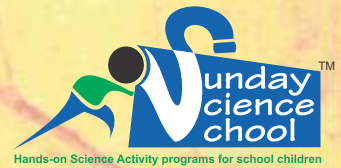


Standard 6

Activities during this year are based more on Physics. Light, magnetism and electricity are at the fulcrum of activities. Students will make a pin-hole camera, make a infinite image based project, do experiments and projects on magnets and electromagnet. Sail boat is included in this year's activities to highlight importance of discoveries.

In food section, we wish students to analyze food articles for fats, proteins and starch. Students will also try out separation techniques through experiments. This year will let students analyze and discover science by applying their brains!



Hands-On Science Activities

601. Sail Boat



- 1 Making of a sail

- 2 Making of a Boat using foam

- 3 Putting sail on boat

Understanding discoveries, working of sail-boat, boats with engines etc., knowing laws of motion, air and its pressure, and why air flows in one direction also to know how sail helps the boat to get proper direction.

602. Hover craft and submarine



- 1 Making simple hovercraft

- 2 Studying properties of air

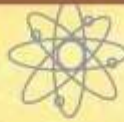
- 3 Making a submarine diver

- 4 Testing buoyancy, density

Hover craft is pushed by force, air reduces friction, air spreads in all direction, compressed air has force, relative density, volume-density relationship, working of submarines, mass and volume, buoyant force, Archimedes principle



Standard 6



603. Study of magnets



- 1 Magnetic / non-magnetic materials
- 2 Attraction - repulsion between poles
- 3 Plotting of Magnetic lines of force
- 4 Compass making, induction

What are magnets, their basic properties, poles, repulsion is the surest test of magnetism, induced magnetism, directive property of magnet, lines of force, magnetic field, plotting of lines etc.

604. Levitating magnets



- 1 Repulsion is a force
- 2 Making of levitating pencil, which levitates and spins

Repulsion between poles has tremendous force, it can act against gravity, what is maglev train?

605. Electricity circuit board



- 1 Study of electrical components
- 2 Preparing board for making different circuits

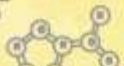
What is electricity? How to make a circuit, what is resistance, switch, source of power, PD, how does a battery / cell work?

606. Making Electrical circuits



- 1 Simple circuits
- 2 Short circuit, use of switch
- 3 Connecting bulbs in series and in parallel
- 4 Connecting cells in series and in parallel

Simple circuit, flow of electrons in short-circuit, using fuse, what are series and parallel circuits?, what is current and charge? Ohm's law, increasing voltage and current



Standard 6



607. Wind Speed and Anemometer



- 1 Making of anemometer
- 2 Estimation of wind velocity
- 3 Calibration of anemometer

What is air? what is wind? How pressure difference occurs? Why to know wind speed? Scale used to know wind speed and its impact what is calibration? why do we need to calibrate instruments?

608. Electric Bell



- 1 Magnetic properties of Electromagnet
- 2 Study of solenoid
- 3 Making of Electric Bell

Electromagnetism is a force created in the magnetic metal due to flow of electrons. Understanding electromagnetic induction, applications of electromagnets, strength of electromagnets etc.

609. Electro chemical cell using lemon



- 1 Lemon as electrolyte
- 2 Making a Zinc-Copper cell using 4-5 lemons
- 3 Glowing LED using the cell

What is electrolyte and non-electrolyte? What are ions?, What is Zinc - Copper cell? Chemical cell, Redox reaction, working of cell and LED.

610. Pin-hole camera

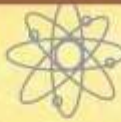


- 1 Study of pin-hole
- 2 Making a simple camera
- 3 Image on screen after applying some amount of oil

Understanding working of lens, light travels in straight line, image formation, working of camera, screen of a camera and similarity with retina etc.



Standard 6



611. Separation techniques



- 1 Mixing oil and water
- 2 Decanting oil to separate oil from water
- 3 Dissolution and evaporation
- 4 Filtration

Concept of solids in water, separating soluble solids, mixtures, solutions etc., miscible and immiscible liquids, their separation, solute, solvent.

612. Infinite street lights



- 1 Infinite images using 2 parallel mirrors
- 2 Electrical circuit of a bulb
- 3 Infinite street lights model

Angle between mirrors will decide number of images. When we make angle between 2 mirrors 0 the mirrors are parallel to each other. We can get infinite images.

613. Dissolution and crystal formation



- 1 Dissolving solids in solvent
- 2 Unsaturated and saturated solutions.
- 3 Making crystals of kitchen compounds, like, salt, sugar and alum
- 4 Making coloured crystals and observation of crystals for their shapes and angles.

Soluble and insoluble compounds, what is solute and solvent?, how to make a saturated solution, what is seed in crystal formation? forming crystals and their observation, evaporation of solution to separate the solute.

614. Test for Fats, Protein, Carbohydrates



- 1 Testing food article for presence of fats
- 2 Testing food article for presence of proteins
- 3 Testing food article for presence of Carbohydrates

We eat different foods. We need sugar, proteins, vitamins and minerals for our growth and health. Testing different foods for presence of fats, proteins and starch (Carbohydrates) is useful to plan balanced diet and improve our health.