

GENERAL SCIENCE SYLLABUS

6th CLASS

1. OUR FOOD

- Different types of food materials
- Food ingredients
- Different sources of food materials. (Plant parts and animals productions)
- People and food habits
- Different methods of preparing food
- Preservation of food

2. PLAYING WITH MAGNETS

- Why pins and metal sticking attached to pin holder and iron almainahs
- Magnets of different shapes. (Bar, ring, Horse shoe, disc)
- Finding materials attracted by magnets
- Separation by using magnets
- Poles of bar magnet
- Finding directions with a bar magnet
- Earth as a magnet
- Know about Magnetic compass make your own compass
- Magnetic attraction and repulsion
- Finding if an object is magnetic or not
- Making your own magnet
- Magnetic induction

3. RAIN - WHERE DOES IT COME FROM

- How we predict about rain
- Water and it's forms
- Formation of clouds - process of evaporation
- Condensation
- How clouds gives rain

- Clouds in kitchen
- Monsoons
- Water cycle

4. WHAT DO ANIMALS EAT

- How animals find food
- Animals and it's food habits (Herbivores, Carnivores, Omnivores)
- From animals finding meal to eating it
- Body parts used in taking food in animals like hen, cow, dog, frog etc.
- Birds have different types of beaks to get different food items in different ways (picking food with beaks)
- Getting food by using tongue (Frog, ...)
- Hunting is a way to get food
- Getting food without hunting (Filtering, sucking)
- Food chain
- Animal colonies and food

5. MATERIAL AND THINGS

- Breakable and non-breakable objects
- Materials used to make different objects
- Objects made from different materials
- Same material is used for different objects
- Properties of materials
- Transparent and opaque objects
- State of the materials
- Classification of materials (Solids, Liquids, Causes)
- Sinking and insoluble substances in water

6. HABITAT

- Habitat is a place where organism live
- Organisms live under ground, on ground, in water, on water
- Pond as habitat
- Organisms that lives in different levels of a pond
- Tree is habitat
- Various levels of tree is suitable to live various organisms
- Our house is a good habitat not only for us but also for different organisms
- Orchard is a wonderful avenue
- Terrestrial, aquatic, desert habitats
- Diversity of habitats in Telugu States
- Good habitat - Good life
- We should never destruct - destroy any habitat

7. SEPARATION OF SUBSTANCES

- Substances - Mixtures
- Components of natural / Man made mixtures
- Methods of separation
- Hand picking
- Winnowing
- Sedimentation
- Decantation
- Sieving
- Filtration
- Crystallization
- Distillation
- Sublimation
- Chromatography
- Using water in separation of materials from the mixture

8. FIBRE TO FABRIC

- Types of fabrics
- Salesman explains something about quality of a fabric to the customers
- We use different types of fabrics in different seasons
- Selection and priority of dress
- Things made up of fabric
- Types of fibres - natural, artificial
- Characteristics of fibres
- Jinning
- Spinning - Making of cotton yarn from cotton fibre
- Weaving
- Power looms and hand looms
- Making jute yarn
- Jute - jute yarn characters
- Mat making

9. PLANTS: PARTS AND FUNCTIONS

- Parts of Plants
- Identification of plants parts
- Roots: Different types of roots, functions of roots
- Absorption of water
- Are all leaves alike?
- Venation
- Types of venation
- Functions of a leaf
- Stomata observation
- Transpiration
- Stem provides support
- Carrying food materials

10. CHANGES AROUND US

- Observation of changes around us
- Changing of milk in to curd
- Comparing milk and curd
- Finding the conditions for making curd
- Changing seasons
- Comparing duration of day in December and May
- Does the sun rise exactly in the east in all seasons?
- Observing the changes in shadow during the winter and summer seasons
- Indicators and causes for change
- Compare the change of milk to curd with change of seasons
- Categorising the changes

11. WATER IN OUR LIFE

- Water and its uses
- Measuring the volume of water
- Quantity of water
- How much water do we use daily?
- Where do we get water from?
- Safe drinking water and it's stages
- Water on the earth
- How the well was dug
- Droughts - water scarcity
- Drought affects our life
- How much water we waste
- Floods - a natural hazard

12. SIMPLE ELECTRIC CIRCUITS

- Cell
- Bulb

- What is a circuit
- A simple electric circuit
- Switch
- Electric switch
- Torch-light
- Identify the conductors and insulators
- The story of bulb

13. LEARNING HOW TO MEASURE

- Measurements in daily life
- Measuring Lengths
- The story of scale
- How do we measure our height
- How to measure length accurately with meter scale
- Precautions while using meter sale
- Measuring the thickness of a thin object
- Measuring the thickness of a coin
- Measuring the length of a curved path
- Measurement of area
- Standard units of area
- Measuring the area of a regular surface
- Measuring of irregular place surface
- Measurement of volume
- Measurement of volume of liquids
- Measuring cylinder
- Measuring of volume of irregular solids using a measuring cylinder

14. MOVEMENTS IN ANIMALS

- Human body and its movement
- Muscles

- Touch your sholder
- Fold and un-fold
- How do muscles work
- Bones
- Jaw bone
- The clavicle
- The ribs
- Backbone
- Pelvic girdle
- Skull
- Flexible bones-cartilage
- Different types of joints
- Your backbone is a spring
- Ball and socket joint
- Hinge joint
- Neck joint
- Fixed joints
- Movements in other animals
- Locomotion in fish
- Locomotion in birds
- Locomotion in snake
- Locomotion in snail

15. LIGHT, SHADOWS AND IMAGES

- How can we see the objects
- Do all objects form shadows?
- Can we guess the object by observing it's shadow?
- Colour of a shadow
- Shape of shadow

- Getting different shapes of shadows of a single
- Making a pinhole camera
- Images with a magnifying lens
- Reflection of light

16. LIVING AND NON-LIVING

- Living things and non living things
- Compare characteristics of living and Non-living things
- Movement in living beings
- Food and living beings
- Growth in living beings
- Grow - Doesn't Grow
- Do all living things breath
- Plant breath
- Do all living things get rid of their waste?
- Living things giving birth to young ones
- Oviparous or viviparous (egg or baby)
- Response to stimulus in plants - Touch-me-not (*Mimosa pudica*)
- Response to light by earthworms
- Seeds - Living or not
- Prepare your own magnifier
- What is a microscope?
- Compound microscope and it's parts
- Bread Mold
- Microscopic organisms
- Bacteria
- Micro organisms in water

GENERAL SCIENCE SYLLABUS

7th CLASS

1. FOOD COMPONENTS

- " Listing out Food Components.
- " Essential components of food
- " Confirmation of presence of Food Components. (Carbohydrates, Fats, Protein conformation tests)
- " Roughages or dietary fibers and its sources.
- " Water
- " Balanced diet
- " Avoid junk food
- " History of food and nutrition.

2. ACIDS AND BASES

- " Listing out food items based on taste.
- " Making of turmeric paper - natural indicator
- " Natural indicators and changes.
- " Litmus tests to know acidic / basic nature of substance.
- " Acidic nature, basic nature
- " Chemical indicators - phenolphthalin, methylorange
- " Acid rains.
- " Neutralization
- " Organic manures.
- " Salts
- " Uses of acids, basics and salts.

3. ANIMAL FIBRE

- " Story of Silk
- " Moth to Egg
- " Cocoon to Fibre - process of reeling
- " Reeling to Weaving
- " Stores of wool
- " Different stages involved in producing fabric from wool. (Shearing, Scouring, Sorting, Mealing, Dying, Carding, Spinning, Rolling of twisting and Knitting of wool).
- " Differences between Silk and Cotton.

4. MOTION AND TIME

- " Identification of motion around us
- " Motion and Rest
- " Relative motion
- " Uniform and Non uniform motions
- " Types of motions (Translatory, Rotary, Oscillatory)
- " Slow and Fast motions
- " Estimating times and its units.
- " Stop clock - measuring time
- " Speed - its units and Calculations

5. HEAT - MEASUREMENTS

- " Seasons and temperature
- " What is temperature?

- " Heat - a form of energy
- " Conversion of Energy
- " Heat and temperature
- " How to measure temperature?
- " Types of thermometers (clinical, MMT, Digital, Laboratory)
- " How to use Thermometer?
- " Expansion of Liquids

6. WEATHER AND CLIMATE

- " Prediction about Weather
- " Understanding Weather Reports
- " Components of Weather
- " Measuring temperature by using MMT
- " Measuring rainfall by using Rain gauge
- " How to know direction of wind?
- " What is humidity?
- " Are weather conditions cyclic during the years?
- " What is climate?
- " Climate and Life style

7. ELECTRICITY - CURRENT AND IT'S EFFECT

- " Make your own cell
- " Dry cell
- " Symbols of Electric components
- " How to draw Circuit diagrams?
- " Series and Parallel circuits
- " Heating effect of electric current

- " Tube light and compact fluorescent lamps
- " Electric fuses
- " Miniature Circuit Breaker (MCB)
- " Electricity in our home - billing

8. AIR, WINDS AND CYCLONES

- " Air and it's influence on our daily life
- " Where do we find air
- " Air exerts pressure
- " Air expands on heating
- " Hot air is lighter than cold air
- " Warm air rises up
- " Effects of moving air
- " Wind - Uneven heating on the earth.
- " How the cyclones are formed?
- " Factors contributing to cyclones
- " Do's and Don'ts during cyclones

9. REFLECTION OF LIGHT

- " How light reflects after striking an object?
- " Observation of light reflection
- " Laws of reflections, regular and irregular reflections
- " Angle of incidence, Angle of reflections
- " Make your own Periscope
- " Mirror images, Virtual images, Real images
- " Make your own Kaleidoscope
- " Convex and Concave mirrors
- " Images with Spherical mirrors

10. NUTRITION IN PLANTS

- " Von Helmont experiment
- " What is photosynthesis?
- " Exchange of air - stomata
- " How plants make their food? (Autotrophic Nutrition)
- " Other modes of Nutrition in plants (Heterotrophic Nutrition)
- " Parasitic plants - Haustoria
- " Insectivorous plants.
- " Saprophytes
- " Symbiosis

11. RESPIRATION IN ORGANISMS

- " Respiration in human beings
- " Counting of beats in a minutes
- " Measuring of chest expansion
- " Measuring of air in each breath
- " Differences between exhaled and inhaled air
- " Discovery of Oxygen and Carbon dioxide
- " Gases in our breath
- " Breathing in other animals - Fish, Frog, Cockroaches, earthworm
- " Respiration in Plants and Sprouted seeds

12. REPRODUCTION IN PLANTS

- " Know more about flower
- " Floral parts - Thalamus, Calyx, Corolla, Androecium, Gynoecium
- " Complete and Incomplete flowers
- " Unisexual and Bisexual flowers

- " Sexual parts of a flower (Pollen grain, ovary)
- " Pollination (Self pollination, Cross pollination)
- " Agents of Pollination
- " Fertilization - Fruit - Seed
- " A Sexual reproduction (Budding, Spores)
- " Vegetative reproduction

13. SEED DISPERSAL

- " Why seeds dispersed?
- " Different kinds of seeds
- " Agents of seed dispersed (Wind, water, birds, animals, bursting of fruits and number beings)
- " Seeds in fruits

14. WATER - TOO LITTLE TO WASTE

- " Source of water on the earth
- " Water is a precious resource
- " Types of impurities in sewage
- " Waste water treatment
- " Diseases caused by untreated water
- " Sewage disposing methods
- " Drainage systems
- " Water conservation

15. SOIL - OUR LIFE

- " Usefulness of soil
- " Soil and life

- " Preparation of soil life chart
- " Soil is a good habitat
- " Properties of the soil
- " Types of soil
- " Moisture of soil
- " Percolation rate of soil
- " Substances present in soil
- " Horizons of soil
- " Soils in our village
- " Soil and crops
- " Soil conservation

16. FOREST - OUR LIFE

- " Know about orchard
- " What is forest?
- " Diversity in forest
- " Types of forests in our state

- " People living in forests
- " Destruction of forests
- " Conservation of forests

17. CHANGES AROUND US

- " Periodical changes.
- " Physical and chemical changes.
- " Changes in ice while heating.
- " Changes caused due to burning
- " Rusting of iron.
- " Galvanization.
- " Browning of cut vegetables and it's prevention.
- " Changes in magnesium ribbon.
- " Chemical changes - reaction of copper sulphate with iron reaction of vinegar with baking soda, burning of camphor.
- " Crystallization - crystallization of urea, copper sulphate.

