CHOITHRAM SCHOOL, MANIK BAGH, INDORE

ANNUAL CURRICULUM PLAN SESSION 2019 – 2020

CLASS: VI

SUBJECT: SCIENCE

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioral (Application based)			
June(17)	**Food and Nutrition** 1. Food, from where does it come from? (3 **periods)** 2.Components of food (7 **periods)**	1. To understand the importance of food 2. to identify the basic components in different food items and its sources/identification of edible parts of plant 3. To identify the food habits of different animals and classify 4. Appreciate the importance of balanced diet 5. To analyse the cause of different deficiency diseases 6. To apply the	1. Learner will appreciate the importance of each and every member in his / her surroundings. 2. Learner will learn to empathise and to inculcate the habit of respecting others. 3. Learner will be able to accept that for the survival collaboration is essential.	Practical work in groups (to test the food items brought by the learners) Students will test the presence of components(starch ,proteins, fats, sugars) of food from the given sample and note the observations To test the presence of starch in a food item, cooked and soft food sample must be taken. To it little amount of water must be added and then 1-2 drops of iodine solution is added. Blackish-blue coloration indicates the presence of starch. Items to be tested are cooked rice, dal, chapatti raw and boiled potato ,banana ,milk ,etc To test the presence of proteins, small quantity of food item must be mashed and little amount of water must be added and shake well. To this, using a dropper,10 drops of solution of caustic soda and 1-2 drops of solution of copper sulphate must be added. Purple coloration indicates the presence of proteins.	• Students will understand the importance of food as the basic necessity. • Learners will appreciate the resources that feed the world and sensitised be to take care of the available resources of food.. • Students will understand that balanced diet is necessary for good health and will analyse the associated diseases. • Students will have evidence based observation and identification of components in representative food item They will be able to handle the chemicals and apparatus precisely.	**The chapter will be assessed through Subject Enrichment Activity – which include component testing as an individual assesement.** **Rubrics: Experiment, record, viva**

		learning to determine the combination of foods to be consumed To know the importance of cooking		Importance of Cooking. Students willlist out the food items that are consumed raw and that are cooked		
June	**3.** sorting materials into groups **(7 periods)**	To enable the students to 4. Know that objects are made up of different materials. 5. Understand that the choice of a material to make an object depends on its properties 6. Classify the materials as lustrous/ non lustrous, hard /soft, soluble/insoluble, capable of floating or sinking in water. 7. Differentiate between transparent, opaque and translucent	The learners will: 9. Apply grouping while storing or placing things. E.g. arrangement of similar things in kitchen or books in library. 10. Learn the importance of keeping and doing things in an ordered way. 11. Appreciate the necessity of grouping things in everyday life. 12. Interpret the reason for the preference of a particular material over others	Activity1 The teacher will begin with the play way method. For this, different objects will be placed in a large carton like balls(plastic or leather), playing cubes of different color made up of plastic, ruler(plastic or wooden or metallic),pencils(wooden or plastic body) and the students will be asked to separate these objects on the Basis of following points; Shape, color and material here they will be explained that separation of different objects on the basis of their different properties is referred as sorting of materials. **Activity 2:** A classroom activity will be performed with the help of some of the stationary items carried by students everyday like sharpener, ruler, pencil, eraser, pencil box, compass, loose papers, divider, stapler pins, paper pins and a pair of scissors these materials would be asked to sort on the basis of their	The students learnt: 1. Objects are made up of different materials. 2. To appreciate the necessity of grouping things in everyday life. 3. To classify the materials as lustrous/ non lustrous, hard /soft, soluble/insoluble, capable of floating or sinking in water. 4. To apply grouping while storing or placing things e.g. Arrangement of similar things in kitchen or books in library. 5. To differentiate between transparent, opaque and translucent objects. 6. To divide materials into groups and learn the importance of grouping of**materials.**	The student will be given different objects such as a lump of salt, green grass, broken glass piece, a small thermocol box, pen iron nail, naphthalene ball, apiece of sugar candy(mishri) and tried to group them on the basis of properties given in the form of a table. They will be assessed under following heads. **Observation, identification of materials.**

		objects. 8. To divide materials into groups and learn the importance of grouping of materials.		appearance that is Lustrous or non lustrous. **Activity 3:** An activity based on the determination of hardness of material will be demonstrated by the teacher with the help of metal key, a piece of wood or metal, cotton and sponge. **Activity 4:** Lab activity- solubility test will be applied by the students under teacher's supervision with the following materials- salt, sugar, sand, and saw dust and chalk powder In water. **Activity 5:** The student will be asked to look at fluorescent tube in class through the given material(gelatin sheet, cardboard and tracing paper.		
July(26)	separation of substances (10 periods)	To enable the students to 1. Know the need and purpose of separation. 2. Understand particles of different sizes. 3. Make them	The learners will: 1. Be able to reason the use of different techniques of separation in everyday life like- separation of cream from milk, tea leaves from	The students learnt: 1. The need and purpose of separation. 2. The methods of separation that they come across in everyday life such as handpicking, sieving, etc. 3. To suggest and select the suitable separation method for		1. **Activity / Assignment (to assess learning)**. You are provided with a mixture of salt, sand, oil and water. Write the steps involved for the separation of salt, sand and oil from the

		aware of methods of separation that they come across in everyday life such as handpicking, sieving, etc. 4. Apply methods for the separation of solids from liquids such as sedimentation, decantation and filtration. Also liquids from liquids like kerosene in water. 5. Identify conditions where more than one method of separation needs to be applied. 6. Experiment that water dissolves different substances in different	strainer, stones from rice and pulses, etc. 2. Suggest and select the suitable separation method for any mixture. 3. Comprehend the large scale application of technique such as filtration for purifying water and cottage cheese preparation. 4. Illustrate the use of alum (phitkari) in cleaning muddy water. 5. Develop the skills of experimentation, observation, and understanding through various activities of separation methods. 6. Learn the value of extracting and recovering useful things from the non-useful mixture.	any mixture. 4. The value of extracting and recovering useful things from the non-useful mixture. 5. Apply methods for the separation of solids from liquids such as sedimentation, decantation and filtration. Also liquids from liquids like kerosene in water. 6. To comprehend the large scale application of technique such as filtration for purifying water and cottage cheese preparation. 7. To illustrate the use of alum (phitkari) in cleaning muddy water. 8. The value of extracting and recovering useful things from the non-useful mixture.		mixture by giving an activity along with the diagram. This will apply various separation techniques by the students. It will be assessed under following heads: 1. Selection of appropriate techniques 2. Team work 3. concept

		amount.				
July	Electricity and circuits (10 periods)	**.** To enable the students to 1. Be aware of the uses and purposes of electricity. 2. Understand the structure of an electric cell, electric bulb. 3. Comprehend the concept of an electric circuit 4. Investigate the reason of an electric fuse. 5. Assemble an electric circuit with an electric cell, bulb, connecting wires and switch 6. Explore circuit with the switch in on and off position. Learn precautions and safety measures to be followed while handling	The learners will: 1. Understand how devices like alarm clocks, wrist watches, and cameras work without electricity that is by using chemical cell. 2. Interpret the meaning of the danger sign displayed on electric poles. 3. Take precaution in handling electric devices. 4. Predict the effect of joining two wires directly. 5. Be able to make a homemade torch. 6. Imbibe the value of safety, precaution and careful handling of electric equipments.	**Activity 1** An old discarded electric cell is cut open and shown to the students. They will be explained about various components of electric cell. This will be explained through diagram also. **Activity 2** Students will be asked to bring a simple torch bulb from home with prior intimation. The parts of the electric bulb such as metal casing will be explained to them. This will also be clarified through diagram. **Activity 3** Students will be asked to bring the circuit material such as electric bulb, wires, and bulb. Then the concept of electric circuit will be introduced followed by making of circuit. **Activity 4** The circuit which was made inactivity 3 now will be reconstructed by using safety pins. These pins will work as a switch. The concept of electric switch will be taught through this.	The students: 1. Learnt the uses and purposes of electricity. 2. Understood the structure of an electric cell, electric bulb. 3. Assembled an electric circuit with an electric cell, bulb, connecting wires and switch. 4. Learnt precautions and safety measures to be followed while handling electricity. Imbibe the value of safety, precaution and careful handling of electric equipments Understood how devices like alarm clocks, wrist watches, and cameras work without electricity that is by using chemical cell. 1. Understood the importance of switch in a circuit.	Make any electric game, device or a simple torch by applying the concept of electric switch. This activity will be assessed on the basis of following rubrics: **1. Description of model** **2. Construction** **3. Organization**

				Activity 5 The safety pin used in activity 4 will now be replaced with different materials such as key, eraser, scale, matchstick, iron nail etc. The students will record their observations for the glowing of bulb with the given materials. They will be explained the concept of conductors and insulators. **Activity 6** **Be a Circuit Relay** This activity will have students acting as if they were an electrical circuit and will review the concepts of a closed circuit, an open circuit. Students are made to stand in a large circle and each student is provided with a cup. The first student will be the negative (-) end of the battery and need to pick up a pom-pom ball and put it in the neighboring student's cup. The student will need to "pour" or pass the pom-pom ball from cup to the cup of the person beside them without dropping it on the floor.		

July	**Practical writing and record completion(6 periods)**					**Subject enrichment 1 based on practicals of testing of food components.**
August (20)	PBL introduction and explanation **(4 periods)**					**Subject enrichment –II group activity-pbl conduction**
August	**Theme** 1 Garbage in garbage out (8 periods) **Sub theme** Waste management Bio and non biodegradable wastes	**1.** Waste control, recycling of paper and other waste products, things that do not rot and things that rot. 2.to differentiate between degradable and non degradable substances. 3. to follow waste management techniques	**1.** To sensitize towards the need to manage waste 2. To encourage them to use recycled paper. 3.To motivate them to apply three R's of management. 4. Accept the responsibility for the cleanliness of environment.	Various activities based on waste management like composting, vermicomposting, making of ecofriendly paper. Discussion on waste management. Making Paper Mache products/ best out of waste.	**1. They were** encouraged to use recycled paper. **2. Motivated to apply 3 R's of waste management.** **3. Developed the skills of** Awareness, Analytical Skills, Problem Solving, Observational Skills, Critical Thinking, and Creativity.	**Assessment of activity mentioned by applying rubrics: knowledge, observation, synthesis and analysis.**

August	2. water (8 periods)	To enable the students to: 1. Know the properties, sources and usage of water. 2. Make aware about the necessity of water. 3. Recapitulate the concept of water cycle. 4. Understand the role of transpiration in water cycle and cloud formation. 5. Comprehend how water is recharged under the ground. 6. Predict the consequence of floods and droughts.	The learners will: 1. Be able to estimate the amount of water used by his family in a day. 2. Empathized towards the necessity of water in water scarce areas. 3. Reason for phenomenon like accumulation of dew drops on the leaves of grass or appearance of fog near ground on winter mornings. 4. Show concern for the areas where most of the land is covered with concrete. 5. Imbibe the value of conservation of water. 6. Suggest the technique of rain water harvesting to conserve water for future use.	Activity 1 Student oriented activity to develop the concept of evaporation. Take two plates filled with water. Place one of its plates in sunlight and the other in shade. Observe the two plates after 15 minutes. The disappearance of water in the plate would clarify the concept of evaporation. **Activity 2** Take a glass filled with water and add a few pieces of ice to it. Wait for two minutes and observe the changes on the surface of the glass. This will confirm the process of condensation. Activity 3 Video demonstration on Rainwater Harvesting	The students learnt: • The properties, sources and usage of water. • The role of transpiration in water cycle and cloud formation. • Reason for phenomenon like accumulation of dew drops on the leaves of grass or appearance of fog near ground on winter mornings. • To estimate the amount of water used by his family in a day. • How water is recharged under the ground. • The technique of rain water harvesting to conserve water for future use.	Collect the pictures to floods or droughts from old magazines or newspapers. Paste them in the note book and write about the problems that people would have faced. It will be assessed on the basis of following rubrics: 1. Purpose 2. relevance
September	Fibre to fabric	To enable the students to	The learners will: 1. Interpret the	The teacher will ask the student to conduct the following **activities**:	Students learnt:	Students will make bags or mat using newspaper

	8 periods	1. Understand the concept of fiber 2. Differentiate between natural and synthetic fiber 3. Identify different natural and synthetic fibers- such as cotton, jute, polyester and rayon 4. Comprehend how cotton fibers are obtained from cotton bolls. 5. To know the devices used for spinning such as takli and charkha. 6. Understand how knitting is different from weaving. 7. Apply burning test to differentiate natural and synthetic fibers.	reason of finding loose thread at the edges of a fabric. 2. Understand why the end of a thread separates into fine threads while putting it into the needle. 3. Realize the use of charkha by Gandhiji as a part of independence movement. 4. Develop the value of sensitivity towards environment through weaving activity by the use of waste stuff. 5. Develop skills like experimentation, observation, analysis and will be able to judge between natural and synthetic fibers through burning test activity.	1. Visit a nearby tailoring shop and collect cuttings of fabrics left over after stitching (prior information would be given). On the basis of this activity, they will be asked few questions like: Do you see any loose threads at the edges of the cuttings? Do you feel any difference in the texture of these cuttings? 2. With the use of above activity the concept of fiber will be introduced followed by yarn and spinning. Students will bring some cotton wool from home and will roll it out into a wick to clarify the concept of yarn. 3. Now teacher will introduce natural and synthetic fibers and the same will be tested with the help of burning test activity by the students. For this, students will burn different cuttings of fabrics (used in the above activity)in order to identify and make out a difference between natural and synthetic fibers by the burning smell and their ash.	1. The concept of fiber, yarn and fabric. 2. The devices used for spinning such as takli and charkha. 3. The processing of jute and cotton in industries by handlooms and power looms. 4. The value of sensitivity towards environment through weaving activity by the use of waste stuff. 5. Skills like experimentation, observation, analysis and will be able to judge between natural and synthetic fibers through burning test activity. 6. Why the end of a thread separates into fine threads while putting it into the needle. 7. How knitting is different from weaving. 8. To apply burning test to differentiate natural and synthetic fibers. 5. and collect cuttings of fabrics left over after stitching (prior information would be given). On the basis of	depicting the weaving patterns. **It will be assessed under following heads:** **1. Understanding** **2. Application** **3. creativity**

				4. Now the students will be shown a video clip (https/:www.learnnext.com) based on the cultivation of jute and cotton along with their processing in industries where they are operated by either handloom or power loom.	this activity, they will be asked few questions like: Do you see any loose threads at the edges of the cuttings? Do you feel any difference in the texture of these cuttings? 6. With the use of above activity the concept of fiber will be introduced followed by yarn and spinning. Students will bring some cotton wool from home and will roll it out into a wick to clarify the concept of yarn. 7. Now teacher will introduce natural and synthetic fibers and the same will be tested with the help of burning test activity by the students. For this, students will burn different cuttings of fabrics (used in the above activity)in order to identify and make out a difference between natural and synthetic fibers by the burning smell and their ash.	

					Now the students will be shown a video clip (https/:www.learnnext.com) based on the cultivation of jute and cotton	
september	PBL submission(8) + Revision-7periods					
October (22)	**1. Getting to know plants (11** periods) **Sub theme** Types and Parts of plant Root and shoot system	1. To make them understand the morphological structure and function of root, stem and leaves. **2.** To analyze the relationship between 1) types of root system 2) Leaf venation.	**.1**Imbibe the value of conservation of nature. 2. Show concern for the protection of environment. 3. Reason for the differentiated root system and leaf venation in different plants.	Observing germination of seeds, comparison of tap and fibrous root systems and relating it with leaf venation. Presentation of the topic through PPT.	1. Learnt the morphological structure and function of root, stem and leaves. **2.** analyzed the relationship between 1) types of root system 2) Leaf venation. 3. Reason for the differentiated root system and leaf venation in different plants. 4. Imbibed the value of conservation of nature.	**By the dissection of flower and labeling its individual parts.** **Rubrics: observation and analysis**
October	Air around us (11 periods)	To enable the students to: 1. Familiarize with the properties of	The learners will: 1. Reason for the rotation of firki and the weather cock.	**Activity 1** Insert an inverted plastic/glass bottle in a bucket filled with water first in a straight and then in a tilted position to detect the presence of air in the	The students learnt: 1. To apply test for the presence of oxygen to support burning. 2. The importance of	Demonstration of burning candle activity by a teacher where a burning candle will be placed in flat plate filled water and then be covered

		air. 2. Test with the activities that air occupies space. 3. Know the composition of air. 4. Apply test for the presence of oxygen to support burning. 5. To confirm the presence of air in soil. 6. Understand the importance of balance of gases for survival. 7. Comprehend that most of the activities on the earth are possible due to the presence of air.	2. be assured that air is present everywhere and this can be felt when objects like empty bottle or glass is placed in a bucket full of water in the form of bubbles. 3. Investigate the reason for blowing off of a burning candle when covered with glass. 4. Interpret why some tiny shining particles are seen in a room when sunlight enters the room through a slit. 5. Be able to tell why during an incident of fire one is advised to wrap a woolen blanket over a burning object. 6. Realize the importance of wearing mask while passing through a dusty	form of bubbles **Activity 2** Demonstration by a teacher to show that the air is dissolved in water. For this a vessel filled with water is placed over a burner. The rising bubbles inside the water of vessel will confirm the same. **Activity 3** Students will collect a dry lump of soil from the school garden in a vessel/small container and would pour water over it. The emergence of bubbles will confirm the presence of air in the soil.	balance of gases for survival. 3. That most of the activities on the earth are possible due to the presence of air. 4. Why during an incident of fire one is advised to wrap a woolen blanket over a burning object. 5. The Reason for the rotation of firki and the weather cock.	by a glass. The blowing off of a candle and the rise in level of water will give the concept of presence of oxygen in air. Same activity will be performed by students and **assessed** under **following heads:** **1. Understanding** **2. Observation** **Analysis**

			crowded area. 7. Appreciate the interdependence of living organisms for the exchange of gases.			
November (20)	**Theme** 1.How do animals move?- 10 periods **Sub theme** Skeletal system Movement in different animals.	**1.** To them aware about the animal movements. 2. To help them understand the types of joints. 3.To relate the concept of body movement in different categories of animals	**1.** To infuse integrated value of animal body and body movements. 2. to develop skills of Knowledge, Observation, Analysis, synthesis. 3. to make them aware about the coordination pattern of the animal body.	Observation of 1.nature 2.model of skeleton 3. animal specimen	**1.** aware about the animal movements. 2. Understand the types of joints. 3. related the concept of body movement in different categories of animals 4.infused integrated value of animal body and body movements 5.developed skills of Knowledge, Observation, Analysis, synthesis.	**Practical- showcasing of animal specimen** **Rubrics: experimentation, observation and analysis.**
	2. Theme Light, shadow and reflection - 10 periods **Sub theme** Luminous and illuminated objects. Solar and lunar eclipse. Shadow formation Reflection	**1.** To provide them the knowledge of luminous and non luminous objects. **2.** Explain how pinhole camera works. 3. Occurrence of solar and lunar eclipses**.**	1.To apply the concept of pinhole camera. 2.To help them apply the concept of rectilinear propagation of light. 3. To inculcate reasoning ability	1.Discussion and observing shadow formation of various objects. 2. making of pinhole camera.	**1. understood the occurrence of solar and lunar eclipses** **2.** Applied the concept of pinhole camera. 3. Applied the concept of rectilinear propagation of light. 4. inculcated reasoning ability	**Formation of pinhole camera** **Rubrics: organization and creativity.**

December	Living organisms and their surroundings-(10 periods)	1. To give the concept of food chain. 2. To enhance their knowledge regarding environment. 3. To give the concept of food chain, habitat and adaptations of different animals. 4.To list the changes or feelings one faces when moving from one type of climate to other. 5. To discuss the types of animals present in the different habitats and the effect of change in surrounding environment on living organisms. 6.Group Activity: Learners in groups will present the life of living organisms in habitats like mountains, desert, grasslands, and oceans	**1.** To compare the adaptations of different animals. 2. To develop skills of Awareness, Analytical Skills, Problem Solving, Observational Skills. 3. To imbibe aesthetic values.	1.**Skit on food chain.** 1. Students to create a model habitat to demonstrate an understanding of interactions between biotic and abiotic components of a habitat. 2.Students to draw a flow chart to explain roles and interactions of carnivores, herbivores and decomposers within a habitat	1. enhanced their knowledge regarding environment. 2. Given the concept of food chain, habitat and adaptations of different animals. 3. Compared the adaptations of different animals. 4. developed skills of Awareness, Analytical Skills, Problem Solving, and Observational Skills. 5. imbibed aesthetic values	
December	Performing and writing of practicals					**Subject Enrichment Activity III-(individual)**

	10 periods					**Writing and conduction of practicals (08).** **Rubrics- experiment, observation and viva**
January	1.Motion and measurement - 10 periods	To impart the knowledge of different methods of measurement. 2. To apply the concepts of measurement in everyday life. 3. Know the earlier methods of measurement.	1. To help them analyze different kinds of motions in surrounding. 2. Estimate small distances such as length of pencil. 3. Follow proper precautions while taking reading of scale.	**1.** Measurement of a curved line. 2. Finding the length and width of an object. 3. Comparing traditional and modern methods of measurement 4. worksheet on measuring in metric. 5.Measurement with the help of body parts (ancient system for measurement 6. Measurement with the help of standard units of measurement (metre, kilogram etc.)	**1.** analyzed different kinds of motions in surrounding. 2. Estimated small distances such as length of pencil. 3. Followed proper precautions while taking reading of scale. 4. applied the concepts of measurement in everyday life	**The activity of measurement of a curved line can be assessed by applying the rubrics: analysis and synthesis.**
January-23	IDC explaination+ time for for group discussion- 8 periods + practice for IDC- 5 periods					
February-23	Fun with magnets- 12 periods	**1.** Properties of magnet, like poles repel and unlike poles attract each other. **2.** To provide knowledge of the properties of magnet. 3. To differentiate between natural and	**1.** To synthesis the knowledge of making a temporary magnet. **2.** Intellectual use of magnets in day to day life.	**1.** Construction of magnetic compass 2. Demonstrating how things are attracted by a magnet 3. Activity to locate poles of a magnet, activity with iron filings and paper. 4.Magnetic and non-magnetic materials: 5.Finding of directions with the help	**1.** Synthesized the knowledge of making a temporary magnet. 2. Knowledge of the properties of magnet. 3. **Developed the skills of** Awareness, Analytical Skills, Problem Solving, Observational Skills, Critical Thinking, and Creativity.	**Assessment of activity mentioned by applying rubrics: experimentation, synthesis and knowledge.**

		artificial magnet.		of a bar magnet. 6. Construction of a temporary magnet.		
	2.Changes around us -11 periods	**1.** Different physical and chemical changes 2. Students will be able to distinguish between reversible and irreversible changes. **3.** They would get knowledge about different kinds of changes.	**1.** To make them aware about the changes taking place in the surrounding. 2. Students will be able to relate the changes with environment and everyday life.	Various activities to demonstrate reversible and irreversible changes like 1. Folding and unfolding of paper. 2. cutting down of vegetables 3. Cooking and baking of food items. 4. Blowing and bursting of a balloon.	**1.** Distinguish between reversible and irreversible changes. 2. They would get knowledge about different kinds of changes. **3.developed the skills of** Awareness, Analytical Skills, Problem Solving, Observational Skills, Critical Thinking, Creativity,	**Assessment of activity mentioned by applying rubrics: observation, evaluation and synthesis.** **Sub enrichment 4-IDC**
March-(14)		**Revision, problem solving, note book completion and correction**				