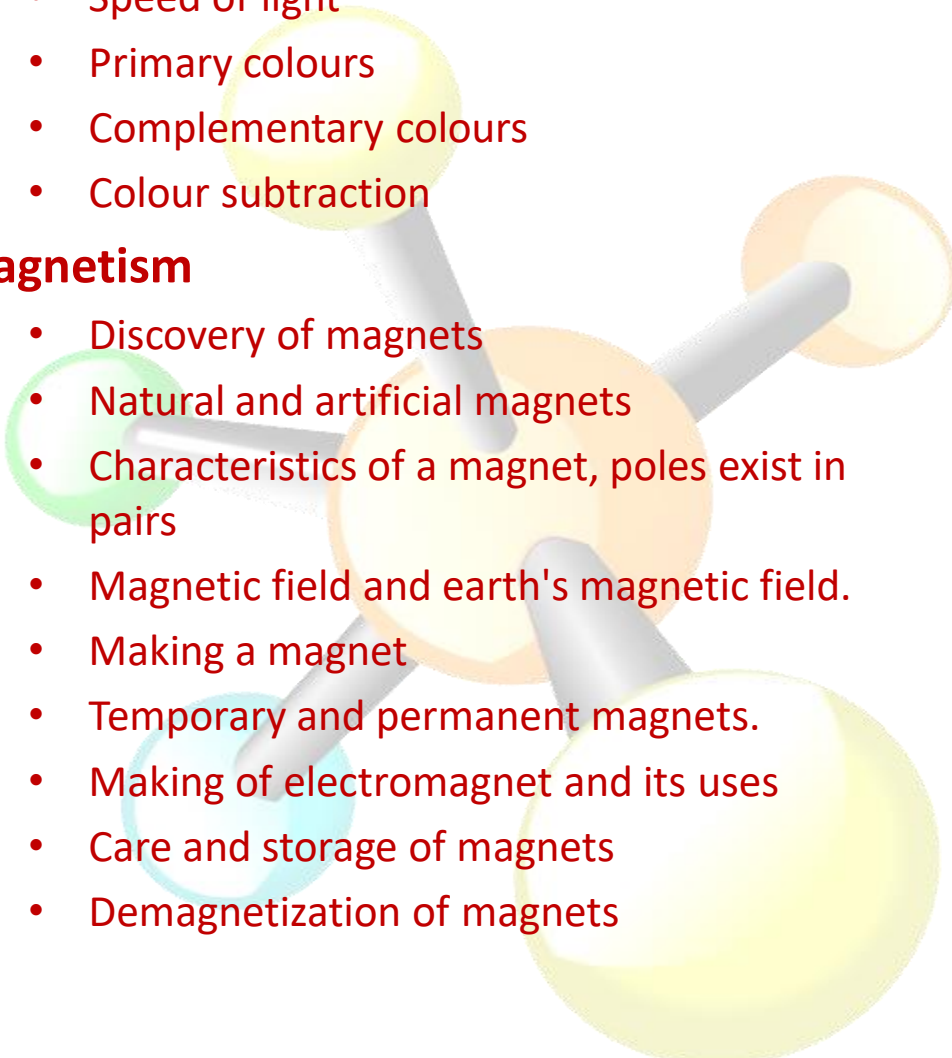
- Principle of a machine
  - Efficiency of a machine
  - Functions of simple machine mechanical
  - Levers, types of levers
  - Pulley, mechanical advantage of pulley,
  - Wheel and axle
  - Inclined plane
  - Wedge and screw
  - Care of machines.
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## Light energy

- Rectilinear propagation of light and its applications
- Shadow (formations of umbra and penumbra)
- Eclipses (lunar eclipse and solar eclipse)
- Reflection
- Laws of reflection
- Image formed by a plane mirror
- Speed of light
- Primary colours
- Complementary colours
- Colour subtraction

## Magnetism

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- Discovery of magnets
  - Natural and artificial magnets
  - Characteristics of a magnet, poles exist in pairs
  - Magnetic field and earth's magnetic field.
  - Making a magnet
  - Temporary and permanent magnets.
  - Making of electromagnet and its uses
  - Care and storage of magnets
  - Demagnetization of magnets



# CHEMISTRY

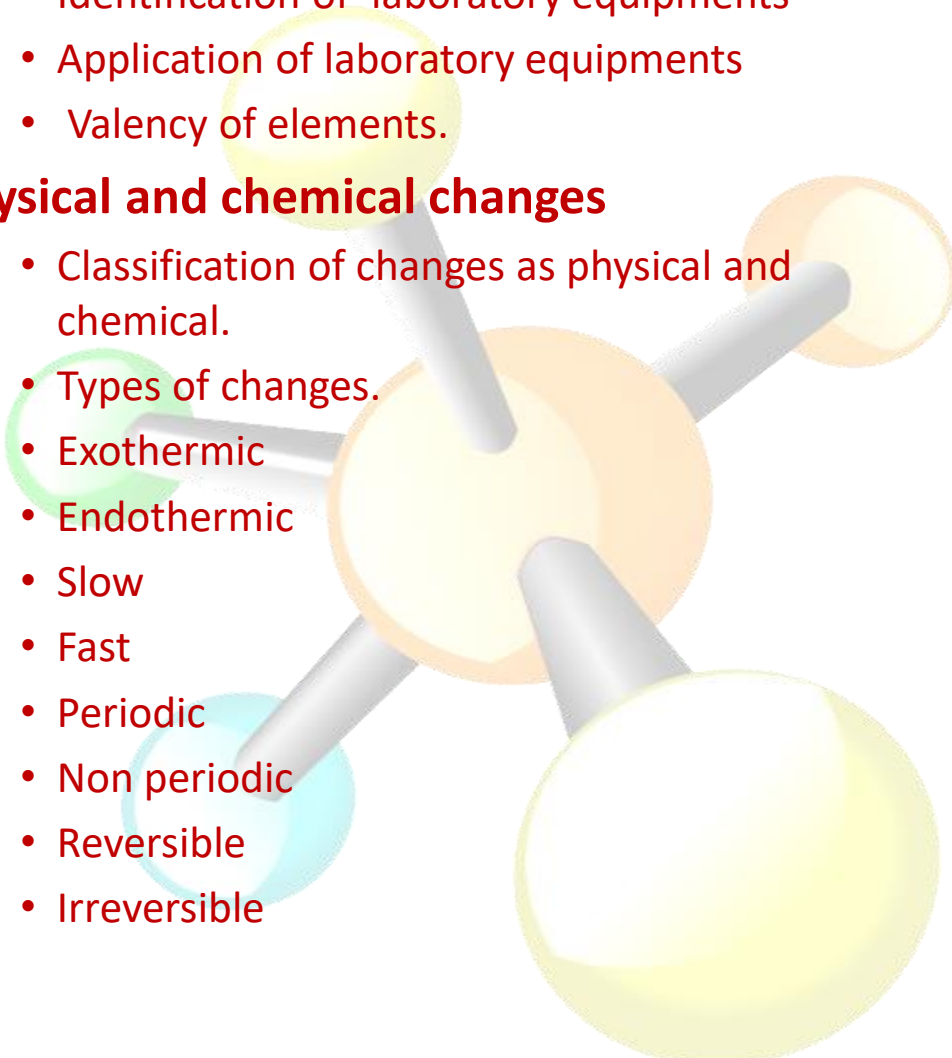
## Language of chemistry

- Scientists and their contribution to chemistry.
- Application of chemistry.
- Harmful effects of chemistry.

## Common lab equipments and apparatus

- Identification of laboratory equipments
- Application of laboratory equipments
- Valency of elements.

## Physical and chemical changes

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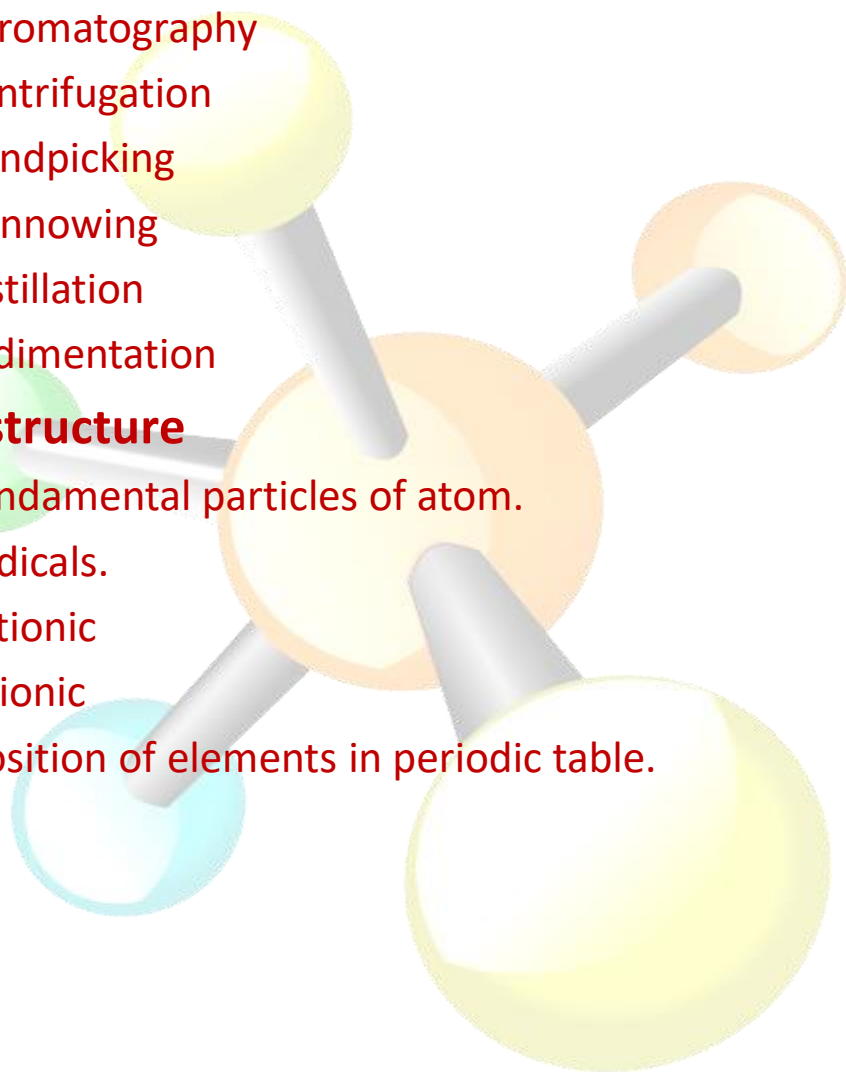


## **Elements ,compounds and mixtures**

- Latin name and common name of elements with symbols.
- Chemical formula of compound.
- Valency.
- Separation of mixtures.
- Crystallization
- Chromatography
- Centrifugation
- Handpicking
- Winnowing
- Distillation
- Sedimentation

## **Atomic structure**

- Fundamental particles of atom.
- Radicals.
- Cationic
- Anionic
- position of elements in periodic table.





# BIOLOGY

## **Classification of animals:**

- Vertebrates.
- Invertebrates

## **Structure and function of plants:**

- Root system
- Shoot system
- Leaves : types and modification
- Flower: parts and their functions
- Pollination and fertilization

## **Five kingdom of classification:**

- Classification system and its need
- Five kingdoms

## **Health:**

- Balanced diet
- Water.
- Personal cleanliness
- First aid, pollution
- How disease spread, steps to avoid infection

## **Environment:**

- Earth
  - The environment
  - Interaction of the components
  - Food chain and web.
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