						eritage School						
_	1 177				Annual	Planner 2021-22					1	
Gra	de VII					Subject: Maths						
Sr No	Lesson Name	Point to cover	Lesson flow	learning objectives	Methodology	Pedagogical Process	Learning outcome	Teaching Aid	Teaching Place	Reff.book s with pg.no.	lecture s	Class Activities /Diagrams / Map work
1	Integers	1. Introduction of integers	1. Set induction to check the previous knowledge of student about numbers and integers.	Students will understand a bigger collection of numbers which is formed by whole numbers and their negatives.	Explanation	The learning may be provided opportunities in pairs/ groups / individually and encouraged to provide contexts for exploring the rules of multiplication and division of integers. This can be done through number line or number patterns	The learn multiplies/ divides two integers	Chart of number line	Online Classroom	Text book	10	To practice addition, subtraction and multiplication of integers
		2. Properties of addition and subtraction of integers	2. Solving exercise based on basic concept of integers given in the textbook.	2. They will understand how integers will be multiply and find the product of a positive and a negative integers is a negative integer, whereas the product of two negative integers is a positive integers.				Paper tiles				Material required: 50 flashcards, pen, notebook
		3. Multiplicatio n of integers	3. Introduce the operations of integers.	3. Students will understand properties of commutativity, associativity under addition and multiplication, and the distributive property hel us to make our calculations easier								

	1	Τ.	T. =	T	T	T	T	T	Т	Т	1	ı
		n of integers	Explain     properties of     addition and     subtraction of     integers									
		5. Division of integers	5. Solving exercise in notebook given in the textbook									
		6. Properties of division of integers	6. To teach multiplication and its property of integers									
			7. Solving exercise in notebook given in the textbook									
			8. To teach division and its property of integers									
			9. solving exercise in notebook given in the textbook									
2	s and	of fraction	check the previous	Students will learn about fraction and decimal along with the operation of addition and subtraction on them.	1. Explanation	pairs/ groups / individually	The interprets the division and multiplication of fractions and decimals	1. Fraction Circle	Online Classroom	Text book	14	Understanding multiplication of decimal numbers
		n of	2. Solving exercise based on basic concept of addition or subtraction of fraction given in the exercise 2.1	2. They will understand operations of fractions and also reciprocal of a fraction is obtained by inverting it upside down.	2. Inductive and deductive							Aim: To represent the product of two decimal numbers on a sheet with squares

of fractions	multiplication and division of fraction	3. Students will learn how to multiply and divide two decimal numbers.				Material required: Squared sheet of paper, crayons of two different colour and pencil
of whole	Solving     textbook exercise based on multiplication and division of fraction					
5. Introduction of decimal numbers	5. Introduction about decimal numbers					
n of decimal	6. Explain operation of decimal number with decimal number					
of decimal	7. Solving textbook exercise based on the give concept.					

3	Data Handling	1. Introduction of data handling and collection of data	1. Set induction to check the previous knowledge of students which they already studied in grade 6 about data handling	Students will understand the data is always collected for specific purpose	1. Explanation	pairs/ groups / individually and encouraged to find a representative value of data i.e. mean, mode or median of	summer, runs scored	Online Classroom	Textbook	12	Collection of data and arranging data in tabular form for analysis
		2. Concept of arithmetic mean, mode and median	2. Explain the concept of data, purposes for collection of data and how to organise data	2. Students will understand collection, recording and presentation of data in tabular and also with the help of various types bar graph	2. Inductive and deductive	2. To discuss the situations where the term 'chance' can be used, for example, what are the chances of winning today as chances of getting 6 while rolling a dice.	The learner fine various representative values for simple data from his/her daily life contexts like mean, median and mode				Activity to find measure of Central tendency
		3. Uses of bar graphs with different purposes.	3. Solving textbook exercise based on above concept	3. Students will understand the measure of Central tendency in data handling			The learner recognises variability in real life situation such as, variations in the height of students in his/her class and uncertainty in happening of events like throwing a coin				
		4. Concept of probability		4. Students will understand there are situations in our life, that are certain to happen, some that are impossible and some that may or may not happen. The situation that may or may not happen has a chance of happening							

		5. Solving textbook exercise based on above concept								
		6. To explain what are the purposes of graph and how to represent data on graph and also how to select scale to represent data								
		7. Solving textbook exercise based on above concept								
		8. To explain concept of probability and solving exercise based on it								
4	and variable	previous knowledge about constant and variables	understand and equation is a condition on a variable such that two expressions in the variable should have equal value.	Inductive and deductive	opportunities in pairs/groups/individually and encourage to provide situations from daily life that lead to setting up of equations and choosing the appropriate value of the variable that equate both sides	The learner represents daily life situations in the form of a simple equation and solves it.	Online Classroom	Textbook	14	Activity: To complete 3 x 3 magic square by using linear equations
	2. To explain concept of equation	2. Start with mind reading game to introduce the concept of variable and constant	2. Students will understand the value of variable for which the equation is satisfied is called the solution of equation.		It is also provide to conduct activity of adding/subtracting number of objects of same category from daily life. For example number of notebooks obtained when three notebooks are added to a group of 5 notebooks.					Pre-requisite: Knowledge of solving linear equations.

		3. Solving of an equation	3. Explain the concept of equation	3. Students will understand how to construct simple algebraic expressions corresponding to practical situations								Material required: Incomplete magic square, paper, pen and scale.
		4. Path of equation. a) Normal path. b) Reverse path	4. Solving exercise 4.1 based on above concept									
		5. Applications of simple equations to practical situations	5. To explain how to solve equation and then student will solve equation of exercise 4.2 and 4.3 in their notebook									
			6. To explain how the concept of equation is connected with our day to day life									
			7. To solve application based question from exercise 4.4 in notebook									
5	Lines and Angles	1. Introduction aap basic concept of basic geometry i.e. point, line, angles, etc	previous knowledge about point, lines and angles.	Students will understand basic concept about angles and its properties.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/individually and encouraged to explore different examples from daily life in which pair of angles are involved with a common vertex	1. The learner classify of angles based on thier properties as linear, supplementary, complementary, adjacent and vertically opposite and finds value of the one when the other is given.	Chart of lines and angles	Online Classroom	textbook	7	

	of related angles:	concept of related angles and start solving exercise 5.1.	2. Students will understand properties of angles formed by parallel line and its transversal		transversal cuts two lines(parallel and non-			
	lines,	3. To teach the concept of line and transversal and property of angle intercept by parallel lines and transversals						
		4. To solved exercise 5.2 based on above concept						
6	of triangle	1. Set induction to know the basic concept and properties of triangle.	Students will understand about triangle and its properties.	Inductive and deductive	1. The learning may be provided opportunities in pairs/groups/individually and encouraged to draw different types of triangles, ask them to measure angles of all triangles, and verify			

of and alti	medians nd	concept of median and altitude of triangle	2. Students will understand the practical use of triangle shape in our day to day life.	Encourage to explore exterior angle property of triangles; and Pythagoras theorem	The learner find unknown angle of a triangle when its two angles are known	Shapes of Triangles	Online Classroom	Textbook	12	Activity to understand the median and altitude concept of triangle
and tria its	angle and	3. Solving exercise 6.1								2. Paper cutting activity to verify the angle sum property of triangle
sui pro	Angle im operty of angle	4. To explain the concept of exterior angle of triangle and its properties								
tria sui len two		5. Solving exercise 6.2								3. Activity to verify the concept of Pythagoras property by cutting of square shape paper
an tria Py	ngled angle and	6. To explain the concept of angle sum property of triangle by doing an activity								
		7. Solving exercise 6.3 on the basis of above concept								

			8. To explain the concept of right angled triangle and Pythagoras property by doing an activity and solving exercise 6.4							
7	Congrue nce of triangle	1. Introduction	1. To explain the meaning of congruent by doing an activity and also the difference between congruence and similarity concept.	Students will understand congruent objects are exact copy of one another	Explanation	opportunities in pairs/groups/ individually and encouraged to establish congruence criterion and later on	The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)	Online Classroom		Activity to find the measure of dimension of various shape to understand the congruency concept and also to connect the concept with day to day life
		of	2. To solve exercise 7.1 based on above concept	Students will understand various criteria to prove congruency of triangle	Demonstration					
			3. To explain the criteria to prove or find any congruence of triangle		Inductive and deductive					
			4. To solved exercise based on above concept							

8	Compari ng Quantitie s	Introduction	Set induction to introduce the concept of comparing quantity	1. Students will understand the comparison of two quantities in our daily life. They may be heights, weights, salaries salaries, marks, etc.	Inductive and deductive		The learner solved problems related to conversion of percentage to fraction and decimal and vice versa	Onli	line ssroom	Textbook	12	Activity: To find the ratio between the price and weight of any item.
			2. Introduce the concept of ratio and equivalent ratio to compare two quantities	2. Students will understand about profit and loss and also about simple interest		profit and loss and simple	2. The learner calculates profit or loss percent and rate percent in simple interest					
			3. To solve exercise 8.1 based on above concept									
		4. Ratio to percentage, profit and loss, charge given on borrowed money or simple interest	4. To explain the concept of percentage and converting fractional number to percentage, decimal to percentage and percentage to fraction or decimals									
			5. To solve exercise 8.2 based on above concept									
			6. To teach the concept of converting ratio to percentage, concept of profit and loss and concept of simple interest									

9	Rational Number		7. Solving exercise 8.3 based on above concept  1. Set induction to check about the knowledge of numbers	Students will understand all integers and fractions	Inductive and deductive	The learner may be provided opportunities in pairs/groups/individually and encourage to explains congruency of triangles on	The learner solves problems related to daily life situations involving rational numbers	Online Classroom	Textbook	6	-
		numbers on a number		2. Students will understand there are unlimited number of		the basis of the information given about them like (SSS, SAS, ASA, RHS)					
		numbers in standard	to represent rational numbers	rational numbers between two rational numbers  3. Students will understand and able to do operations of							
		form and comparison of rational numbers	on number line  4. To teach how	rational numbers							
		Operations	to find other rational numbers between any two rational numbers  5. Solving								
			exercise based on above concept								

			6. To teach how to add, subtract, multiply and divide rational numbers									
10	Practical Geometr y		To explain the six elements of a triangle	Students will understand the methods of some ruler and compasses constructions	Constructing	encourage todemonstrate the construction of a line	The learner using ruler and a pair of compasses constructs, a line parallel to a given line from a point outside it and triangles	Geometry tools	Online Classroom	Textbook	10	-
		Constructio	2. To teach how to construct parallel lines	2. Students will understand the method of drawing a triangle, using indirectly the concept of congruence of triangles		Encouraged to construct the simple triangle by using ruler and compasses						
		Constructin g a triangle when the	3. To teach the step for constructing a triangle by using SSS criterion									

4.	4. Solving					
Constructin	exercise based					
g a triangle	on above concept					
when the	,					
length of						
two sides						
and the						
measure of						
the angle						
between						
them are						
linem are						
known(SAS						
criterion)						
5.	5. To teach the					
Constructin	sten for					
n a triangle	constructing a					
when the	triangle by using					
measures	SAS criterion					
of two of its						
angle and						
angle and						
the length of the side						
or the side						
included						
between						
them is						
given(ASA						
criterion)						
6.	6. Solving					
Construction	exercise based					
g a right-	on above concept					
angled	on above concept					
triangle						
when the						
wrien the						
length of						
one leg and						
its						
hypotenuse						
are						
given(RHS						
criterion)						
1			l .			

			7. To teach the step for constructing a triangle by using ASA criterion  8. Solving exercise based on above concept  9. To teach the									
			step for constructing a triangle by using RHS criterion									
11	Perimete r and Area	Introduction about Perimeter	area and its boundary	Students will understand that perimeter is the distance around a closed figure where as area is the part of plane occupied by the closed figure	Inductive and deductive	encourage through	The learner finds out approximate area of closed shapes by using unit square grid/ graph sheet	Square grid	Online Classroom	Textbook	16	Activity: To find the area of a circle
		and area of	concept of area and perimeter of square and rectangle	2. Students will table to find perimeter and area or so square, rectangle, parallelogram and triangle	Problem solving		2. The learner calculates areas of the regions enclosed in a rectangle and a square					Material required: pencil, protractor, sheets of paper and pair of scissors
		3. Area and circumferen ce of circle	exercise based on above concept	3. Students will understand that distance around a circular region is known as its circumference								
			4. To teach the concept of of area and perimeter of parallelogram and triangle									

			5. Solving exercise based on above concept 6. To teach the concept of area and circumference of circle 7. Solving application based questions on above concept								
12	Algebrai c Expressi ons	Introduction of variable,	Set induction to check the	understand the concept of an algebraic expressions are fromed from variables and constants and expressions are	Explanation	The learner may be provided opportunities in pairs/groups/individually and encourage to explore the possible combinations of variables and constants using different operations to form algebraic expressions in	The learner adds/subtracts algebraic expressions	Online Classroom	Textbook	10	-
		Classificatio n of	concept of variable and constant and also terms of an expression	made up of terms.  2. Students will able to classify an algebraic expressions	Inductive and deductive						
		and subtraction	3. To explain classification of an algebraic expressions	Students will able to add and subtract.							

			5. To teach the addition and subtraction of an algebraic expressions	Students will able to find the value of an algebraic expressions							
			6. Solving exercise based on above concept								
13	Exponen ts and Powers	Introduction of	To teach the concept of Exponents and powers	Students will understand that very large numbers are difficult to read, understand, compare and operate upon.	Inductive and deductive	The learner may be provided opportunities in pairs/groups/individually and encourage to involve children in exploring how repeated multiplication of numbers can be expressed in short form. For example 2x2x2x2x2x2= can be expressed as 2 raised to 6.	exponential form of numbers to simplify problems involving multiplication and division of large numbers.	Online Classroom	Textbook	10	-
			2. To teach how to write number in exponential form	To make all these easier, we use exponents, converting many of the large numbers in a shorter form.							
		3. Decimal number system	3. Solving exercise based on above concept								
		Expressing large	4. To teach the concept and laws of Exponents and powers								

5. Solving exercise based on above concept				
6. To teach how to express large numbers in standard form				
7. Solving exercise based on above concept				