						Espalier Heritage School Annual Planner 2020-21						
roda	Qubias*	· Matha	I	0	l By: Ajit Ku	ımar		<u> </u>				
rade VIII	Subject	:: Maths					Created					
No	Lesson Name	Points To Cover	Lesson Flow	Learning objectives	Methodology	Pedagogical process	Learning outcomes	Teaching Aid	Teaching Place	Is the lesson worksheet	Reff.books with pg.no.	No.of lectures
	Rational Numbers	1. Introduction	Set induction to check the knowledge about rational number	Students will understand that rational numbers are closed under the operation of addition, subtraction and multiplication	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to explore examples of rational numbers with all the operations and explore patterns in these operations.	The learner generalises properties of addition, subtraction, multiplication and division of rational numbers through patterns.	Chart	Classroom	yes	Text Book	required 10
		2.Properties of Rational Numbers	Explain the concept of various properties of rational numbers	Students will understand how to use the property of rational numbers to solve various types of sums			The learner finds out as many rational numbers as possible between two given rational numbers.					
		3. Representati on of rational numbers on the number line	Solving exercise based on the properties of rational numbers	3. Students will understand how to represent rational numbers on number line								
		4. Rational numbers between two rational numbers	Explain how to representing rational number on number line									
			Explain the concept of finding infinite rational numbers between any two rational numbers Solving exercise based on									
			above concept									
	Linear Equations in One Variable	Introduction Solving	Set induction to check the knowledge about equation Explain concept of linear	Students will understand that the highest power of the variable appearing in the equation is 1 is known as linear equation Students will	Scientific Attitude	The learner may be provided opportunities in pairs/groups/ individually and encouraged to observe situations that lead to simple equations and solve them using suitable processes.	The learner solves puzzles and daily life problems using variables.	-	Classroom	yes	text book	15
		equations which have linear expressions on one side and number on the other side	equation in one variable	understand how to solve linear equation and how it applicable in day to day life								
			Solving equation and application based question	3. Students will understand that expression farming equations have to be simplified before we can solve them by using usual method.								
		4. Solving equations having the variable on both sides	Explain concept how to reduce equation to simpler form									
		5. Some more Applications	5. Solving sums based on above concept									
		6. Reducing equations to simpler form 7. Equations	Explain concept how equations reducible to Linear form Solving sums based on above concept									
		the linear form	above concept									
	Understandin g Quadrilateral s	Introduction	Set induction to check the previous knowledge of student about shapes and its types.	Students will understand that polygon classified into concave and convex polygon.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to verify the properties of parallelograms and apply reasoning by doing activities such as	The learner Solves problems related to angles of a quadrilateral using angle sum property	Shapes of special quadrilaterals	Math lab	yes	Textbook	12
		polygons and regular, irregular polygons and angle sum property of quadrilaterals				constructing parallelograms, drawing their diagonals and measuring their sides and angles.						
			2. Introduction and classification of polygons.	2. Students will understand that all angle of convex polygon is less than 180 degree and in concave polygon one angle is more than 180 degree.			The learner verifies properties of parallelograms and establishes the relationship between them through reasoning.					
			To conduct activity to explain the angle sum property of quadrilateral									
		4. Some special parallelogra m.	Solving exercise 3.1 based on above properties and concepts. To explain the property of	4. Students will understand the property of exterior angle of any polygon. 5. Students will								
			some of the measure of the exterior angle of polygon is 360 degree. 6. Solving exercise 3.2 based	understand various								
			on the exterior angle property of polygon. 7. To explain the various types of special quadrilateral and its properties based on side angle									
			and diagonal. 8. Solving exercise 3.3 and exercise 3.4 based on the properties of various types of quadrilateral.									
_	Practical Geometry	1. Introduction	To explain the concept that five measurements can determine a quadrilateral uniquely.	Students will understand that a quadrilateral can be constructed uniquely if the lengths of its four size and a diagonal is	Scientific Attitude	The learner may be provided opportunities in pairs/groups/ individually and encouraged to demonstrate the construction of various quadrilaterals using geometric kit.	The learner constructs different quadrilaterals using compasses and straight edge.	Geometry Kit	Classroom & Math lab.	Yes	Textbook	10

	Constructing	To explain the steps of constructing quadrilateral when	Students will understand that a								
	a	the length of four sides and a diagonal are given.	quadrilateral can be constructed uniquely if								
	when the length of four	g	it two diagonals and three sides are given.								
	side and diagonal are		and diago and givening								
	given.										
	Constructing	3. Constructing quadrilateral in exercise 4.1 on above concept.	3. Students understand that a								
	quadrilateral when two		quadrilateral can be constructed uniquely if								
	diagonals and three		its two adjacent sides and three angles are								
	sides are given.		known.								
		To explain the step of constructing quadrilateral when	Students will understand that a								
	a	two diagonals and three sides are given.	quadrilateral can be constructed uniquely if								
	when two adjacent		its three sides and two included angles are								
	sides and three angles		given.								
	are known.	Constructing quadrilateral in									
		exercise 4.2 on above concept.									
	quadrilateral when three										
	sides and two included										
	angles are given.										
	6.	6. To explain the step of									
	a	constructing quadrilateral when two adjacent sides and three									
	in some	angles are known.									
	special cases.										
		7. Constructing quadrilateral in exercise 4.3 on above concept.									
		To explain the step of constructing quadrilateral when									
		three sides and two included angles are given.									
		Constructing quadrilateral in									
		exercise 4.4 on above concept.									
Data Handling	1. Introduction	Set induction to check the previous knowledge about data	Students will understand that data	Inductive and Deductive.	The learner may be provided opportunities	The learner draws and interprets bar charts and pie		Classroom	No	Textbook	10
3		handling concept.	mostly available to us in an unorganised form		in pairs/groups/ individually and encouraged to collect data, organise it	charts.					
			and we are representing them		into groups and represent it into bar graphs/ pie chart.						
			systematically to analyse the data for		3 cp - 1 c -						
	2 Fraguency	To explain that what is the	specific purpose. 2. Students will		The learner may be provided	The learner makes hypotheses					
	distribution	need of data handling in our day to day life.	understand that data can also represented		opportunities in pairs/groups/ individually and	on chances of future events on the basis of its earlier					
	lable.	day to day life.	using circle graph or		encouraged to	occurrences					
			pie chart a circle graph showing the								
			relationship between a whole and its part.								
	graph or pie	To explain the concept of representing data in tabular	3. Students will understand that		conduct activities related to throwing a large	or available data like , after repeated throws					
		form of ungroup and group data.	chances and probability are related		number of identical dice/coins together and	of dice and coins.					
	4. Chance	4. Solving exercise 5.1 on	to real life.								
		above concept.			aggregating the result of the throws to get a						
					large number of individual events and make						
		To explain the concept of			assumptions for future events on the						
		representing data in circle.			basis of the above data.						
		6. Solving exercise 5.2 based			the above data.						
		on pie chart concept. 7. To explain the concept of									
		probability and solving exercise based on this concept.									
Causasa and		basea on this concept.									
	1	,	1 Students will	Industries	1. The learner may be provided.	1 The learner fields account and	Chart of	Classes	No	Tayt had!	10
Square		To explain the properties of square number and solving	Students will understand and able to		The learner may be provided opportunities	The learner finds squares and square roots of numbers using	Chart of square and	Classroom	No	Text book	10
Roots	Introduction	To explain the properties of square number and solving exercise 6.1 based on this property	understand and able to write square numbers.		opportunities in pairs/groups/ individually and encouraged to			Classroom	No	Text book	10
	2. Properties of Square	To explain the properties of square number and solving exercise 6.1 based on this	understand and able to write square numbers. 2. Students will understand that		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square	square roots of numbers using different	square and	Classroom	No	Text book	10
	Introduction 2. Properties	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers,	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of	understand and able to write square numbers. 2. Students will understand that square numbers end		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will		opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square	deductive	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there	deductive	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number 5. Square Roots	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect	deductive	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number 5. Square Roots 6. Square	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect	deductive	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect	deductive	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and	square roots of numbers using different	square and	Classroom	No	Text book	10
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Roots Cubes &	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals 7. Estimating Square Root	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and division method. 6. To explain exercises based on above concept. 7. To to explain the method to find estimate square root and also square root of decimal numbers. 8. To explain how to solve sum of exercise based on above concept.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect square number.	Inductive and deductive method	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and form rules for exponents as integer 1. The learner may be provided opportunities in pairs/groups/ individually and	square roots of numbers using different methods. 1. The learner finds squares, cubes and square roots and cube roots of numbers using	square and square root				
Roots Cubes &	2. Properties of Square Numbers 3. Some More Interesting Patterns 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals 7. Estimating Square Root	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and division method. 6. To explain exercises based on above concept. 7. To to explain the method to find estimate square root and also square root of decimal numbers. 8. To explain how to solve sum of exercise based on above concept. 1. Set induction to check the previous knowledge about	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect square number.	Inductive and deductive method	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and form rules for exponents as integer 1. The learner may be provided opportunities	square roots of numbers using different methods. 1. The learner finds squares, cubes and square roots and	square and square root Chart of cube and cube				
Roots Cubes &	2. Properties of Square Numbers 3. Some More Numbers 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals 7. Estimating Square Root 1. Introduction 2. Cubes	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and division method. 6. To explain exercises based on above concept. 7. To to explain the method to find estimate square root of decimal numbers. 8. To explain how to solve sum of exercise based on above concept. 1. Set induction to check the previous knowledge about basic concept of cube.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect square number. 1. Students will understand that there are two integral square number and understand that number obtained when a number is multiplied by itself three times are known as cube. 2. Students will	Inductive and deductive method	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and form rules for exponents as integer 1. The learner may be provided opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers,	square roots of numbers using different methods. 1. The learner finds squares, cubes and square roots and cube roots of numbers using different	square and square root Chart of cube and cube				
Roots Cubes &	2. Properties of Square Numbers 3. Some More Numbers 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals 7. Estimating Square Root 1. Introduction 2. Cubes	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and division method. 6. To explain exercises based on above concept. 7. To to explain the method to find estimate square root and also square root of decimal numbers. 8. To explain how to solve sum of exercise based on above concept. 1. Set induction to check the previous knowledge about basic concept of cube.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect square number. 1. Students will understand that there are two integral square number is multiplied by itself three times are known as cube. 2. Students will understand that if in the prime factorization	Inductive and deductive method	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and form rules for exponents as integer 1. The learner may be provided opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots, cubes and cube roots of numbers	square roots of numbers using different methods. 1. The learner finds squares, cubes and square roots and cube roots of numbers using different methods.	square and square root Chart of cube and cube				
Roots Cubes &	2. Properties of Square Numbers 3. Some More Numbers 4. Finding the Square of a Number 5. Square Roots 6. Square Roots of Decimals 7. Estimating Square Root 1. Introduction 2. Cubes	1. To explain the properties of square number and solving exercise 6.1 based on this property 2. To explain the concept of Pythagorean triples. 3. To explain some new patterns in square. 3. Solving exercise 6.2 based on above concept. 4. To explain how to find the square root of any perfect square number. 5. To explain how to find square root by using prime factorization method and division method. 6. To explain exercises based on above concept. 7. To to explain the method to find estimate square root of decimal numbers. 8. To explain how to solve sum of exercise based on above concept. 1. Set induction to check the previous knowledge about basic concept of cube.	understand and able to write square numbers. 2. Students will understand that square numbers end with 0,1,4,5,6 or 9 at unit place. 3. Students will understand that square root is the Inverse Operation of square. 4. Students will understand that there are two integral square root of a perfect square number. 1. Students will understand that number obtained when a number is multiplied by itself three times are known as cube. 2. Students will understand that if in	Inductive and deductive method	opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square roots of numbers and form rules for exponents as integer 1. The learner may be provided opportunities in pairs/groups/ individually and encouraged to explore patterns in square numbers, square	square roots of numbers using different methods. 1. The learner finds squares, cubes and square roots and cube roots of numbers using different methods.	square and square root Chart of cube and cube				

	3. Cubes Roots	To explain exercise 7.1 based on above concept	 Students will understand that how to find the cube root of any integers. 								
		To explain the concept of finding cube root of perfect cube numbers by using prime factorization method and and also to find the cube root through estimation. To explain exercise 7.2									
		based on about concept.									
Comparing Quantities	Recalling Ratios and Percentages	To explain the concept of ratios and percentage an application of ratio and percentage.	Students fill understand that how ratio proportion, profit and loss, discount concept used in our day to day life.	Problem Solving	The learner may be provided opportunities in pairs/groups/ individually and encouraged to observe contexts that involve the use of percentages like discount, profit & loss, VAT, simple and compound interest, etc.	The learner applies the concept of per cent in profit and loss situation in finding discount, VAT and compound interest. e.g., calculates discount per cent when marked price and actual discount are given or finds profit per cent when cost price and profit in a transaction		Classroom	No	Textbook	12
	2. Finding the Increase and Decrease Percent	2. To explain how to solve exercise 8.1 based on above concept.	2. Students will understand the calculation of finding profit and loss, discount, ratio and proportion.		2. generalise the formula of compound interests through repeated use of simple interest	are given.					
	3. Finding Discounts	To explain application of increase or decrease percentage concept in our day to day life	3. Students will understand that how to calculate compound quarterly, half yearly and annually.		3. observe situations where one quantity depends on the other. the quantities increase together, or in which while one increases the other decreases. For example, as the speed of a vehicle increases the time taken by it to						
	Selling (Profit and Loss)				cover the distance decreases.						
	5. Sales Tax/Value Added Tax/Goods and Services Tax	5. To the concept of profit and loss observed in our day to day life									
	Interest	6. To explain exercise 8.2 based on above concept									
	a Formula for Compound Interest	7. To explain the concept of sale tax or value added tax which we are paying to our government.									
	8. Rate Compounded Annually or Half Yearly (Semi Annually)	8. To explain exercise 8.2 sums based on above concept.									
		To explain the concept of simple interest and compound interest. Also to explain computation of simple interest and compound interest in different cases.									
		10. To explain how to solve exercise I'm based on above concept.									
Algebraic Expressions and Identities	What are Expressions?	Set induction to check the previous knowledge about variable and constant.	Students will understand that expressions are formed from variables and constants.	Inductive and deductive method	The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner solves puzzles and daily life problems using variables.	Chart	Classroom	No	Textbook	18
	9.3 Monomials, Binomials	To explain the concept of terms, factors and coefficient in algebraic expression. Also how to to determine like and unlike term of algebraic expression. To explain the concept of of monomial, binomial and polynomial	in the the monomial, binomial and trinomial respectively. 3. Students I will understand that like terms are formed from		multiply two algebraic expressions and different polynomials based on previous knowledge of distributive property of numbers and generalise various algebric identities using concrete examples 2. factorise algebraic expressions using relevant activities based on previous knowledge	The learner uses various algebric identities in solving problems of daily life The learner multiplies algebraic expressions. • e.g expands (2x-5)(3x2+7).					
	and Polynomials 4. Like and	4. To explain exercise 9.1	the same variable and the power of these variables are the the same too. 4. Students will		of factorising two numbers						
	Unlike Terms	based on above concept.	understand that there are number of situation in which we need to multiply algebraic expressions.								
	5. Addition and Subtraction of Algebraic Expressions	To explain the concept of multiplication of algebraic expressions i.e. monomial by a monomial.	5. Students will understand that an identity is an equality which is true for all values of the variables in the equality.								
	of Algebraic Expressions: Introduction	6. To explain exercise 9.2 based on above concept.	6. Students will understand that some identities are useful in carrying out squares and product of algebraic expressions.								
	a Monomial	7. To explain the concept of multiplying monomial by polynomial and polynomial by	They also allow easy alternative method to calculate product of								
	Monomial 8. Multiplying a Monomial by a Polynomial	another polynomial. 8. To explain exercise 9.4 based on above concept.	number and so on.								
	a Polynomial by a	To explain the concept of Identity. Also how identity is used to do to many calculation in algebraic expression.									
Visualising	1.	Set induction to check the	Students will able to	Scientific	"1. The learner may be provided	The learner represents 3D	2D and 3D	Math lab	No	Text book	6
Solid Shapes	Introduction	previous knowledge about 3D shape.	recognise 2D and 3D object and also so different shapes in nested object.	attitude	opportunities in pairs/groups/ individually and encouraged to"	1. The learner represents 3D shapes on a plane surface such as sheet of paper, black board etc. • verifies Euler's relation through pattern	shapes	iviaul IdD	110	I GAL DUUK	
	2. View of 3D-Shapes	2. To explain the concept of 3D shapes and how how the shapes are connected to our day to day life.	2. Students will understand that 3D objects have different Views From different		identify that surfaces of various 3-D objects like cubes, cuboids and cylinder						

		3. Mapping Space Around Us	To explain how to mapping space around us.	3. Students will understand that a map depicts the location of a particular object/ place in relation to other objects/ places		make nets of various shapes like cuboids, cubes, pyramids, prisms, etc. and from nets make the shapes and establish relationship						
		4. Faces, Edges and Vertices	To explain how to identify faces edges and vertices of 3D shapes.	Students will understand that maps involve a scale which is fixed for particular map and symbols are used to depict the different objects/		among vertices, edges and surfaces						
			To explain how to solve exercise based on above concepts.	places								
11	Mensuration	1. Introduction	Set induction to check the previous knowledge of student about area.	Students will able to find area of trapezium and general quadrilateral.	attitude	1. The learner may be provided opportunities in pairs/groups/ individually and encouraged to	The learner estimates the area of shapes like trapezium and other polygons by using square grid/ graph sheet and verifies using formulas.	Shapes of cube cuboid and cylinder	Classroom	no	Text book	15
		3. Area of Trapezium	To to explain exercise 11.1 based on Basic concept of Mensuration.	2. Students able to find surface area and volume of cube cuboid and cylinder		derive formulae for surface area of cubes and cuboids using the formulae for areas of rectangles, squares and circles	2. The learner finds the area of a polygon.					
		4. Area of	3. To to explain how trapezium			2. demonstrate to find volume of a given	3. The learner finds surface area					
		General Quadrilateral	formula derived and how to find the the area of trapezium			cube and cubiod using unit cubes	and volume of cuboidal and cylindrical object.					
		5. Area of Polygons	4. To explain the concept of how to find the area of a									
			General quadrilateral.									
		6. Solid Shapes	5. To explain exercise 11.2 based on above concept.									
		7. Surface Area of	6. To explain the concept of surface area of cube cuboid									
		Cube, Cuboid and	and cylinder									
		Cylinder	7. Ta associate									
		8. Volume of Cube, Cuboid and	7. To explain exercise 11.3 based on above concept.									
		Cylinder										
		9. Volume and Capacity	To explain the concept of finding volume of cube cuboid and cylinder. To exercise 11.4 based on above concept.									
12	Exponents and Powers	1. Introduction	To explain the concept of base and index	Students will understand that how to use law of exponents to solve the sums.	deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to generalised the law of exponents.	The learner solves problems with integral exponents.	Chart of law of exponents.	classroom	No	Textbook	6
		2. Powers with Negative Exponents	2. To explain various laws of exponents.	2. Students will understand that very small numbers can be expressed in standard form by using negative exponents.								
		3. Laws of	3. To explain how to solve	exponents.								
		Exponents	exercise 12.1 based on above concept.									
		4. Use of Exponents to										
		Express Small Numbers in Standard Form	small number in standard form. 4. To explain how to solve									
			exercise 12.2 based on above concept.									
13	Direct and Inverse Proportions	1. Introduction	To explain the concept of direct proportion and solving exercise 13.1 based on this concept.	1. Students will understand that two counties are said to be in direct proportion if they increase or decrease together in such a manner that the ratio of their corresponding values remain constant.	deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to observe situations where one quantity depends on the other. the quantities increase together, or in which while one increases the	The learner Solves problems based on direct and inverse proportions.	-	Classroom	no	Textbook	6
		2. Direct Proportion	To explain concept of inverse proportion and solving	Students will understand that two		other decreases. For example, as the speed						
		roportion	of exercise 13.2 based on this concept	quantity is said to be inverse proportion if one quantity increase and another quantity decrease proportionally in such a manner that the product of their corresponding values		of a vehicle increases the time taken by it to cover the distance decreases.						
		3. Inverse	1	remain constant.								
		Proportion										
14	Factorisation	1. Introduction	To explain the concept of factorization	Students will understand that when we factorise an expression we write it as a product of factor and these factors may be number algebraic variables or algebraic expressions	deductive	1. 1. The learner may be provided opportunities in pairs/groups/ individually and encouraged to factorise algebraic expressions using relevant activities based on previous knowledge of factorising two numbers	The learner multiplies algebraic expressions. • e.g expands (2x-5)(3x2+7). • uses various algebric identities in solving problems of daily life	-	Classroom	No	Textbook	15
	1	2. What is	2. To explain the concept of	2. Students will		multiply two algebraic expressions						
1				understand division of		and different polynomials based on previous						
		?	writing factor of polynomials and also to find the common factor of polynomial.	polynomial by a monomial, binomial and polynomial		knowledge of distributive property of numbers and generalise various algebric identities using concrete examples						
		Division of Algebraic	and also to find the common	monomial, binomial		numbers and generalise various algebric						
		3. Division of Algebraic Expressions 4. Division of	and also to find the common factor of polynomial. 3. To explain exercise 14.1 based on above concept. 4. To explain the concept of	monomial, binomial		numbers and generalise various algebric						
		? 3. Division of Algebraic Expressions	and also to find the common factor of polynomial. 3. To explain exercise 14.1 based on above concept. 4. To explain the concept of factorisation by using identities and solving exercise 14.2 based on this concept.	monomial, binomial		numbers and generalise various algebric						
		3. Division of Algebraic Expressions 4. Division of Algebraic Expressions Continued (Polynomial /	and also to find the common factor of polynomial. 3. To explain exercise 14.1 based on above concept. 4. To explain the concept of factorisation by using identities and solving exercise 14.2 based on this concept. 5. To explain the concept of division of algebraic expression by monomial, binomial and polynomial by monomial and binomial.	monomial, binomial and polynomial		numbers and generalise various algebric						
		3. Division of Algebraic Expressions 4. Division of Algebraic Expressions Continued (Polynomial /	and also to find the common factor of polynomial. 3. To explain exercise 14.1 based on above concept. 4. To explain the concept of factorisation by using identities and solving exercise 14.2 based on this concept. 5. To explain the concept of division of algebraic expression by monomial, binomial and polynomial by monomial and	monomial, binomial and polynomial		numbers and generalise various algebric						

15	Introduction to Graphs	1. Introduction 2. Linear Graphs	Set induction to check the previous knowledge of presenting data in graph Concept of representing data in graph and circle.		deductive	The learner may be provided opportunities in pairs/groups/ individually and encouraged to collect data, organise it into groups and represent it into bar graphs/ pie chart	1. The learner	Graph book	classroom	no	textbook	10
		3. Some Applications	To explain the concept of graph used in IR daily life and solving exercise based on it.	over period of time.								
16	Playing with Numbers	1. Introduction	To explain divisibility test of 1 to 11.			1. use generalised form of numbers upto 3 digits and uses her understanding of algebra to derive the divisibility rules for 2, 3, 4 done earlier by observing patterns on them.	1. The learner proves divisibility rules of 2, 3,4, 5, 6, 9 and 11	-	Classroom	no	textbook	6
		2. Numbers in General Form	Solving exercise based on above concept	2. Students able to explain the general form of number are helpful in solving puzzle or number games								
		3. Game with Numbers	To han number used in puzzles and games									
		4. Letters for Digits										
		5. Test of Divisibility										