

ANNUAL CURRICULUM PLAN 2020-21

SUBJECT - SCIENCE

CLASS - VI

VISION FOR TEACHING SCIENCE:

The vision of the teaching and study of science is to encourage and enable students to develop inquiring minds and curiosity about science and the natural world. The students must acquire knowledge, conceptual understanding and skills to solve problems and make informed decisions in scientific and other contexts.

APRIL TO SEPTEMBER:

CHAPTER	TRANSACTION STRATEGIES/ INNOVATIVE PEDAGOGY	LEARNING OUTCOMES	CORE SKILLS/ ART INTEGRATION/ INTERDISCIPLINARY LINKAGES
<p>1) FOOD WHERE DOES IT COME FROM?</p> <p>Food variety, Plant & animals as food source, Animals and their food</p>	<ul style="list-style-type: none"> • The students will be introduced to the topic through INTERACTIVE METHOD about food variety. The topic will be assessed by conducting an activity – showing pictures of the different food items through PPT and asking students to identify their ingredients. • They will be shown pictures of animals and videos and asked to identify them on the basis of food habits. 	<p>The students will be able to:</p> <ul style="list-style-type: none"> • Identify the source of food. • Classify animals on the basis of food habits. • Identify the ingredients of a food item. • Co-relate the concepts with real life and respect food they get to prevent wastage. 	<ul style="list-style-type: none"> ●CORE SKILLS Self awareness, Observation skills, Analytical skills. ●ART INTEGRATION * Make a chart on 'Food habits in Sikkim, List some traditional foods of Sikkim, ingredients to prepare the food items and their sources. * Prepare some sprouts of moong. Let them grow for a week until the whole of the seeds grow into young plants. Measure the lengths of the sprouts everyday using a string. Prepare a bar graph of the number of sprouts having lengths in different ranges. * Prepare a list of animals having similar and different food habits. ●INTERDISCIPLINARY LINKAGE * Health Science * Mathematics
<p>2) COMPONENTS OF FOOD</p> <p>Sources of proteins, fats & carbohydrates, dietary fibres, balanced diet, deficiency diseases</p>	<ul style="list-style-type: none"> • Activating prior knowledge by random questioning. The concepts were explained by interactive method by discussing various pictures of food through PPT • The topics will be assessed by conducting a quiz • The students will be 	<ul style="list-style-type: none"> • Understand the importance of each nutrient in their diet. • Know the sources of nutrients. • Understand the need of nutrients to prevent deficiency diseases. • Aware people about 	<ul style="list-style-type: none"> ●CORE SKILLS *Observation skills, Analytical skills, Application, Self awareness ●ART INTEGRATION * Eating Balanced diet is necessary to remain fit and active. Make a poster on

	demonstrated the tests to show the presence of starch, protein and fats through animations of OLABs shared through the online classes.	deficiency diseases.	Balanced diet. * Prepare a chart on the symptoms and name of different deficiency diseases caused due to the lack of each nutrient. ●INTERDISCIPLINARY LINKAGES * Health Science
3)FIBRE TO FABRIC Variety in fabrics, cotton, jute, yarn to fabric, history of clothes	<ul style="list-style-type: none"> • Topics will be explained by <u>lecture cum discussion method</u>. • <u>Project method</u> will be used for the topics. The students will explore other sources to get more information on the topic and present it in the form of a project apart from the topics given in the book. 	<ul style="list-style-type: none"> • Identify cotton and jute. • Know the steps to get Fabric from fibre. • Respect the weavers. 	<ul style="list-style-type: none"> ●CORE SKILLS *Creative thinking, Application, Observation skills. ●ART INTEGRATION *Prepare a project on the properties and uses of different types of fibres and the method of making fabric using those fibres. * Write a report on history and evolution of spinning. ●INTERDISCIPLINARY LINKAGES *History, Agricultural science, Textile industry.
5)SEPARATION OF SUBSTANCES Methods of separation – handpicking, threshing, winnowing, sieving, sedimentation, decantation, filtration, evaporation	<ul style="list-style-type: none"> • The students will be introduced to the topic through INTERACTIVE METHOD about methods of separation. • Students will be demonstrated various methods of separation- handpicking, sieving, threshing, winnowing, sedimentation and decantation through animations. • The topics will be assessed by conducting a quiz 	<ul style="list-style-type: none"> • Choose right method of separation to separate components of a mixture. • Apply the concepts learnt in real life. 	<ul style="list-style-type: none"> ●CORE SKILLS * Analytical skill, drawing skill, Experimental skill, Application ●ART INTEGRATION *Encouraging students to use the method of filtration to purify water at home. * A Visit / virtual visit will be organized to a nearby field and students will find how crop is threshed and winnowed. Make a report and present in the class. ●INTERDISCIPLINARY LINKAGES *Health Science, Agricultural science
6)CHANGES AROUND US Reversible & irreversible changes, Ways to bring a change, solubility, saturated solutions.	<ul style="list-style-type: none"> • The students will be introduced to the topic through INTERACTIVE METHOD by discussing the changes occurring around us. • Animations and PPT will be used to explain the types of 	<ul style="list-style-type: none"> • Identify the type of changes occurring around them. • Bring a desired change in a real life situation. 	<ul style="list-style-type: none"> ●CORE SKILLS * Self awareness, logical thinking, analytical skills, observation skills. ●ART INTEGRATION *Make a list of reversible and irreversible changes occurring

	<p>changes.</p> <ul style="list-style-type: none"> • Active participation of students will be made possible while developing topic. 		<p>around you.</p> <ul style="list-style-type: none"> * Observe preparation of dishes at your home. Identify two changes that can be reversed and cannot be reversed. <p>●INTERDISCIPLINARY LINKAGES</p> <ul style="list-style-type: none"> * History, Geography, Cooking
<p>7)GETTING TO KNOW PLANTS</p> <p>Herbs, shrubs, trees, climber, creepers, stem, leaf venation, roots, parts of flower</p>	<ul style="list-style-type: none"> • The topic will be introduced by a <u>concept map</u> (about types of plants) through PPT and developed by interactive method. • Pictures and videos will be used for explaining leaf venation. The students will collect various kinds of leaves and record their observations about venation and types of roots in tabular form. • Various kinds of leaves and their pictures will be used for showing parts of a leaf. 	<ul style="list-style-type: none"> • Identify the type of plant. • Differentiate between climbers & creepers. • Know about the type of root of a plant from its leaves. • Understand the importance of each part of the flower. 	<p>●CORE SKILLS</p> <ul style="list-style-type: none"> *Drawing skills, observation skills, analyzing skills, creative thinking. <p>●ART INTEGRATION</p> <ul style="list-style-type: none"> * Make a beautiful greeting card with leaf prints. * Virtual Nature walks. * Prepare a list of flora of your city. <p>●INTERDISCIPLINARY LINKAGES</p> <ul style="list-style-type: none"> * Environmental Science, Geography.
<p>8)BODY MOVEMENTS</p> <p>Movement, joints – ball and socket, pivotal, hinge, fixed joint, skeleton, movement in animals – snail, earthworm, birds, fish, cockroach, snake</p>	<ul style="list-style-type: none"> • The topic will be introduced by a <u>concept map</u> (about types of joints) through PPT and developed by interactive method. • <u>Active participation of students</u> will be made possible while developing topic. They will identify the types of joints in their bodies by doing specific movements of their organs. • <u>Animations</u> will be used to explain the movements in animals. 	<ul style="list-style-type: none"> • Know the importance of the skeleton. • Identify the type of joint in their body. • Understand the gait of animals. 	<p>●CORE SKILLS</p> <ul style="list-style-type: none"> * Self awareness, logical thinking, analytical skills, observation skills. <p>●ART INTEGRATION</p> <ul style="list-style-type: none"> * Make a skeletal system using plaster of Paris. * Observe some X-ray films of different body parts and notice the different types of bones present in a human body and joints. * Observe the movement of some animals like fish, earthworm, cockroach, snail, birds etc to study the body parts which they use for these movements and prepare a chart. <p>●INTERDISCIPLINARY LINKAGES</p> <ul style="list-style-type: none"> *Health Sciences, Agricultural Sciences.

OCTOBER TO MARCH

CHAPTER	TRANSACTION STRATEGIES/ INNOVATIVE PEDAGOGY	LEARNING OUTCOMES	CORE SKILLS/ ART INTEGRATION/ INTERDISCIPLINARY LINKAGES
<p>9)THE LIVING ORGANISMS- CHARACTERISTICS AND HABITATS</p> <p>Habitats-terrestrial, aquatic, deserts ,mountain regions, grasslands, properties of living organisms</p>	<ul style="list-style-type: none"> The topic will be introduced by a concept map (about types of habitats) through PPT and videos developed by interactive method. Animations will be used to explain the adaptations of different animals to live in their natural habitat. The students will collaborate and discuss the characteristics of living organisms. 	<ul style="list-style-type: none"> Know about animal adaptations which help them to live in their habitats. Co-relate the concepts in their real life that will help them to adapt to their surroundings. 	<ul style="list-style-type: none"> ●CORE SKILLS * Logical thinking, analytical skills, observation skills. ●ART INTEGRATION * Virtually visit an Aquarium and Wild life sanctuary near your city. * Make a chart showing the pictures of plants and animals found in different habitats. Mention the similarities as well as differences between plants of different habitats and animals of different habitats. ●INTERDISCIPLINARY LINKAGES * Geography, Environmental Sciences
<p>10)MOTION AND MEASUREMENT OF DISTANCES</p> <p>Measurement of length, moving things, types of motion - circular, rotational, rectilinear and periodic.</p>	<ul style="list-style-type: none"> The topic will be introduced by <u>activity method</u>. The students will learn by measuring the length of a straight line and a curved line by a scale and a thread respectively. Animations will be used to explain the types of motion. The topics will be assessed by conducting a quiz 	<ul style="list-style-type: none"> Measure length correctly by a scale as well as a thread, Differentiate between different types of motion & identify them also. 	<ul style="list-style-type: none"> ●CORE SKILLS * Awareness, logical thinking, analytical skills, observation skills. ●ART INTEGRATION *Find out the distance of your house from your school, the nearest grocery shop, the nearest chemist and friends' houses. Draw a rough sketch of the area around your house and write the distances. * Compare the length of long jump between you and your friend. ●INTERDISCIPLINARY LINKAGES * Physical education, Geography.
<p>11)LIGHT,SHADOWS AND REFLECTIONS</p> <p>Transparency, shadows, pinhole camera, mirrors and reflections</p>	<ul style="list-style-type: none"> The topic will be introduced by <u>activity method</u>. The students will be shown different objects. PPT and videos will be used to explain the concept. Students will listen to it and then record their observations in tabular form. The students will <u>learn by</u> 	<ul style="list-style-type: none"> Understand the difference between transparent and opaque objects. Make a pinhole camera. Understand the concept of reflections. 	<ul style="list-style-type: none"> ●CORE SKILLS * Awareness, logical thinking, experimental skill, creative skill, analytical skills, observation skills, problem solving. ●ART INTEGRATION * Make or collect puppets and organize a puppet shadow show based on a story.

	<p><u>doing</u> activities: making a pinhole camera, making shadows, observing a flame through a bent pipe, reflection by a plane mirror.</p> <ul style="list-style-type: none"> The topics will be assessed by conducting a quiz. 		<p>* Make a pinhole camera.</p> <p>●INTERDISCIPLINARY LINKAGES</p> <p>* Geometry, Art</p>
<p>13) FUN WITH MAGNETS</p> <p>Origin of magnets, magnetic & non magnetic materials, poles of a magnet, finding directions, making a magnet, attraction and repulsion between magnets</p>	<ul style="list-style-type: none"> The topic will be introduced by <u>activity method</u>. The students will be shown a magnet and different objects. They will observe whether the magnet attracts them or not and thus identify magnetic objects. Students will be shown <u>audio visual</u> aids to understand making of magnet. The students will <u>learn by doing activities</u>: making a compass, using a magnet to find directions, attraction and repulsion between 2 magnets. 	<ul style="list-style-type: none"> Sort magnetic & non magnetic materials by using a magnet. Make an improvised compass to find directions. 	<p>●CORE SKILLS</p> <p>* Awareness, logical thinking, analytical skills, observation skills, experimental skills, applications.</p> <p>●ART INTEGRATION</p> <p>* Identify non magnetic and magnetic materials using a bar magnet.</p> <p>* Make a model of magnetic kite.</p> <p>●INTERDISCIPLINARY LINKAGES</p> <p>* Geography</p>
<p>14)WATER</p> <p>Water consumption, sources of water, water cycle, cloud formation, conservation of water, rain water harvesting</p>	<ul style="list-style-type: none"> The students will be introduced to the topic through INTERACTIVE METHOD about sources of water. <u>Animations and PPT</u> will be used to explain the water cycle. The students will collaborate and <u>explore innovative methods</u> of conserving water through discussion in the class room. 	<ul style="list-style-type: none"> Know the importance of water cycle in nature. Explore innovative methods of conserving water. 	<p>●CORE SKILLS</p> <p>* Self awareness, logical thinking, analytical skills, observation skills.</p> <p>●ART INTEGRATION</p> <p>* Make a poster on ‘Save Water’.</p> <p>* Students will conduct a rally emphasizing on conservation of water.</p> <p>* Make a model of Rain water harvesting</p> <p>●INTERDISCIPLINARY LINKAGES</p> <p>* Geography and Agricultural science.</p>
<p>15)AIR AROUND US</p> <p>Components of air –water vapour, oxygen, nitrogen, carbon dioxide, dust and smoke, uses of air</p>	<ul style="list-style-type: none"> The topic will be introduced by a <u>pie chart</u> presenting through PPT (about components of air) and developed by interactive method. <u>Animations</u> will be used to explain the uses of air. The topics will be assessed by conducting a quiz 	<ul style="list-style-type: none"> Understand the use of each component of air. Spread awareness to reduce air pollution. 	<p>●CORE SKILLS</p> <p>* Self awareness, logical thinking, analytical skills, observation skills.</p> <p>●ART INTEGRATION</p> <p>* Organise a Prevention of Air Pollution campaign in your school. Design pamphlets and banners for the same.</p> <p>* Organise a play showing how different elements of nature (Sun,</p>

			<p>wind, clouds, rain etc.) can be your friends.</p> <ul style="list-style-type: none"> * Collect newspaper clippings of air pollution due to burning of Amazon forest. <p>●INTERDISCIPLINARY LINKAGES</p> <ul style="list-style-type: none"> * Geography
<p>16)GARBAGE IN, GARBAGE OUT</p> <p>Landfill, vermicomposting Recycling of paper, plastics- boon or a curse</p>	<ul style="list-style-type: none"> • The students will be introduced to the topic through INTERACTIVE METHOD about segregation of waste. • <u>Animations</u> will be used to explain vermicomposting. • The students will collaborate and <u>explore innovative methods</u> to minimize the use of plastics. 	<ul style="list-style-type: none"> • Know the importance of sorting garbage. • Encourage people about vermi composting. • Reduce the uses of plastics. • Aware people about the need of segregation of garbage. 	<ul style="list-style-type: none"> ●CORE SKILLS * Self awareness, logical thinking, analytical skills, observation skills. ●ART INTEGRATION * Recycle waste paper at home. * Make compost using kitchen waste at home. * Organise a play on Reducing waste and protect your environment. * Prepare two dustbins for biodegradable and non biodegradable wastes in school and at home. ●INTERDISCIPLINARY LINKAGES * Geography and agricultural science.