



Questions	Key Concepts	Resources	Activities/ Processes
<p><b>1. Food</b></p> <p><b>Sources of food</b></p> <p>What are the various sources of our food? What do other animals eat?</p> <p><b>Components of food</b></p> <p>What is our food made up of? Why do we eat a variety of food?</p> <p><b>Cleaning food</b></p> <p>How do we separate the grains after harvesting the wheat /rice crop?</p>	<p>Plant parts and animal products as sources of food; herbivores, carnivores, omnivores.</p> <p>Carbohydrates, fats, proteins, vitamins, minerals, fibres, their sources and significance for human health; balanced diet; diseases and disabilities due to food deficiencies.</p> <p>Threshing, winnowing, hand picking, sedimentation, filtration.</p>	<p>Examples of food from different parts of plants and of food from animals sources.</p> <p>Mid Day Meal; Charts, pictures/films of children suffering from food deficiencies and disabilities.</p> <p>Talking to some elders about practices after harvesting the crop; kit materials.</p>	<p style="text-align: center;"><b>(Periods - 20)</b></p> <p>Germination of seeds such as mung, chick pea etc.; preparing a chart on food habits of animals and food culture of different regions of India.</p> <p>Studying the variety of food in different regions in India; preparing a menu of balanced diet in the context of the diversity of foods eaten in different parts of the country.</p> <p>Classifying foods according to food components; test for starch, sugars, proteins and fats.</p> <p>Discussion on threshing, winnowing, handpicking; experiments on sedimentation, filtration. Separating mixture of salt and sand.</p>
<p><b>2. Materials</b></p> <p><b>Materials of daily use</b></p> <p>What are our clothes</p>	<p>Different types of cloth</p>	<p>Sharing of prior</p>	<p style="text-align: center;"><b>(Periods - 26)</b></p> <p>Whole class discussion.</p>



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<p>made of? How did people manage when there were no clothes?</p> <p>Are some of our clothes made of materials obtained from plants? In what kinds of places do these plants grow? Which parts of the plants are used for making clothes?</p>	<p>materials – cotton, wool, silk and synthetics.</p> <p>Development of clothing materials.</p> <p>Plant fibre, especially cotton and jute; production of cotton, jute and other locally available plant fibres; types of soil required for the growth of different fibrous plants.</p>	<p>knowledge with parents and community.</p> <p>Archaeological and historical accounts.</p> <p>Sharing of prior knowledge with parents and community.</p>	<p>Simple activities to distinguish among different types of cloth.</p> <p>Whole class discussion.</p> <p>Field survey/ collecting information on locally available plant fibres (coconut, silk cotton, etc.)</p>
<p><b><i>Different kinds of materials</i></b></p> <p>What kinds of things do we see around us?</p>	<p>Grouping things on the basis of common properties.</p>	<p>Materials, kit items.</p>	<p>Collecting and grouping things on the basis of gross properties e.g. roughness, lustre, transparency, solubility, sinking/floating using prior knowledge, through experiments.</p>
<p><b><i>How things change/ react with one another</i></b></p> <p>In what ways do things change on being heated? Do they change back on being cooled? Why does a burning candle get shorter?</p>	<p>Some changes can be reversed and others cannot be reversed.</p>	<p>Prior knowledge, kit items.</p>	<p>Experiments involving heating of air, wax, paper, metal, water to highlight effects like burning, expansion/compression, change of state.</p> <p>Discussion on other changes which cannot be reversed – growing up, opening of a bud,</p>



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How much salt can be dissolved in a cup of water?	Solubility, saturated solutions. Amount of substance dissolving varies with temperature. At the same temperature amounts of different substances that dissolve varies.	Salt, sugar and other common substances, kit items.	ripening of fruit, curdling of milk.  Experiments for testing the solubility of commonly available substances. Experiments on the effect of heating and cooling on solubility. Comparison of solubilities of different substances using non-standard units (eg. spoon, paper cone).
<b>(Periods - 36)</b>			
<b>3. The World of the Living</b>			
<b>Things around us</b>			
Are all things around us living? What is the difference between living and non-living? Are all living things similar? Do all living things move? Where do plants and animals live? Can we grow plants in the dark?	Living/non-living characteristics; habitat; biotic, abiotic (light, temperature, water, air, soil, fire)	Recollection of diversity of living organisms and the habitat where they live.	Listing of things around us, listing of characteristics after making observations say on size, colour, shape etc., categorisation; observations on habitat; observing germination of seeds, also observing under dark conditions; growth and development of domestic animals, hatching of birds' eggs etc., developing drawing skills.
<b>The habitat of the living</b>			
How does habitat affect plants and animals? How	Habitat varies – aquatic, deserts, mountains etc. –	Potted plants or seeds, pots, etc; thermometer,	Listing the diverse set of living organisms around



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<p>do fish live in water?</p> <p><i>Plants - form and function</i></p> <p>What is the structure and function of various parts of the plants - stem, leaf and roots? How do different flowers differ from one another? How does one study flowers?</p> <p><i>Animals - form and function</i></p> <p>What is inside our bodies? How do animals move? Do all animals have bones in their bodies? How do fishes move? And birds fly? What about snakes, snails, earthworms?</p>	<p>plants and animals show adaptation; other plant part modifications like tendrils, thorns etc. Animals in deserts and water.</p> <p>Morphological structure and function of root, stem and leaves. Structure of the flower, differences.</p> <p>Structure and functions of the animal body; Human skeletal system, some other animals e.g. fish, bird, cockroach, snail.</p>	<p>any water plants, any xerophytic plants, Information on desert and aquatic plants and animals.</p> <p>Plants, flowers, blade, hand lens.</p> <p>Observation of nature; model of skeleton, X-rays of arms or legs, chest, hips, jaws, vertebral column (could be given in the textbook).</p>	<p>us; prepare herbarium specimens of different leaves, plants; studying modifications in plants and animals; observing how different environmental factors (water availability, temperature) affect living organisms;</p> <p>Studying plant parts – types of stems, roots, leaves, seeds; experiment to show conduction by stem, activity to show anchorage by roots, absorption by roots. Study of any flower, counting number of parts, names of parts, cutting sections of ovary to observe ovules.</p> <p>Activities to study X-rays, find out the direction in which joints bend, feel the ribs, backbone etc. Observation/ discussion on movement and skeletal system in other animals.</p>



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<p><b>4. Moving Things, People and Ideas</b></p> <p><b><i>Moving</i></b></p> <p>How did people travel from one place to another in earlier times? How did they know how far they had travelled?</p> <p>How do we know that something is moving?</p> <p>How do we know how far it has moved?</p>	<p>Need to measure distance (length). Measurement of length. Motion as change in position with time.</p>	<p>Everyday experience; equipment (scale etc.) to measure length.</p> <p>Stories for developing contexts for measuring distances.</p>	<p>(Periods - 12)</p> <p>Measuring lengths and distances.</p> <p>Observation of different types of moving objects on land, in air, water and space.</p> <p>Identification and discrimination of various types of motion. Demonstrating objects having more than one type of movement (screw motion, bicycle wheel, fan, top etc.)</p> <p>Observing the periodic motion in hands of a clock / watch, sun, moon, earth.</p>
<p><b>5. How things work</b></p> <p><b><i>Electric current and circuits</i></b></p> <p>How does a torch work?</p> <p>Do all materials allow current to flow through them?</p>	<p>Electric current: Electric circuit (current flows only when a cell and other components are connected in an unbroken loop)</p> <p>Conductor, Insulator.</p>	<p>Torch: cell, bulb or led, wires, key.</p> <p>Mica, paper, rubber, plastic, wood, glass metal clip, water, pencil (graphite), etc.</p>	<p>(Periods - 28)</p> <p>Activity using a bulb, cell and key and connecting wire to show flow of current and identify closed and open circuits. Making a switch. Opening up a dry cell.</p> <p>Experiment to show that some objects (conductors) allow current to flow and others (insulators) do not.</p>





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<p><b>Magnets</b></p> <p>What is a magnet?</p>	Magnet.	Magnet, iron pieces.	Demonstrating how things are attracted by a magnet. Classification of objects into magnetic/non-magnetic classes.
Where on a magnet do things stick?	Poles of a magnet.	Magnet, iron pieces, iron filings, paper.	Activity to locate poles of a magnet; activity with iron filings and paper.
How is a magnet used to find direction?	A freely suspended magnet always aligns in a particular direction. North and South poles.	Bar magnet, stand, thread, compass.	Activities with suspended bar magnet and with compass needle.
How do two magnets behave when brought close to each other?	Like poles repel and unlike poles attract each other.	Two bar magnets, thread, stand.	Activities to show that like poles repel and unlike poles attract.
<p><b>6. Natural Phenomena</b></p> <p><b>Rain, thunder and lightning</b></p>			
Where does rain come from? How do clouds form?	Evaporation and condensation, water in different states. Water cycle.	Everyday experience; kit items.	Condensation on outside of a glass containing cold water; activity of boiling water and condensation of steam on a spoon. Simple model of water cycle. Discussion on three states of water.
<p><b>Light</b></p> <p>Which are the things we can see through?</p>	Classification of various materials in terms of transparent, translucent and opaque.	Previous experience, candle/torch/lamp, white paper, cardboard box, black paper.	<p style="text-align: right;"><b>(Periods - 26)</b></p> <p>Discussion, observation; looking across different materials at a source of light.</p>

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When are shadows formed? Do you get a shadow at night – when there is no light in the room, no moonlight or other source of light? What colour is a shadow?	A shadow is formed only when there is a source of light and an opaque material obstructs a source of light. A shadow is black irrespective of the colour of the object.	Child's own experience, candle/torch/lamp, white paper, black paper, coloured objects.	Discussion; observing shadow formation of various objects of different shapes, and of same shape and different colours; playing and forming shadows with the hands in sunlight, in candle light, and in a well lit region during daytime; making a pinhole camera and observing static and moving objects.
On what kinds of surfaces can we see images?	Reflecting surfaces; images are different from shadows.	Experience, objects with polished surfaces, mirror etc.	Observing differences between the image and the shadow of the same object.
<b>7. Natural Resources</b>			
<b>Importance of water</b>			
What will happen to soil, people, domestic animals, rivers, ponds and plants and animals if it does not rain this year?	Importance of water, dependence of the living on water. Droughts and floods.	Experience, newspaper reports.	Estimation of water used by a family in one day, one month, one year. Difference between need and availability. Discussion.
What will happen to soil, people, domestic animals, plants and animals living in rivers and ponds, if it rains heavily?			Activity: plant growth in normal, deficient and excess water conditions.
<b>Importance of air</b>			
Why do earthworms come out of the soil when it rains?	Some animals and plants live in water; some live on land and some live in	Experience.	Discussion.







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	upper layers of soil; but all need air to breath/to respire.		



<p><b>Waste</b></p> <p>Do you throw away fruit and vegetable peels and cuttings? Can these be re-used? If we dump them anywhere, will it harm the surroundings? What if we throw them in plastic bags?</p>	<p>Waste; recycling of waste products; things that rot and things that don't. Rotting is supported by animals/animal and plant products.</p>	<p>Observation and experience.</p>	<p>Survey of solid waste generation by households; estimation of waste accumulated (by a house/village/colony etc.) in a day, in a year; discussion on 'what is waste'; Activity to show that materials rot in soil, this is affected by wrapping in plastics.</p>
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