

Class 5

Section I
Pedagogical processes suggested by NCERT
The learners may be provided opportunities in pairs /groups / individually and encouraged to
Observe and explore the animals for the unique and unusual sense of sight, smell, hear, sleep, and their response to light, heat, sound etc.
Explore the sources of water in their neighbourhood, and how fruit, vegetables, grains, water, reach their home and kind of processes /techniques employed to convert grain to flour and flour to <i>roti</i> , purification of water etc.
Share experiences and discuss about the information collected or places visited with peers, teachers and elders
Prepare guide routes to reach from one place to another
Collect information from pictures / elders / books / newspapers / magazines /web resources / museums etc. About animals which have very sharp sense of hearing, smell and vision, different landforms such as plain area, hilly area, deserts, etc. And the varieties of flora-fauna, lives of people in such places
Discuss with teachers and elders and use pictures, paintings, visit museums and collect information related to the lives for food, shelter, availability of water, means of livelihood, practices, customs, techniques, of different regions and different time periods
Visit petrol pumps, nature centres, science parks, water treatment plant, bank, health centre, wildlife sanctuaries, cooperative, monument, museum and if possible, far off places with different landforms, lifestyles and livelihoods, etc. To observe and interact with people living there and share experiences in different ways
Observe and share experiences for different phenomena such as how water evaporates, condenses, and dissolves different substances under different conditions, and how food gets spoilt, how seeds germinate and the direction in which roots, shoot grow and conduct simple experiments and activities to find out the same
Conduct activities and simple experiments to check the properties / features of different objects / seeds / water /waste materials, etc.
Observe, explore surroundings and critically think how seeds reach from one place to another, how the plants and trees grow at places where no one plants them e.g., forests, who waters them and who owns them
Visit the night shelters, people living in camps, old age homes, in surroundings and interact with old and /or differently abled and who change their means of earning to find out where do people belong to and why they left their places, where their ancestors had been living for ages, migration of people and debate on various such issues in the surroundings
Enquire from parents, teachers, peers and elders at home /community to critically think and discuss to reflect on experiences of children related to situations at home, school, neighbourhood
Discuss freely with peers, teachers and elders about the biases, prejudices, and stereotypes by providing counter examples to one another

Visit departments / bodies in the surroundings e.g., bank, jal board, and hospital and disaster management body and interact with related people and interpret different documents related to them
Watch videos on different types of landforms and the variety of life forms found in such places, different institutions which cater to the need of societies, behaviour of animals, water scarcity, etc. Followed by meaningful discussions and debates on occupations that derive from the peculiar geographical characteristics of different regions
Perform simple activities, record the observations in the form of table / sketch / bar graph / pie chart / oral / written form, etc. Interpret and present their findings
Discuss issues of living beings (plants and animals) as rightful inhabitants of earth, animal rights and ethical treatment to animals
Share experiences of people who work selflessly for common good and what motivates them
Participate actively and undertake initiatives of care, share empathy, leadership by working together in groups e.g., in different indoor /outdoor /local /contemporary activities, games, dance, fine art, carry out projects /role play for taking care of a plant(s), feed birds /animals, things / elderly /differently abled around them
Conduct mock drills for emergency and disaster preparedness.

Section II	
Learning Outcomes of NCERT	Measuring the LOs
The learner —	
Explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) Of animals and their responses to light, sound, food etc.	Explains the unique super senses and unusual features of animals and their responses to light, sound, food etc.
Explains the use of technology and the process of accessing basic needs (food, water etc.) In our daily life. (e.g., farm produce to kitchen; grains to <i>roti</i> , preservation techniques, storage and tracking of water source)	Explains the use of technology and the process of accessing basic needs (food, water etc.) in our daily life. (
Describes the interdependence among animals, plants and humans. (e.g., communities earning livelihood from animals, dispersal of seeds etc.)	Describes the interdependence among animals, plants and humans.
Explains the role and functions of different institutions in daily life. (bank, panchayat, cooperatives, police station, etc.)	Explores and explains the role and functions of different institutions in daily life.
Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life. (e.g, life in distant /difficult areas like hot /cold deserts)	Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life.
Groups objects, materials, activities for features and properties such as- shape, taste, colour, texture, sound, traits etc.	Groups objects, materials, activities for features and properties such as- shape, taste, colour, texture, sound, traits etc.

Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museum etc. And interacting with elders. (e.g., cultivation, conservation, festivals, clothes, transport, materials or tools, occupations, buildings and houses, practices activities like cooking, eating, working)	Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museum etc. and interacting with elders.
Guesses (properties, conditions of phenomena), estimates spatial quantities (distance, area, volume, weight etc.) And time in simple standard units and verifies using simple tools /set ups. (e.g., floating / sinking / mixing /evaporation /germination /spoilage /breathing /taste)	Guesses (properties, conditions of phenomena), estimates spatial quantities (distance, area, volume, weight etc.) and time, in simple standard units, and verifies using simple tools /set ups.
	Observes and shares experiences for different phenomena and conducts simple experiments and activities to find out more about the same.
Records observations and experiences; information in an organised manner (e.g., in tables / sketches / bar graphs / pie charts) and predicts patterns in activities / phenomena (e.g., floating, sinking, mixing, evaporation, germination, spoilage) to establish relation between cause and effect.	Uses tables /sketches /bar graphs /pie charts to record and interpret observations, experiences and information in an organised manner and predicts patterns in activities / phenomena to establish relation between cause and effect.
Identifies signs, directions, location of different objects /landmarks of a locality / place visited in maps and predicts directions in context of positions at different places for a location	Identifies signs, directions, location of different objects /landmarks of a locality /place visited in maps, and predicts directions in context of positions at different places for a location
Creates posters, designs, models , set ups, local dishes, sketches, maps (of neighbourhood / different places visited) using a variety of local /waste material and writes poems / slogans /travelogue etc.	Creates posters, designs, models, set ups, local dishes, sketches, maps (of neighbourhood /different places visited) using a variety of local /waste material and writes poems / slogans /travelogues etc. in in order to demonstrate creativity and reflection skills.
Voices opinions on issues observed / experienced and relates practices / happenings to larger issues of society. (e.g., discrimination for access /ownership of resources, migration / displacement / exclusion, child rights)	Voices opinions on issues observed /experienced and relates practices /happenings to larger issues of society.
Suggests ways for hygiene, health, managing waste, disaster /emergency situations and protecting /saving resources (land, fuels, forests, etc.) And shows sensitivity for the disadvantaged /deprived.	Suggests ways for hygiene, sanitation, health, managing waste, disaster /emergency situations and protecting /saving resources (land, fuels, forests, etc.) and shows sensitivity for the disadvantaged /deprived.

	Participates in different group activities - (indoor /outdoor /local /contemporary activities, games, dance, fine art), and carries out projects /role play for taking care of a plant(s), feed birds /animals, things / elderly /differently-abled to demonstrate initiatives of care, share empathy, leadership, etc.
--	---

Section III**MAPPING OF GRADE 5 ENVIRONMENTAL EDUCATION TOPICS WITH LEARNING OUTCOMES ADAPTED BY CBSE**

Chapter 1	Topic	Learning Objectives	Learning Outcome
Super senses	Sense organs of different animals.	Identify sense organs of different animals like ants, bees, birds, snakes, dogs, tigers etc.	Explains the unique super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc.
		Know about the special senses of different animals and the functions enabled through them	
		Compare the vision of birds and animals with human beings	
		Identify various ways birds and animals communicate	
		Relate the importance of special sounds made by various animals	
	Sleeping & waking patterns of animals.	Compare the sleeping and waking pattern of some animals	Describes the interdependence among animals, plants and humans.
	Protection of animals	Identify various threats to animals	
Name some national parks and sanctuaries			
Chapter 2	Topic	Learning Objectives	Learning Outcome
A Snake Charmer's Story	Life Style of Kalbeliyas	Describe the life style of people of Kalbeliya tribe	Describes the interdependence among animals, plants and humans.
		Suggest possible works/occupations for Kalbeliyas	
	Snake and Snake Charmer	Describe a day in the life of a snake charmer	
		Name some poisonous snakes	
	Interdependence of snakes/animals and humans	Become familiar with the ways snakes help humans/farmers	
Explore the feelings of caged animals and develop empathy towards them			

	Miscellaneous	Collect information regarding other animals which people keep for their livelihood Know the foods, eating habits, care and other things about these animals	
Chapter 3	Topic	Learning Objectives	Learning Outcome
From Tasting to Digesting	Different tastes	Identify different foods through taste and smell	Groups objects, materials, activities for features and properties
		Locate different taste zones on the tongue	
		Recognize the importance of proper chewing of food	
	Digestion of Food	Approximate the major steps in digestion process and organs involved	Observes and shares experiences for different phenomena and conducts simple experiments and activities to find out more about the same.
		Infer that different food items take different time for digestion.	
		Recognize glucose as an instant energy giving food	
	Importance of proper food every child's right	Visualize the feelings of being hungry	
Relate the importance of proper food for health			
Become sensitized to disparities in access of food to different sections of society			
Advocate/support for every child's right to proper food			
Chapter 4	Topic	Learning Objectives	Learning Outcome
Mangoes Round the Year	Spoilage of food	Identify various reasons for spoilage of different food items	Explains the use of technology and the process of accessing basic needs (food, water etc.) in our daily life.
		Relate effect of season to spoilage of food	
		List simple methods by which food items could be kept fresh.	
	Methods of Food Preservation	Perform a simple activity to demonstrate various changes in food items due to spoilage	

		State the steps in making of Maldi Tandra i.e. Aam Papd	
		Know the different techniques of preservation of food and develop relevant skills	
		State the reason for drying of glass jars and bottles before filling them with pickles	
Chapter 5	Topic	Learning Objectives	Learning Outcome
Seeds and Seeds	Germination of seeds.	Know the different stages in the germination of seed.	Observes and shares experiences for different phenomena and conducts simple experiments and activities to find out more about the same.
		State the conditions necessary for a seed to sprout	
		Observe to infer the requirements of the plant for its growth	
		Identify seeds which grow fast and those which take time to grow	
		Name plants that grow without seeds	
		Classify seeds into various categories viz. small/big; light/heavy; flats/rounds; fruits/vegetables/spices etc.	
	Dispersal of seeds.	Identify various ways seeds that travel from one place to another	
Miscellaneous	Name plant(s) which gathers food by hunting		
	List plants that have come from other countries to India		
		Appraise the incident that lead to the discovery of Velcro.	
Chapter 6	Topic	Learning Objectives	Learning Outcome
Every Drop Counts	Water sources and strong in olden days	Observe and identify different sources of water.	

		Identify traditional sources of water storage and convention viz step wells, lake, well etc.	Traces the changes in practices, customs, and techniques of past and present through monuments and interacting with elders.
		Recognize various pots used to store water in earlier days	
		Reason out why the old structure systems of water collection are dysfunctional	
	Customs related to water	Know about various customs and festivals related to water.	
	Ways of getting water at homes	List different ways people get water in their houses	
		Becomes sensitized to related to unequal access of water to people	
	Miscellaneous	Become familiar with the ways traditional water bodies can be restored.	Voices opinions on issues observed /experienced and relates practices /happenings to larger issues of society.
		Read a water bill and calculate the rate	
		Appreciate the contribution of Al-Birani's book to know past	
Chapter 7	Topic	Learning Objectives	Learning Outcome
Experiments with Water	Water floats	List the things that float and sink in water	Guesses (properties, conditions of phenomena), estimates spatial quantities (, volume, weight etc.) and verifies using simple tools / set ups.
		State the reason for floating and sinking of objects	
		Relate the reason or floating of objects in Dead Sea	
	Solubility of different objects	Perform an activity to identify objects and things that are soluble and insoluble in water	Observes and shares experiences for different phenomena and conducts simple experiments and activities to find out the same.
		Realize that some substances can be separated after getting dissolved in water	
Where did the water go	Relate the processes of drying things in sun and reduction in quantity of water on heating (evaporation)		

		State the process of salt making		
		Appreciate the significance of Dandi March during freedom struggle to indigenous preparation of salt		
Chapter 8	Topic	Learning Objectives	Learning Outcome	
A Treat for Mosquitoes	Mosquitoes and diseases caused by them	Know that malaria spreads only by the disease carrying mosquitoes.	Suggests ways for hygiene, sanitation, health, managing waste and shows sensitivity for the disadvantaged /deprived.	
		State the symptoms of malaria.		
		Know the ways to cure and prevent malaria.		
		Identify important stages in the life cycle of a mosquito		
		Name other diseases caused by mosquitos		
	Blood test- clinical pathology report	Relate the importance of blood test for diagnosis of diseases like malaria and anemia		
		Read a blood test report to identify presence of malaria and hemoglobin levels		
	Anemia	Become sensitized to the extent of prevalence of anemia		
		State reasons for the occurrence of anemia		
		Identify major symptoms of anemia		
		Relate the importance of eating green leaves, vegetables to cure anemia		
	Miscellaneous	Relate the importance of conducting a systematic investigation by Ronald Ross to discover that mosquitos cause malaria		Creates posters, designs, models, set ups, local dishes, sketches, maps (of neighborhood /different places visited) using a variety of local /waste material and writes poems / slogans /travelogues etc. in in order to demonstrate creativity and reflection skills.
		Conduct a survey to find out water collection in their neighborhoods with a view to check spread of malaria		
Design a poster on prevention of malaria				
Chapter 9	Topic	Learning Objectives	Learning Outcome	

Up You Go!	Adventure in mountaineering	Describe and draw a mountain path	Establishes linkages among terrain, climate, resources and cultural life.
		List the things which mountaineers carry with them	
		State the steps in putting a tent up on the mountains	
		Name tools used in climbing	
		Narrate the experience of author while crossing the river	
		Recognizing challenges during mountaineering	
	Leader's role	Know the responsibilities of a leaders	
		Appreciate the diversity of Language in India	
		Be encouraged to learn other languages for better communication	
	Landmarks in mountaineering	Name the first women to reach the peak of Mount Everest	
		State the journey of Bachhendri Pal	
	Miscellaneous	Name other adventure activities	
		Narrate and write about their personal adventurous journey	
		Draw a national flag	
Chapter 10	Topic	Learning Objectives	Learning Outcome
Walls Tell Stories	Golconda fort	Name the king who constructed the Golconda fort	Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museum etc. materials or tools, occupations, buildings and houses
		Visualize the efforts required to bring materials from different places	
		Name features which ensured safety of the fort	
		Identify the arrangements made for air, light & water in the fort	
		Appreciate craftsmanship's and carvings	
		List tools used for carving	

		Relate features of the fort which helped residents to see things at adjacent and in many directions	Identifies signs, directions, location of different objects /landmarks of a locality /place visited in maps, and predicts directions in context of positions at different places for a location.
		State the reasons for war between kings	
		Name weapons used in wars in earlier times	
		Identify materials of weapons used	
		Relate the historical significance of fort	
	Monuments as a source of knowledge about our past	Recognize monuments and museums as a source of knowledge about past	
		Relate various other courses of history	
		Identify various items kept in a museum and their significance	
	Miscellaneous	Read map and find directions	
		Imagine the life of people in earlier times – food habits, clothes worn, recreational activities etc. and express it in different ways viz. writing, acting and drawing	
Chapter 11	Topic	Learning Objectives	Learning Outcome
Sunita in Space	Our Universe-Sun, moon, earth & other planets	Get an accurate idea about the shape	Establishes linkages among terrain, climate, resources
		Recognize different objects in the universe	
		Approximate the size, shape and colour of satellite, stars, moons etc.	
		Observe night sky and identify stars, satellites and other objects	
		Identify different phases of the moon	
		Name festivals related to the moon	
		Look at the globe and identify different countries, oceans, seas etc.	
		Identify different states on a map of India	

		Infer that lines drawn on globe and maps are not real	
		Give reasons for why do we see stars only at night	
		Relate why in a slide we slide down and not go up	
	Spaceship	Describe the way different activities happen in spaceship	
		Relate journey of Sunita William and Kalpana Chawla and encouraged to do best	
Chapter 12	Topic	Learning Objectives	Learning Outcome
What if it Finishes?	Vehicles and Fuels	Name different types of vehicles and the fuel they used	Suggests ways for protecting /saving resources (fuels) and shows sensitivity for the usage of natural resources.
		Identify vehicles which emit smoke and produce noise	
		Become aware of the problems as a consequence of smoke and noise produced by vehicles	
	Limited Resource Petrol and Diesel	Know the way petrol and diesel are obtained	
		Identify the ways petrol and diesel are used	
		Name states having oil-fields	
		Recognize the need to save oils	
		Identify other minerals obtained from earth	
		State the reasons for increase in price of petrol & diesel	
	Use of Wood	Suggest practices and ways to save diesel and petrol/use petrol and diesel judiciously	
Recognize the use of wood as a fuel by 2/3 rd of Indian families and its harmful effects			

	Miscellaneous	Interpret a bar chart showing changes in full use over 20 years	Uses bar graphs to record and interpret observations, experiences and information in an organized manner and predicts patterns in activities to establish relation between cause and effect.
		Imagine the nature of fuels that would be used in future	
		Make a poster/write a slogan with a message on saving fuel	
Chapter 13	Topic	Learning Objectives	Learning Outcome
A Shelter so High	Cold desert	Define a cold desert and distinguish it from a hot and dry desert	Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life.
		Differentiate between types of houses in plains, hills and cold desert	
		Know the life style of the people of Leh	
		Relate the reason for difficulty in breathing at hilly places	
	The Changpa Tribe	State the meaning of Changpa	
	Kashmir	Identify the characteristic features of Changpa tribe livelihood, kind of house etc.	
		Recognize the variety of houses found in Sri Nagar and Jammu and their characteristic features	
		Relate the type of houses to climate and needs of people	
	Miscellaneous	Identify various states and their capitals en-route Mumbai to Manali	
		Relate the experience of living in a tent	
Know the characteristic features of a Pashmina Shawl			

Chapter 14	Topic	Learning Objectives	Learning Outcome
When the Earth Shook	Disaster	Identify different materials used for making various kinds of houses	Suggests ways for managing disaster /emergency situations and protecting /saving resources (land, forests, etc.) and shows sensitivity for the disadvantaged /deprived.
		Define a 'Disaster.'	
		Recognize various natural disasters- earthquake, famine and draughts flood etc.	
	Protection	Know the effects of earthquake and other disasters	
		Know various ways to help one another during a calamity	
	Relief Agencies	Become acquainted with the ways to protect like building safe houses with special designs	
		Appreciate the role of Government and voluntary agencies which help and provide relief during disasters	
	Miscellaneous	Name some voluntary agencies and government bodies that assist	
		Make a list of emergency services with their addresses and phone numbers	
		Identify the works of an engineer and an architect	
		Write a report about disaster	
Chapter 15	Topic	Learning Objectives	Learning Outcome
Blow Hot Blow Cold	Air we breathe in and out	Recognize that air we breathe out can be hot or cold compared to temperature outside and can be used for different purposes	Uses tables to record and interpret observations, experiences and information in an organized manner and predicts patterns in activities to establish relation between cause and effect.
		Cite different examples to demonstrate use of hot and cold air	
		Observe the changes in the size of chest while breathing	

		Relate the difference in rate of breathing to different activities	Groups objects, materials, activities for features and properties such sound, etc.
		Name musical instruments which are played by blowing air into them	
	The clock inside	Recognize a stethoscope and its function	
		Listen to the heart beat and count it	
	Flow of Air	Locate the direction of air flow using paper snake	
Chapter 16	Topic	Learning Objectives	Learning Outcome
Who will do this Work	Different types of jobs	Recognize various jobs people do	Suggests ways for hygiene, sanitation, health, managing waste, and shows sensitivity for the disadvantaged /deprived.
		Differentiate between jobs people like and dislike to do and relate the reasons	
	Cleanliness job	Recognize the importance of cleanliness in our life	
		Appreciate the work done by different people and develop an attitude of respect and dignity towards them	
		Become sensitive to issue of untouchability and discrimination	
	Gandhiji & Social reform	Get acquainted with the work of Gandhiji to end discriminatory practices	
Miscellaneous	Analyze practices in today's living to develop sensitivity	Explores and explains the role of social reformers and functions of different institutions in daily life.	
Chapter 17	Topic	Learning Objectives	Learning Outcome
Across the Wall	Games for Girls and Boys	Name various games boys and girls play	Participates in different group activities - outdoor local activities, games to demonstrate initiatives leadership .
		List reasons for discouragement of girls to play some games	
		Recognize problems faced by girls during play	

	A good player and team	Recognize the ability to play well and perseverance as important characteristics of a good player	
		Recognize that cooperation among team members is a strength of a team	
	Miscellaneous	Develop sensitivity towards gender discriminatory practice	
		Identify women achievement in different fields	
Chapter 18	Topic	Learning Objectives	Learning Outcome
No Place for us	Village life	Describe the living of people in a village	Voices opinions on issues observed /experienced and relates practices /happenings to larger issues of society.
		Know different things children learn from elders in a village	
	Migration/displacement	State various reasons for migration of people from one place to another	
		Identify the difficulties and problems faced by people when they shift to a new place	
	Relate to various adjustments people have to make when they shift.		
Chapter 19	Topic	Learning Objectives	Learning Outcome
A Seed Tells a Farmer's Story	Traditional /modern methods of farming	Compare the changes in agricultural practices over the year nature of crops, tools, procedure etc.	Explains the use of technology and the process of accessing basic needs
		State the reasons for these changes	
		Relate the advantages and disadvantages of modern farming practice	
	State the reason for people choosing other jobs instead of than faming		

	Foods and Festivals	Observe and report changes in foods we eat in earlier times and now	Traces the changes in practices, techniques of past and present	
		Relate the journey of a seed: from seed to plant		
		Name special foods cooked on different occasions		
		Name festivals celebrated related to farming in different seasons in different States		
		Develop of clear concept of technology and progress		Voices opinions on issues observed /experienced and relates practices /happenings to larger issues
		Do a survey of farming practices		
Chapter 20	Topic	Learning Objectives	Learning Outcome	
Whose Forest?	Forests	Define a forest and relate to its importance	Describes the interdependence among plants and humans' animals	
		Describe the lives of forest dwellers		
		State the reasons for disappearing of forests and people moving away to cities		
		Know about 'Right to Forest Act, 2007' and its implication		
		Recognize forest as collective bank/wealth and dangers of its extinction		
		Become aware of problems associated with building, dame, roads, mining etc.		
		Become inspired by Suryamani's Tarang for conservation of songsm music, language etc.		
	Farming in Mizoram	Relate the uniqueness of farming practices in Mizoram	Suggests ways for protecting /saving resources /forests /etc. and shows sensitivity for the tribal community.	
		Become familiar with interesting jhoom farming followed to Mizoram.		
Miscellaneous	Suggest ways to save forests			

Chapter 21	Topic	Learning Objectives	Learning Outcome
Like Father, Like Daughter	Inheritance	Trace physical traits, features and habits that are common between children, parents and relative	Groups individuals, features and properties such as – colour, sound, traits etc.
		Identify the similarities and differences between siblings and twins	
		Infer that these resemblances between parents and children are inherited	
		Relate to Gregor Medal's experiments for clarity of inheritance of traits	
	Environmental	Recognize that skills and things learnt are due to environmental differences	
		Name ailments like polio, skills and abilities that we acquire from the environment	
Miscellaneous	Do survey in class about family to trace similarities and differences of traits in different people	Observes and shares experiences for different phenomena and conducts simple experiments and activities to find out more about the same.	
Chapter 22	Topic	Learning Objectives	Learning Outcome
On the Move Again	Handless farmers	Know the problems faced by landless farmers	Voices opinions on issues observed /experienced and relates practices /happenings to larger issues of society.
		Recognize their need for borrowing money and taking loan from money lenders	
		Know who is Makadem?	
		Become aware of consequences of borrowing money	
	Education of children of landless farmers	Infer the reason for discontinuing of education for children of landless farmers	Explores and explains the role and functions of different institutions in daily life.
		Know and suggest ways for continuity of education of landless farmers	

	Farming practice	Name the crop which can be grown in areas where there is no rain	
		Become acquainted with various methods of irrigation	
		Compare the farming practices of different kinds of farmers	
	Miscellaneous	Know the meaning of loans, debt and agent	
		Know of various works/jobs for which people need to stay away from families	