LOTUS PETAL SENIOR SECONDARY SCHOOL
GRADE - VI
SUBJECT - MATHEMATICS

Month	Chapter	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
April 18	**Knowing our numbers , Whole numbers**	Understand large numbers and their representation. - Learn operations (addition, subtraction, etc.) on large numbers. - Explore estimation techniques. Understand whole numbers, their operations	Lecture method, Use of place value charts, Discussions. Interactive discussion, Visual aids, Group activities.	Students will be able to read and write large numbers, identify place values, and compare numbers. Students will be able to perform basic operations with whole numbers	Create a large number chart or number line in class. Play a game involving addition and subtraction of whole numbers.	Art integration: Create a poster on "Numbers Around Us" using drawings of objects in nature or daily life. Link to Social Studies: Use the concept of whole numbers to understand population data.
May 11	**Playing with Numbers**	Understand factors, multiples, prime numbers, and divisibility rules.	Concept explanation, Group exercises, Practice worksheets.	Students will be able to find factors, multiples, and prime numbers, and apply divisibility rules.	Create a chart showing prime numbers and their multiples.	Recalling the concepts by creating colourful flowcharts of Factor Tree
July 21	**Data Handling, Using AI**	Understand data collection, representation, and interpretation. Objective To understand concept of Data Handling. ● To understand process of Data Handing:	Use of charts, graphs, data collection exercises.	Students will be able to represent data using organising data using tally marks, reading pie charts, and pictographs.	Collect data from classmates on a specific topic and represent it in a bar chart.	Data Visualization: Ask students to create visual representations of data using graphs. Grade 6&7 both Understanding the concept of Data

		a) Sources of Data b) Collection of Data – Data Acquisition c) Organization & Representation of Data – Data Exploration. ● To understand process of Data Handing in real-life situations using AI				Handling using AI Tools of Data Acquisition and Data Exploration. Tools of Data Acquisition and Data Exploration. • Sources of Data • Data Acquisition • Data exploration
August 14	**Basic Geometric Ideas**	Understand points, lines, angles, and geometric shapes.	Use models and diagrams, Drawing exercises, Real-life examples.	Students will be able to identify basic geometrical shapes and understand their properties.	Drawing and labeling various shapes and angles.	Art integration: Draw geometric shapes using symmetry to create an artwork. Study of lines, strokes, colours, shades, tones, textures, etc. while organizing two-dimensional space with two dimensional and three-dimensional shapes and forms
September 7	**Fractions & Decimals**	Understand fractions, types of fractions, and their operations(Addition and Subtraction). Understand decimal numbers and their operations.(Addition and subtraction)	Use of fraction charts, Visual aids, Group activities.	Students will be able to simplify, add, subtract fractions. Students will be able to add, subtract decimals.	Use paper folding to create different fractions visually.	Integration with Art: Create a fractional art collage using different fractions of shapes.
October 15	**Integers & Algebra**	Understand integers and their operations.(Addition and subtraction)	Number line method, Hands-on activities, Group discussions	Students will be able to add, subtract integers.	Conduct a class activity with a temperature chart (showing positive and negative temperatures).	Link to Geography: Understanding positive and negative temperatures in different regions.

						Creative use of perspective in spatial relationship
November 17	**understanding Elementary Shapes**	Learn about various 2D shapes and their properties.	Visual aids, Drawing and measuring, Interactive discussions.	Students will be able to classify and identify different shapes based on properties.	Create 3D shapes using clay or paper and identify their properties.	Integration with Science: Study of 3D shapes in real-life objects like boxes, containers, etc.
December 14	**Ratio and proportion**	Understand ratios, proportions, and their applications.	Problem-solving, Real-life examples, Group activities.	Students will be able to solve ratio and proportion problems.	Use ingredients for a recipe to explain ratios and proportions.	Use ratio and proportion to understand cooking recipes & mixing primary colours to for secondary colours
January 8	**Mensuration**	Understand perimeter, area of various shapes.(Area of -SQUARE AND RECTANGLE)	Visual demonstrations, Practical examples, Group work.	Students will be able to calculate the perimeter, area of basic shapes. .(Area of -SQUARE AND RECTANGLE)	Measure and calculate the area and perimeter of classroom objects like desks or doors.	Create a picture and find its perimeter & Area
February	**Revision**					

GRADE - 6
SUBJECT - Science

Month	Chapter	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
April	**Ch.1. Components of Food**	Students will be able to 1. Improvise an activity to test the nutrients present in the given food items & critique their utility in adequate, inadequate & excess proportions. 2. To Explain the function of each nutrients in order to discuss the 3. To know the importance of nutrients in good health. 4. Hypothesize consequences of eliminating any one major 5. Find out the nutrients in order to make a healthy food choice. 6. To Design a balance diet plan in order to provide body sufficient nutrients it need to function properly. 7. List out various diseases (deficiencies) due to deficiency of various components & their effects.	1. Visual method **2.** Bodily Kinesthetic	At the end of the session students will be able to learn. ● The various components of food & analyse their role in body. ● Experiment the presence of various components of food in given food material ● Know the importance of balanced diet. ● List out various deficiency diseases caused due to the deficiency of various food components. ● Know the difference between under-nutrition &malnutrition.	Prepare a menu of balanced diet in context of diversity of food eaten.	**SST-** Study the variety of food grown in different region of India. **English -** New words/concepts,for comprehension and expression. **Bio Lab activity-** Test the presence of starch, fat and Protein. Sketching from nature and surrounding
Apri	**Ch.2.Sorting Materials into Groups**	1. List the objects around us in order to analyze the materials they are made up of. 2. Observe the appearance of the materials in order to differentiate them as lustre and non-lustre material. 3. Plan and conduct an investigation in order to classify different kinds of materials by their observable properties. 4. Examine the materials by compressing or scratching them in order to categorize them as	1. Demonstration 2. Explanation **3.** observation	● Differentiate the materials based on their properties. ● They know the difference between hard and soft, conductor and insulator, sink and float etc. ● Learn why it is important to sort things into groups, such as making it		To separate different types of material based on their observable properties.

		hard and soft material. 5. Observe the change in the shape of object added to water in order to categorize them as soluble and insoluble materials. 6. Plan and conduct an investigation for various objects to classify them based on whether the object sink or float in water		easier to find what we need, or to recycle and reuse materials. ● Students will be elaborated on that same material can be used to make different articles depending on their usage and properties of the material.		
May	**Ch.3 Separation of substance**	To enable the students- 1. To Define mixtures, pure & impure substances & comprehend them 2. To Analyse the purpose/ understand the need of separating the constituents of the mixture. 3. To Learn the various methods for separating the constituents of a mixture. 4. Separating a solid from other solids, separating insoluble solids from liquids and separating soluble solids from its solution. 5. Define evaporation/condensation 6. To apply knowledge to separate materials using more than one method. 7. Evaluate that water is a universal solvent. 8. To Analyse how much of any substance / solute, water can dissolve.	1. Linguistic 2. Visual 3. Discussion 4. Demonstration	At the end of the session students will be able to ● Define mixture pure & impure substances. ● Understand the purpose of separation. ● Learn the various methods of separation. ● Know methods of separating a solid from other solids ● Separation using alum. ● Evaluate that water is a universal solvent. ● Define evaporation/condensation. ● Learn about separation, using more than one method of separation.	To separate different types of material based on their observable properties.	**Lab Activity –** To separate the impurities from the soil by decantation and sedimentation process. **English-** New words/concepts and for comprehension and expression. **Art –** Neat presentation of diagrams
May	**Ch.4 Getting to Know Plants**	Enable the students to- 1. Recall the terms herbs, shrubs and trees with some of their examples. 2. Differentiate plants on the basis of	1. Diagrammatical	● Identify the plants as herbs, shrubs, trees, creepers , climbers.		**Activity-** Nature walk in the school garden and view the parts of plants and

		their life cycle. 3. View and understand the different parts of a plant. 4. Understand the types, functions and evaluate the importance of root for the growth of a plant. 5. Know the importance and the functions of stem. 6. Analyse how roots and stems are modified to give extra function. 7. Understand the structure and function of leaf. 8. Analyse the relation between venation of leaves and roots. 9. Understand the structure of flower and its function.	2. Interpersonal 3. Discussion	• The students will be able to know and understand various terms related to plant life. • Get the depth knowledge of various parts of a plant and their function. • Understand the structure of leaf, types of venation And functions of leaf. • Know the structure of a flower, its parts and their Functions. • Draw the types of leaves, root etc		flower. **Art Activity-** By observing different kinds of leaves, pencil shading of leaves and venation. Use of contrast as an expressive element of art
July	**Ch.5 Body Movements**	Enable the students to 1. Explore the types of movement in different types of living beings. 2. Understand the structure of various animals. 3. Understand and learn about various types of joints in human body. 4. Know about the functions of skeleton, ribcage, skull etc in human body. 5. Analyse how different organisms like cockroaches, birds move. 6. Understand how muscles with bone help in movement. 7. Predict the possible reasons for animals showing different gaits.	1. Discussion 2. Diagrammatical 3. Demonstration	At the end of the lesson the students will be able to know- • Define locomotion and movement. • Differentiate between locomotion and movement. • Various parts of human skeleton system, joints and bones of human skeleton. • That muscles along with bones help in the movement. • How different organisms with or without backbones	Diagrams of different types of bone and joints.	**Mathematics-** Calculate the Number of bones. **Bio Activity-** **(1)** Demonstration of different types of joints with their movement**.** (2) Showing Model of Human Skeleton in lab. (3) Demonstration of different Specimen. Pencil, charcoal, water colour, crayon, oil colours, poster colour and gouache, acrylic colour and other

				move. ● The students will be able to understand different kinds of habitat, how different animals and plants are able to survive in various habitats.		unconventional sources of colours such as vermillion.
August	Ch6. The Living Organisms and their Surroundings	n Enable the students to : 1. Understand the different kinds of habitat and adaptations. 2. Differentiate between biotic and abiotic factors of the environment. 3. Analyse how different plants and animals are well adapted to live in their habitat: Desert: camel, lizards, rattle snake, Mountains: polar bear, Grasslands: tigers, deer Oceans/pond/lakes: sharks, whale. 4. Compare and contract the living and non-living Things. 5. Evaluate the importance of reproduction in living beings. 1. Structure evidence of features contributing towards diversity of life within a single habitat, into one note, taking into consideration specific habitats.	1. Discussion 2. Visual	Students will be able to ● Understand different kinds of habitat, how different animals and plants are able to survive in various habitats. ● Know characteristics of living beings ● Explore the surroundings and identify various types of habitats ● Identify biotic and a biotic components ● Understand about the adaptations of different animals and plants in their particular environment.	AI: Experiencing Natural Language Processing through Mystery Animal Game	**Participating in study visits to museums, botanical gardens,zoological garden, art galleries and art institutions, etc., for greater awarenessof the environment and cultural variations.** Give students images from different habitats of organisms (Around 10-15) ● Ask them to recognize the habitats in the images and try to name the organisms which live there. Ask them to classify the habitats based on similarities of landscape ● After collecting all the information above, the teacher introduces the topic “living organisms” – characteristics and

						habitats. By AI
Septem ber	**Ch7. Motion and Measurem ent of Distances**	o Enable the students to 1. Recall the importance of measurement of distance & time. 2. Define, understand, importance of measurement. 3. Analyse the need of standard unit of measurement. 4. Evaluate the conversion of one unit into another depending on the length to be measured. 5. Acquire knowledge about correct measuring devices, used to measure length along with the correct way of using the devices. 6. Analyse the way of measuring the length of a curved line using a thread. 7. Define & understand motion, rest & types of motion. 8. List various motions & identify their types.	1. Kinest hetic 2. Logica l 3. Experi mental	At the end of the lesson students will be abe to know ● Define and understand the importance of measurement ● Measures physical quantities and expresses in SI units, e.g., length. ● The conversion table & be able to do simple numericals related to conversion. ● Know the correct way of measuring length by using the appropriate device. ● know the way to measure curved line using a thread. ● Check out the procedures to find the errors associated with finding measurements using standard measurement devices.	Diagram of Distance and Displacemen t.	**Math –** Conversion table and numerical based on calculation of time and distance. Graph for Uniform and Non-Uniform motion. Conversion of units. **English-** New words/ Concepts for comprehension and expression. **Arts-** Diagram of Distance and Displacement. **Physics Lab Activity**: Motion of a simple pendulum and observation of number of oscillations. **Study of various materials such as clay, plaster of paris, soft-stone, wood (blocks, twigs and branches, roots, etc.), metal scraps, plastic sheets, bamboo, wire thread, papers and cardboards, vegetables and other throw-away available materials.**
October	**Ch8. Light, Shadows and**	1. Recall various terms related to light. 2. Define luminous (manmade and natural) and non-luminous bodies .	1. Visual metho	At the end of lesson students will be able to ● Define, differentiate and	Diagram and Sand art.	**Dance-** Shadow dance and shadow puppet.

	Reflections	3. Analyse why The Moon 'which gives us light' is a non-luminous body. 4. Compare and contract : transparent, translucent, opaque objects. List out their examples. 5. Identify these three different types objects in their surroundings. 6. Analyse how shadows are formed comprehend the occurrence of eclipse (solar and lunar). 7. Define shadows and list out the requirements for the formation of a shadow comprehend that light travels in a straight line and its application in our day to day life. 8. Create a pin hole camera analyse the advantages and disadvantages of pin hole camera understand and define the terms Mirror and reflection 9. Differentiate between shadow and image.	d 2. Group discussion 3. Explanation 4. Demonstration	give examples of various terms -luminous, non-luminous, shadows, opaque, transparen, translucent, m irror and reflection. ● Differentiate between shadow and image ● Create a pinhole camera and explain its working. ● Makes conclusion about the nature of reflection shown by a plane mirror. ● Concludes that there should be a source of light, opaque object and a surface for shadows to form.		**Art-** Diagram and Sand art. **Lab Activity –** Demonstration and making of Pinhole camera**.** Create shadow with the help of torch. toolslike painting brushes for water colours and oil colours, Painting surfaces
November	**Ch9. Electricity and Circuits**	1. Distinguish between complete and incomplete circuit with a well labelled figure. 2. Test items to classify them as conductor and insulator in order to examine the role of conductors and insulators in day-to-day life. 3. Analyze the flow of current in a simple electric circuit with battery, bulb and wires to identify necessary condition to ensure flow of current. 4. Describe the structure and function of the electric cell. 5. Distinguish between complete and incomplete circuit with a well labelled figure. 6. Make a simple working model of an	1. Experimental 2. Group Discussion 3. Demonstration	At the end of the lesson students will be able to know ● How electricity is generated; structure and working of dry cell, bulb. ● Create electricity circuits; draw diagrams of electric circuits using symbols. ● Comprehend the meaning and use of conductors and insulators. ● Learn the difference between Cell and	Circuit formation	**Art-** Drawing of diagrams **Physics lab-** Making simple circuits. Chemical effects of current. Deflection of compass after passing current. **Social Science-** Different ways OF electricity production in different states

		electric switch with easily available materials. 7. Infer why metals like copper and aluminium are used for making wires for domestic & industrial purposes.		battery. ● Test the conduction of iron, copper, wood and plastics.		
December	**Ch10. Fun with Magnets**	1. To list all types and shapes of magnets differentiate between magnetic and non magnetic substances comprehend the properties of magnets. 2. Analyse the interaction of two magnetic poles. 3. Evaluate the working of compass list out the uses of magnets understand the working of a compass. 4. Know about the methods by which de-magnetization can be prevented. 5. Create their own temporary magnet. 6. Aanaylse how repulsion is a sure test of magnetism. 7. Create a direction finder in order to find the direction.	1. Logical 2. Demonstration 3. Experimental	At the end of the lesson students will be able to know ● All types of magnets. ● Differentiate between magnetic and non-magnetic and give examples. ● Comprehend all properties of magnets and demonstrate them as well ist out uses of magnets. ● To test magnetic and non- magnetic materials. ● To test how poles of a magnets attract /repel each other. ● To check directions with magnet. ● Demonstrate the working of a compass (compass will be shown) to create their own temporary magnets.		**Physics lab –** Magnetic effect of electric current. Deflection of compass with magnet. **Social Science-** where magnets are found.
December	**Ch11. Air Around Us**	1. Conduct experiments in order to prove the presence of air around us. 2. Execute an improvised plan to test the presence of CO_2, oxygen, water	1. Explanation 2. Group discussion	At the end of the lesson students will be able to ● Know the Composition of Air. ● Know importance of air for life on earth.		**Mathematics-** Pie chart for composition of different gases present in atmosphere**.** **Chemistry Lab-**

		vapour, nitrogen, dust and smoke in air. 3. Prove the presence of air in water and soil in order to explain how oxygen becomes available to animals and plants. 4. Outline the causes & effects of Air pollution. 5. Depict the composition of air using pie chart. 6. Illustrate Oxygen cycle using well labeled figure. 7. Critique the importance of air for the sustenance of life on earth. 8. Execute an improvised plan to test the presence of CO2, oxygen, water vapour, nitrogen, dust and smoke in air	3. Lecture	● Composition of different gases in air. ● Cause and Effect of Air pollution. ● Harmful consequences of pollution of air. ● Steps can be taken to prevent air pollution at personal and community level.		Experiment how gas expands on heating . **English-** Find out new words and know their meaning. Study of basic forms in clay