

## Class 6

Section I
<b>Suggested pedagogical process</b>
<b>The learner is to be provided with opportunities in pairs /groups / individually in an inclusive setup and encouraged to—</b>
Explore surroundings, natural processes, phenomena using senses viz. Seeing, touching, tasting, smelling, hearing
Pose questions and find answers through reflection, discussion, designing and performing appropriate activities, role plays, debates, use of ICT, etc.
Record the observations during the activity, experiments, surveys, field trips, etc.
Analyse recorded data, interpret results and draw inference / make generalisations and share findings with peers and adults
Exhibit creativity presenting novel ideas, new designs /patterns, improvisation, etc.
Internalise, acquire and appreciate values such as cooperation, collaboration, honest reporting, judicious use of resources, etc.

Section II	
Learning Outcomes of NCERT	Measuring the LOs
<b>The Learners</b>	
Identifies materials and organisms, such as, plant fibres, flowers, on the basis of observable features, i.e., appearance, texture, function, aroma, etc.	<b>Examines observable features, i.e., appearance, texture, function, aroma, etc. in order to identify materials and organisms</b>
Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions	<b>Examines and explains properties, structure and functions of materials and organisms, in order to differentiate them</b>
Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.	<b>Uses observable properties, in order to classify materials, organisms and processes</b>
Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?	<b>Conducts simple investigations on his /her own in order to seek answers to queries</b>

Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.	<b>Examines and explains processes and phenomenon in order to relate them with causes</b>
Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.	<b>Explains processes and phenomena in order to relate to science behind the phenomena /processes and develop scientific thinking skills.</b>
Measures physical quantities and expresses in SI units, e.g., length	<b>Measures physical quantities in order to express the measurement in SI units,</b>
Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.	<b>Draws labelled diagrams /flow charts of organisms and processes in order to demonstrate knowledge of structure /processes /relationships.</b>
Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.	<b>Constructs models using materials from surroundings and explains their working in order to demonstrate scientific knowledge and understanding of how it works</b>
Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.	<b>Applies learning of scientific concepts in daily life /real life situations in order to solve problems /give solutions /take preventive measures /etc.</b>
Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.	<b>Makes efforts to apply to daily life the understanding of environment and steps to conserve it, in order to contribute to the protection of the environment:</b>
Exhibits creativity in designing, planning, making use of available resources, etc.	<b>Designs, plans, makes use of available resources, etc. in order to exhibit creativity.</b>
Exhibits values of honesty, objectivity, cooperation, freedom from fear and prejudices.	<b>Designs, plans, makes use of available resources, etc.in order to exhibit values of honesty, objectivity, cooperation, freedom from fear and prejudices.</b>

**Section III****LEARNING OBJECTIVES MAPPED WITH LEARNING OUTCOMES ADAPTED BY CBSE**

Chapter no	Learning Objectives	Learning Outcomes
<b>1) Food: Where does it come from?</b>	Analyze the food items in order to Identify the ingredients used in different food items.	Identifies materials and organisms, such as, plant fibres, flowers, on the basis of observable features, i.e., appearance, texture, function, aroma, etc.
	Identify the sources of ingredients which are used to prepare food items.	
	Observe different food ingredients in order to recognize if their origin is from the part of the plant and recognize the respective part	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.
	List the animal products in order to understand how we depend on them for our food.	
	Categorize organisms into Herbivores, carnivores & omnivores based on their food habits or nutrition	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.

Chapter no	Learning Objectives	Learning Outcomes
<b>2) Components of food</b>	Improvise an activity to test the nutrients present in the given food items & critique their utility in adequate, inadequate & excess proportions.	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Explain the function of each nutrients in order to discuss the importance of nutrients in good health.	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Hypothesize consequences of eliminating any one major nutrients in order to make a healthy food choice.	

	Design a balance diet plan in order to provide body sufficient nutrients it need to function properly.	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
	Improvise an activity to test the nutrients present in the given food items & critique their utility in adequate, inadequate & excess proportions.	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.

Chapter no.	Learning Objectives	Learning Outcomes
<b>3) Fibre to Fabric</b>	Examine various fabrics in order to predict what they are made up of.	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Classify the given fabrics as Natural or Synthetic based on their source.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Describe the processing of cotton and jute fibres into yarn in order to conclude the required conditions to grow them.	
	Explain the various processes of making yarn from fibres in order to create the fabric.	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Outline the history of textile industry in our country	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.

Chapter no	Learning Objectives	Learning Outcomes
<b>4) Sorting materials into groups</b>	List the objects around us in order to analyse the materials they are made up of.	Identifies materials and organisms, such as, plant fibres, flowers, on the basis of observable features, i.e., appearance, texture, function, aroma, etc.
	Observe the appearance of the materials in order to differentiate them as lustre and non-lustre material.	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Plan and conduct an investigation in order to classify different kinds of materials by their observable properties.	
	Examine the materials by compressing or scratching them in order to categorize them as hard and soft material.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Observe the change in the shape of object added to water in order to categorize them as soluble and insoluble materials.	
	Plan and conduct an investigation for various objects to classify them based on whether the object sink or float in water	
	See through the objects in order to classify them into opaque, transparent and translucent.	
	Plan and conduct an investigation in order to classify different kinds of materials by their observable properties.	
	Plan and conduct an investigation for various objects to classify them based on whether the object sink or float in water	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?

Chapter no	Learning Objectives	Learning Outcomes
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<b>5) Separation of substances</b>	Identify properties of given items and select a property that would help them easily separate the items from each other.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Arrives at logical conclusion that certain specific methods can be employed to separate solid mixtures based on the size, colour or weight of the components	
	Examine the solubility of salt in water in certain conditions in order differentiate the solution as saturated and unsaturated.	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Outlines methods that can be adapted in everyday life situations such as separation of husk from grains, separation of fine sand from coarse sand	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Carries out some of the improvised procedures of separation of insoluble solids from liquids in a given situation	
	Explains how multiple processes can be employed when the mixture has a soluble and insoluble component	
	Outlines methods that can be adapted in everyday life situations such as separation of husk from grains, separation of fine sand from coarse sand	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
	Arrives at logical conclusion that certain specific methods can be employed to separate solid mixtures based on the size, colour or weight of the components	

Chapter no	Learning Objectives	Learning Outcomes
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<b>6) Changes around us</b>	Classifies these changes based on interpretations into reversible and irreversible changes	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Organizes the observation to make generalizations about various changes	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Illustrates with examples of changes to find out the factors that can bring about specific changes	
	Checks the effect of various factors on materials with the help of simple activities	

<b>Chapter no</b>	<b>Learning Objectives</b>	<b>Learning Outcomes</b>
<b>7) Getting to know plants</b>	Compare the roots of different plants in order to classify them into tap roots and fibrous roots.	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Compare the features of Herbs, Shrubs & Trees in order to classify them considering their physical features / appearance	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Analyze the parts of a plant and their function to in order to classify them into root and shoot system	
	List the characteristics of plants with weak stems in order to classify them into creepers and climbers.	
	Recognize patterns on leaves of different plants in order to classify them into reticulate venation and parallel venation.	
	Compare the roots of different plants in order to classify them into tap roots and fibrous roots.	

	Examine the stems of different plants and design an activity to demonstrate water conduction through stem (from roots).	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Deduce the relation between leaf venation and the types of roots in a plant in order to identify the types of roots without pulling it out.	
	Examine the stems of different plants and design an activity to demonstrate water conduction through stem (from roots).	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Demonstrate the process of transpiration in order to describe the functions of the leaf.	
	Explain the process of photosynthesis in order to describe the functions of the leaf.	
	Outline / list the functions of root in the plant with the help activities.	
	Apply knowledge of parts of plants to decipher features of plants / specimens provided	Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.
	Identify the different parts of the leaf in order to draw a labelled diagram.	
	Recognize patterns on leaves of different plants in order to classify them into reticulate venation and parallel venation.	
	Compare the roots of different plants in order to classify them into tap roots and fibrous roots.	
	Illustrate the structure of a (typical) flower with at least 6 labelling & elaborate on each (Labelling)	
	Examine the stems of different plants and design an activity to demonstrate water conduction through stem (from roots).	Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.



	Apply knowledge of parts of plants to decipher features of plants / specimens provided	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
	Outline / list the functions of root in the plant with the help activities.	

Chapter no	Learning Objectives	Learning Outcomes
<b>8) Body movements</b>	Identify the type of joints in human body & their extent of movement /motion	Identifies materials and organisms, such as, plant fibres, flowers, on the basis of observable features, i.e., appearance, texture, function, aroma, etc.
	Predict the classes that different organisms belong based on their movement	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Compare the characteristics features of body movements of various organisms	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Predict the possible reasons for animals showing different gaits	
	Compare and contrast between bones in different parts of human body	Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.
	Identify the structure and function of skeletal system.	
	Demonstrate how muscles work in order to explain its functions,	Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.

Chapter no	Learning Objectives	Learning Outcomes
<b>9)The living organisms- Characteristics and habitats</b>	Differentiate between the terrestrial & aquatic habitats based on their abiotic factors.	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Summarize the key features of living organisms that contribute to their survival in their habitats	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Devise an experiment to show the importance of abiotic factors for the growth & sustenance of life on earth	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Summarize the key features of living organisms that contribute to their survival in their habitats	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Infer reasons for effects produced on inhabitants, as an extension of their features meant for survival in their habitats	
	Critique the idea that the absence of any one feature characteristic of a habitat, might not affect the balance of the habitat	
	Structure evidence of features contributing towards diversity of life within a single habitat, into one note, taking into consideration specific habitats	

	Apply knowledge of life processes in studying a specimen for signs of life	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
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Chapter no	Learning Objectives	Learning Outcomes
<b>10) Motion and measurement of distances</b>	Compare the measurement of length for an object using a scientific instrument and an unscientific instrument in order to differentiate between standard and non-standard units of measurement	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Distinguish between rest and motion in order to classify objects as in motion or at rest.	
	Distinguish between rest and motion in order to classify objects as in motion or at rest.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Check out the procedures to find the errors associated with finding measurements using standard measurement devices	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed?

<b>10) Motion and measurement of distances</b>		Does a freely suspended magnet align in a particular direction?
	Hypothesize reasons for utilisation /usage of Standard units of measurement	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Explain the distortion in the size of continents when represented on a world map in order to explain the effect of projection from a 3D shape to a 2D plane	
	Find out the similarities and differences between the two objects based on the types of motion	
	Construct a device by choosing appropriate materials in-order to measure length of given objects	Measures physical quantities and expresses in SI units, e.g., length
	Summarize the rules associated with the measurement of length.	
	Check out the procedures to find the errors associated with finding measurements using standard measurement devices	
	Compare the measurement of length for an object using a scientific instrument and an unscientific instrument in order to differentiate between standard and non-standard units of measurement	
	Apply scientific inquiry to measure the length of an object in order to approximate the length of a curved line	
	Sequence different modes of transport from earliest to the most recent in order to suggest possible modification required in current scenario.	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
Sequence different modes of transport from earliest to the most recent in order to suggest possible modification required in current scenario.	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.	

Chapter no	Learning Objectives	Learning Outcomes
<b>11) Light, shadows and reflections</b>	Distinguishes objects based on the following features- emission of light by them and visibility through them.	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Distinguish between shadows & reflections.	
	Concludes that there should be a source of light, opaque object and a surface for shadows to form.	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Summarizes the characteristics of image formed by a pinhole camera	
	Makes conclusion about the nature of reflection shown by a plane mirror.	
	Represents working of a pinhole camera diagrammatically	Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.
	Makes conclusion about the nature of reflection shown by a plane mirror.	
Evaluates criteria for formation of shadows and makes judgment about situations like, shadow of an airplane flying at a higher altitude and shadow of a bird flying nearer to the ground,	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.	

Chapter no	Learning Objectives	Learning Outcomes
12) Electricity and circuits	Distinguish between complete and incomplete circuit with a well labelled figure	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Test items to classify them as conductor and insulator in order to examine the role of conductors and insulators in day-to-day life.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble,

		insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
Analyze the flow of current in a simple electric circuit with battery, bulb and wires to identify necessary condition to ensure flow of current.		Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
Describe the structure and function of the electric cell		Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
Distinguish between complete and incomplete circuit with a well labelled figure		Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.
Analyze the flow of current in a simple electric circuit with battery, bulb and wires to identify necessary condition to ensure flow of current.		Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.
Make a simple working model of an electric switch with easily available materials		
Infer why metals like copper and aluminium are used for making wires for domestic & industrial purposes		Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
Infer why metals like copper and aluminium are used for making wires for domestic & industrial purposes		Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and

		generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.
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Chapter no	Learning Objectives	Learning Outcomes
<b>13) Fun with magnets</b>	Classify the given substances as magnetic & nonmagnetic based on their ability to be attracted by magnets along with examples.	Classifies materials, organisms and processes based on observable properties, e.g., materials as soluble, insoluble, transparent, translucent and opaque; changes as can be reversed and cannot be reversed; plants as herbs, shrubs, trees, creeper, climbers; components of habitat as biotic and abiotic; motion as rectilinear, circular, periodic etc.
	Outline the events responsible for the discovery of natural magnets.	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Suggest an activity to determine the poles of a magnet	
	Analyze what happens when two magnets are placed together in order to conclude the property of magnet.	Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.
	Create a direction finder in order to find the direction.	
	Make a magnet in order to demonstrate how artificial magnets can be created.	
	Create a direction finder in order to find the direction.	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.

Chapter no	Learning Objectives	Learning Outcomes
<b>14) Water</b>	List down all the sources of water in order to conclude the major source of water.	Identifies materials and organisms, such as, plant fibres, flowers, on the basis of observable features, i.e., appearance, texture, function, aroma, etc.

Attribute the natural calamities like drought & floods to disturbance in water cycle	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
Predict what will happen if rain doesn't happen in order to explain the significance of rain.	
Argue the important role played by trees /plants in water cycle	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
Create a model of the water cycle in order to explain the processes that take place during water cycle.	Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.
Create a model of the water cycle in order to explain the processes that take place during water cycle.	Constructs models using materials from surroundings and explains their working, e.g., pinhole camera, periscope, electric torch, etc.
Compute the amount of water required per person annually	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
Attribute the natural calamities like drought & floods to disturbance in water cycle	
Infer the problems may arise due to heavy rainfall in order to suggest possible measures that can be taken.	
Predict what will happen if rain doesn't happen in order to explain the significance of rain.	
Evaluate the consequences of mismanagement of water or excessive usage of ground water.	
Infer the problems may arise due to heavy rainfall in order to suggest possible measures that can be taken.	
Evaluate the consequences of mismanagement of water or excessive usage of ground water.	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.



	Devise the possible strategies for individual / community level Rain water Harvesting techniques.	
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Chapter no	Learning Objectives	Learning Outcomes
<b>15) Air around us</b>	Conduct experiments in order to prove the presence of air around us.	Conducts simple investigations to seek answers to queries, e.g., what are the food nutrients present in animal fodder? Can all physical changes be reversed? Does a freely suspended magnet align in a particular direction?
	Execute an improvised plan to test the presence of CO <sub>2</sub> , oxygen, water vapour, nitrogen, dust and smoke in air.	
	Prove the presence of air in water and soil in order to explain how oxygen becomes available to animals and plants.	
	Outline the causes & effects of Air pollution	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Prove the presence of air in water and soil in order to explain how oxygen becomes available to animals and plants.	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Depict the composition of air using pie chart	Draws labelled diagrams / flow charts of organisms and processes, e.g., parts of flowers; joints; filtration; water cycle, etc.
	Illustrate Oxygen cycle using well labelled figure	
	Critique the importance of air for the sustenance of life on earth	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
Critique the importance of air for the sustenance of life on earth	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and	

		generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.
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Chapter no	Learning Objectives	Learning Outcomes
<b>16) Garbage in, Garbage out</b>	Compare distinguishing features between compostable waste and non-compostable waste, in connection with properties of the end product	Differentiates materials and organisms, such as, fibre and yarn; tap and fibrous roots; electrical conductors and insulators; on the basis of their properties, structure and functions
	Hypothesize on the reasons for layering the composting pit with different types of materials	Relates processes and phenomenon with causes, e.g., deficiency diseases with diet; adaptations of animals and plants with their habitats; quality of air with pollutants, etc.
	Infer reasons for success or failure of vermicomposting, considering steps involved and resultant products, etc.	
	Infer reasons for success or failure of vermicomposting, considering steps involved and resultant products, etc.	Explains processes and phenomenon, e.g., processing of plant fibres; movements in plants and animals; formation of shadows; reflection of light from plane mirror; variations in composition of air; preparation of vermicompost, etc.
	Discuss the waste management system in your community in order to explain the process of garbage disposal by 'Safai Karamcharis'.	Applies learning of scientific concepts in day-to-day life, e.g., selecting food items for a balanced diet; separating materials; selecting season appropriate fabrics; using compass needle for finding directions; suggesting ways to cope with heavy rain / drought, etc.
	Investigate their own trash consumption in order to formulate alternatives to offset trash production in their household.	Makes efforts to protect environment, e.g., minimising wastage of food, water, electricity and generation of waste; spreading awareness to adopt rain water harvesting; care for plants, etc.
	Design a method to ensure effective disposal of garbage, in connection with knowledge of different types of wastes, their properties, etc.	

	Outline possible means of dealing with a specific type of waste (Plastics), in connection with composting, reuse, recycle, reduce etc	Exhibits creativity in designing, planning, making use of available resources, etc.
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