Espalier Heritage School

Annual Planner 2020-21

Grade VI	Subject: Maths			Created By: Ajit Kumar							

Sr No	Lesson Name	Points To Cover	Lesson Flow	Learning objectives	Methodology	Pedagogical process	Learning outcomes	Teaching Aid	Teaching Place	Is the lesson worksheet ready	Reff.books with pg.no.	No.of lectures required
1	Knowing Our Numbers	1. Introduction of Number	1. Set induction to check the previous knowledge of student about numbers	1. Students will understand the use of commas helps in reading and writing large numbers	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner solves problems involving large numbers by applying appropriate operations (addition, subtraction, multiplication and division)	Chart of Indian style and International style of number system	Classroom	No	Textbook	10
		2. Reading and writing large numbers	2. Explain the concept of numeral and number and how to use commas in number system	2. Students will understand that large numbers are needed in many places in daily life	Explanation	encounter situations having numbers up to 8 digits, e.g., cost of property, total population of different towns, etc.						
		3. Use of commas	3. Solving exercise based on above concept given in the textbook	3. Students will understand that how to find the estimate value by rounding off nearest to tens and hundreds	Discussion							
		4. Large numbers in practice	4. Solving application based questions in the given text book	4. Students will understand that how we use the Hindu Arabic system of numerals.								
		5. Estimating to the nearest by rounding off	5. To teach concept of estimation	5. Students will understand that another system of writing numerals is the Roman system.								
		6. To estimate sum or difference or products	6. Introducing the application of estimation									
		7. Using and expanding brackets	7. To teach how to use an expand brackets and concept of Roman numerals									
		8. Roman Numerals	8. Solving exercise based on above concept given in the textbook									
2	Whole Numbers	1. Introduction	1. Set induction to check the previous knowledge of student about numbers	1. Students will understand about natural numbers and whole numbers.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	1. The learner solves problems involving large numbers by applying appropriate operations	Chart of Natural numbers and whole numbers represented on number line.	Classroom	No	Textbook	6
		2. Whole numbers and the number line	2. Explain the concept of whole number and how to represent whole numbers on number line	2. Students will understand that how to write the successor and predecessor of any whole numbers and natural numbers		compare numbers through situations like cost of two houses, number of spectators, money transactions, etc.	(addition, subtraction, multiplication and division)					
		3. Properties of Whole numbers	3. Solving exercise based on above concept	3. Students will understand that all natural numbers are whole number but all whole numbers are not natural numbers.								
		4. Patterns in Whole Numbers	4. Explain the various properties of whole number	4. Students will understand the properties of whole numbers for example any whole number divided by zero is not defined.								
			5. Solving exercise based on above concept	5. Students will understand that cartoons with number are not only intersecting, but are useful specially								
			6. Explain the concept of Patterns in whole numbers	for verbal calculations and help us to understand properties of number better.								
3	Playing With Numbers	1. Introduction	1. Set induction to check the previous knowledge of student about numbers	1. Students will understand that how to identify factors and multiples	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to —	The learner recognises and appreciates (through patterns) the broad classification of numbers as even, odd, prime, co-prime, etc.		Classroom	No	Textbook	14
		2. Factors and Multiples	2. To explain the concept of factors and multiples	2. Students will understand diet how to identify prime numbers and composite numbers		• classify numbers on the basis of their properties like even, odd, etc	The learner applies HCF or LCM in a particular situation					
		3. Prime and Composite Numbers	3. To explain the concept of prime number and composite number	3. Students will able to find prime factorization by division method		• observe patterns that lead to divisibility by 2,3,4,5,6,8,10 and 11.						
		4. Tests for Divisibility of Numbers	4. To explain the concept of divisibility test of 2, 3, 4, 5, 6, 8, 9, 10 and 11	4. Students will understand how to use divisibility test from 2 to 11		• create number patterns through which HCF and LCM can be discussed						
		5. Common Factors and Common Multiples	5. To to explain the concept of common factors and common multiples	5. Students will able to find LCM and HCF		• explore daily life situations to involve the use of HCF and LCM						
		6. Prime Factorisation	6. To explain the concept of finding factors by using prime factorization method	6. Students will understand that how LCM and HCF used in our daily life								
		7. Highest Common Factor	7. To explain the concept of finding highest common factor									
		8. Lowest Common Multiple	8. To explain the concept of finding lowest common multiple									

			9. Solving exercise based on above concept									
4	Basic Geometrical Ideas	1. Introduction	1. Set induction to check the basic knowledge about basic geometry.	1. Students will understand the meaning of geometry and application of geometry in our life	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner describes geometrical ideas like line, line segment, open and closed figures, angle,	Geometrical shape- curved shape, quadrilateral, circle and angles	classroom	No	Textbook	8
		2. Points, A line segment, A line, Intersecting lines, Parallel lines and Ray	2. To explain the concept of point, lines, types of lines and plane.	2. Students will understand basic concept of geometry i.e. point, line and plane		explore various shapes through concrete models and pictures of different geometrical	triangle, quadrilateral, circle, etc., with the help of examples in surroundings					
		3.Curves and Polygons	3. To explain the concept of curves and polygon	3. Students will learn differences between curves and polygons		shapes like triangles and quadrilaterals, etc.						
		4. Angles	4. To explain the concept of angles and its types	4. Students will understand all basic concept about angles, quadrilateral and circles								
		5. Quadrilaterals	5. To explain the concept of quadrilateral and circles	5. Students will understand and able to explain about the difference between Sector and segment								
		6. Circles	6. Solving textbook excercises based on above concepts									
5	Understanding Elementary Shapes	1. Introduction		1. Students will learn how to use ruler and divider for constructing lines and to compare lengths of line segments	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	1. The learner demonstrates an understanding of angles by – identifying examples of angles in the surroundings	Geometrical tools and different shapes	Classroom	No	Textbook	14
		2. Measuring Line Segments		2. Students will understand when a hand of a clock moves from one position to another position we have an example for an angle.		• identify various geometrical figures and observe their characteristics in and outside the classroom environment either individually or in groups	– classifying angles according to their measure – estimating the measure of angles using 45°, 90°, and 180° as reference angles					
		3. Angles - Right and Straight		3. Students will learn how to use a protractor to measure the size of an angles		• classify angles based on the amount of rotation	2. The learner classifies quadrilaterals into different groups/types on the basis of their sides/ angles					
		4. Angle- Acute, Obtuse and Reflex		4. Students will understand the concept of perpendicular line. The angle between Intersecting lines is 90º.		• observe various models and nets of 3-Dimensional (3-D) shapes like cuboid, cylinder, etc. and discuss	3. The learner identifies various (3-D) objects like sphere, cube, cuboid, cylinder, cone from the surroundings					
		5. Measuring Angles		5. Students will learn about triangle and they will understand various types of triangle based on angle and side		about the elements of 3-D figures such as faces, edges and vertices						
		6. Perpendicular Lines		6. Students will understand concept of polygons able to identify different types of polygon based on their sides								
		7. Classification of Triangle		7. Students will understand various types of quadrilaterals								
		8. Quadrilaterals										
		9. Polygons										
		10. Three Dimensional Shapes										
6	Integers	1. Introduction	1. Set induction to check the previous knowledge of student about numbers	1. Students will understand concepts of number system.	Inductive and deductive	"The learner may be provided opportunities in pairs/groups/ individually and encouraged to"	The learner solves problem involving addition and subtraction of integers.	Integers- Number line	Classroom	No	Textbook	6
		2. Representing integers on number line	2. To explain the concept of integers and how to represent integers on number line	2. Students will understand that all natural numbers and whole numbers are also integers		create and discuss daily life situations involving the use of negative numbers						
		3. Ordering of Integers	3. To explain the concept of comparing negative and positive integers	3. Students will learn that how more than given number gives a successor and one less than given number gives predecessor								
		4. Addition of Integers	4. To explain the concept of addition of integers by using number line	4. Students will learn how addition and subtraction of integers can also be shown on a number line								
		5. Subtraction of Integers	5. To explain the concept of subtraction of integers by using number line									
			6. Solving all excercises of textbook based on above concepts									
7	Fractions	1. Introduction	1. Set induction to know about basic concept of numerator and denominator	1. Students will understand that a fraction is a number representing a part of a whole.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	1. The learner uses fractions in different situations which involve money, length,	Fraction kit	Classroom	No	Textbook	10
		2. Faction	2. To explain the concept of fraction and also how to represent fraction on number line.	2. Students will learn that fractions can be shown on number line. every fraction has a point associated with it on the number line.		observe situations that require the representation by fractions	temperature etc. For example, 7½ metres of cloth. distance between two places is 112.5 km etc.					

		3. Fraction on the Number Line	3. To explain the concept of each type of fractions that is proper fraction, improper fraction and mixed fraction.	3. Students will learn how to identify various types of fraction i.e. proper fraction, improper fraction and mixed fraction			2. The learner solves problems on daily life situations involving addition and subtraction of fractions					
		4. Types of Fractions	4. To explain the concept of finding the equivalent fractions	4. Students will understand that each proper or improper fraction has many equivalent fractions.								
		5. Equivalent Fractions	5. To explain the concept how to write any fraction into a simplest form.	5. Students will understand that fraction is said to be in the simplest form if its numerator and the denominator have no common factor except 1.								
		6. Simplest form of a Fraction	6. To explain the concept of addition and subtraction of like fraction and unlike fraction.									
		7. Comparing Like and Unlike Fractions	7. Solving all exercise of text book based on above concept.									
		8. Addition and Subtraction of fractions										
8	Decimals	1. Introduction	1. Set induction to check the previous knowledge about place value system and decimal.	1. Students will understand that every fraction with denominator 10 and 100 can be written in decimal notation and vice-versa	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	1. The learner uses decimals in different situations which involve money, length,	Place value kit	Classroom	No	Textbook	12
		2. Tenths	2. To introduced the concept of decimals.	2. Students will learn place value system after decimal point. They will also understand how to read and write decimal numbers		observe situations that require the representation by decimals.	temperature etc. For example, 7½ metres of cloth. distance between two places is 112.5 km etc.					
		3. Hundredths	3. To explain the concept of Tenths and Hundredths.	3. Students will understand that all decimals can also be represented on the number line.			2. The learner solves problems on daily life situations involving addition and subtraction of decimals					
		4. Comparing Decimals	4. To explain how decimal number we can represent on number line.	4. Students will learn how to compare decimal numbers.								
		5. Using Decimals	5. To explain the concept of comparing decimals and how to use decimals.	5. Students will learn decimals are used in many ways in our lives. For example, in representing units of money, length and weight.								
		6. Addition of Numbers with Decimals	6. To explain the concept of addition of decimal numbers and how to solve application based question									
		7. Subtraction of Numbers with Decimals	7. To explain the concept of subtraction of decimal numbers and how to solve application based question									
			8. Solving all exercise of text book based on above concept.									
9	Data Handling	1. Introduction	1. Set induction to check the previous knowledge about data handling	1. Students will understand that data is a collection of numbers gathered to give some information.	Presentation	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner arranges given/collected information such as expenditure on different items in a	Graph book	Classroom	No	Textbook	10
		2. Interpretation of a Pictograph	2. To explain the concept how to interpret a pictograph and answer the following questions	2. Students will learn that to get a particular information from the given data quickly, the data can be arranged in a tabular form using Tally marks.		• collect information and display it in a pictorial form. For example, heights of students from their class and represent it pictorially	family in the last six months, in the form of table, pictograph and bar graph and interprets them.					
		3. Drawing a Pictograph	3. To explain the concept how to represent data by using pictograph	3. Students will learn how a pictograph represents data in the form of pictures, objects or parts of objects		• collect and discuss various diagrams/ bar charts from the newspapers/ magazines may be in the class.						
		4. Interpretation of a bar graph	4. To explain the concept how to interpret a bar graph and answer the following questions	4. Students will learn how to interpret a pictograph and answer the related question								
		5. Drawing a bar graph	5. To explain the concept how to represent data by using bar graph	5. Students will learn how to represent data by using pictograph and bar graph.								
10	Mensuration	1. Introduction	1. Set induction to check the previous knowledge about perimeter and area	1. Students will understand that perimeter is the distance covered along the boundary forming a closed figure.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner finds out the perimeter and area of rectangular objects in the surroundings like	Chart of Perimeter and Area	Classroom	Yes	Textbook	7
		2. Perimeter	2. To explain the concept of finding perimeter of regular shape, square and rectangle	2. Students will learn how to find the perimeter of rectangle, square, equilateral triangle and regular shape.		through discussion motivate them to arrive at the formula for area and perimeter of a rectangle/square	floor of the class room, surfaces of a chalk box etc.					

		3. Area	3. To explain the concept of finding area of square and rectangle.	3. Students will understand that figure in which all sides and angles are equal are called regular closed figures.								
			4. Solving all exercise of text book based on above concept.	4. Students will understand that the amount of surface enclosed by a closed figure is called its area.								
				5. Students will able to find the area of rectangle and Square.								
11	Algebra	1. Introduction			Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner uses variable with different operations to generalise a given situation.		Classroom	Yes	Textbook	12
		2. The ideas of Variables				• use different contexts in mathematics to appreciate the necessity of representing unknowns by variables (alphabet)	e.g., Perimeter of a rectangle with sides x units and 3 units is 2(x+3) units					
		3. Use of Variables in Common Rules										
		4. Expressions with Variables										
		5. Using Expressions Practically										
		6. Solution of an equation										
12	Ratio and Proportion	1. Introduction	1. Introduction the concept of ratio and Proportion. Also explain the application of ratio and Proportion in daily life.	1. Students will understand that comparison by ratio, the two quantities must be in the same unit. If they are not, they should be expressed in the same unit before the ratio is taken.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	1. The learner compares quantities using ratios in different situations. e.g., the ratio of girls to boys in a particular class in 3:2		Classroom	Yes	Textbook	6
		2. Ratio	2. To explain the concept of unitary method and when we are using this method in our practical life.	2. Students will understand that same ratio may occur in different situations.		• describe situations involving the need for comparing quantities by taking ratio	2. The learner uses unitary method in solving various word problems. For example, if the cost of a dozen notebooks					
		2. Proportion	3. Solving all excercises of textbook based on above concepts	3. Students will learn that four quantities are said to be in proportion, if the ratio of first and the second quantity is equal to the ratio of 3rd and 4th quantity		• discuss and solves word problems that use ratios and unitary method	is given she finds the cost of 7 notebooks by first finding the cost of 1 notebook					
		3. Unitary Method		4. Students will understand that the method in which we first find the value of when you need and then the value of the required number of units is known as the unitary method								
13	Practical Geometry	1. Introduction	1. Set induction to know about the basic construction	1. Students will learn all the steps for constructing circle, line segment, perpendicular line, angle and angle bisectors.	Construction	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner using ruler and a pair of compasses constructs, circle, line segment, perpendicular line and angles	Geometry box	Classroom	Yes	Textbook	10
		2. Construction of Circle	2. To explain step of constructing circle	2. Students will understand application of practical geometry in daily life		construct various geometrical shape by using geometrical tool box.						
		3. Construction of line segment	3. To expalin step of constructing line segment and perpendicular line									
		4. Construction of Perpendicular lines	4. To explain step of constructing angle and angle bisector.									
		5. Construction of angles	5. Solving all exercise based on above concept.									
		Construction of angle bisector										