DELHI PUBLIC SCHOOL, PALI

ANNUAL CURRICULUM PLAN SESSION 2020– 2021

CLASS: VIII

SUBJECT: MATHEMATICS

Month & working days	Theme/ sub-theme	Learning objectives		Activities & resources	Expected learning outcomes	Assessment
		Subject specific (content based)	Behavioral (application based)			
Working days in June: 17 JUNE: 12days	Rational number	Students will be able to: 1. Define and apply properties of rational numbers like closure, commutative, and associative property for addition, subtraction, division and multiplication. 2. Distributive property over addition and subtraction of rational numbers 3.Writeadditive inverse of a rational number 4. write multiplicative inverse of rational number 5. Plot of rational numbers on number line 6.FindRational numbers between two	Through the practice of these concepts students will acquire the skill of 1.Representing any rational number on number line as well as they will develop the analytical and calculation skill 2. They will be able to develop problem solving ability in day today situation.	Activities: 1.To arrange the rational numbers written on colored strips in ascending or descending order of rational number 2.Representation of rational number on number line Resource:- N.C.E.R.T book(questions from reference book practiced in the class)	Students would be able to: 1. Define and apply properties of rational numbers like closure, commutative, and associative property for addition, subtraction, division and multiplication. 2. Distributive property over addition and subtraction of rational numbers 3.Writeadditive inverse of a rational number 4. write multiplicative inverse of rational number 5. Plot of rational numbers on number line 6.Find Rational numbers between two rational numbers 7. Through the practice of these concepts students will acquire the skill of representing any rational number on number line as	Assessment will be done on the basis of decided Rubrics.

		rational numbers			well as they will develop the analytical and calculation skill. 8. Develop problem solving ability in day to day situation.	
Working days in July: 26 JUNE:5DAYS + JULY : 09 DAYS	linear equations	students will be able to 1. Frame linear equation. 2.Solve equation when variable lies on one side 3. Solve equation when variable lies on both sides. 4. Understand process of cross multiplication. 5. Understand rules of solving linear equation. 6.Solve an equation by transposition. 7. Solve an equation by cross- multiplication. 8. Understand application of linear equation.	Through the practice of these concepts students will be able to solve day to day life problems based on algebraic equations such as 1.Speed & time 2.Age related problems 3.Area and perimeter	Activities:- 1.To solve the linear equation through Grid and Square Paper 2. Frame a real life situation which can be expressed as linear equation involving one variable whose solution (value of variable) is 10. Resource:- N.C.E.R.T book	Students would be able to: 1. Frame linear equation. 2. Understand rules for solving linear equations 3. Transpose the terms 4. Solve equation when variable lies on one side 5. Solve equation when variable lies on both sides. 6. Understand process of cross multiplication. 7. Solve an equation by cross-multiplication. 8. Understand application of linear equations. 9.To solve day to day life problems based on algebraic equations such as Speed & time Age related problems Area and perimeter	Assessment will be done on the basis of decided Rubrics.
JULY : 12 DAYS	Understanding Quadrilaterals	Students will be able to:	Through the practice of these	Activities:- 1.To verify the sum of	Students would be able to: 1.Recall 2-Dshapes	Assessment will be done

		1. Recall 2-d shapes **2. Understand and define polygons , types of polygon and diagonals** **3. Properties of types of polygon** **4. Solve questions based on polygons** **5. Apply their own logic to solve situation based questions.**	**concepts students will be able to:** **1. Develop observatory, analytical and application skills.** **2. Apply the properties of these shapes in architecture, tiling the floor etc.**	**measure of exterior angles of polygon is 360^0.** **2.To verify the sum of the interior angles of a quadrilateral is 360^0.** **3.To verify various properties of different types of parallelogram** **Resource:- N.C.E.R.T book**	**2.Understand and define polygons , types of polygon and diagonals** **3.Properties of types of polygon** **4.Solve questions based on polygons** **5.Apply their own logic to solve situation based question** **6. Students would be able to learn how to design the things in the life and also would be able to develop Observatory skills, Analytical and Application skills.** **7.By engaging them in group activity they would develop co-operation and team spirit.**	**on the basis of decided Rubrics.**
Working days in August: 20 **JULY : 05DAYS** **AUGUST : 05 DAYS**	**Practicalgeometry**	**Students will be able to construct a unique quadrilateral if** **1.Five measurements out of 8 are known** **2.The lengths of it four sides and a diagonal is given** **3. If two diagonals and three sides are given.** **4. Two adjacent sides and three angles are given.**	**Through the practice of these concepts students will be able to** **1.Creativity will be increased** **2.Imagination power will be increased** **3.Students will learn to do work with accuracy** **4. Students will**	**Activity:-** **Geo board activity (Coloured rubber bands), Through this activity, properties of quadrilaterals can be explained in a concrete form.** **Resource:- N.C.E.R.T book reference book**	**Students would be able to construct:** **1.Five measurements out of 8 are known** **2.The lengths of it four sides and a diagonal is given** **3. If two diagonals and three sides are given.** **4. Two adjacent sides and three angles are given.** **5. Three sides and two included angles are given.** **6.Creativity will be increased**	**Assessment will be done on the basis of decided Rubrics.**

		5. Three sides and two included angles are given.	learn to do step by step work to achieve decided goal. 5.To do presentable work		7.Imagination power will be increased 8.Students will learn to do work with accuracy 9. Students will learn to do step by step work to achieve decided goal. 10.To do presentable work	
AUGUST : 12 DAYS	Datahandling	Students will be able to 1.Prepare frequency distribution table 2.Collect, Organize and group the data 3.Draw Double bar graph 4. Draw Histogram and use of kink if needed. 5. Identify the usage of different graphs based on the specific data. 6.Differentiate between Bar graph and Histogram 7.Contruct Pie charts 8. Understand and apply the concept of probability	Through the practice of these concepts students will be able to 1.Analyze and represent the data from day today life 2.Uses of data handling in real world e.g. 3. In libraries -to keep record of books. 4.Doctors keep records of patients 5.Meteorologists take records of the weather 6.to display scores of matches	Activities:- 1. Students will cite three examples from their day to day life where they can use graphs, double bar graph and histogram as the best way to represent the data. 2.Students will write their daily routine time table in the tabular form and will represent it with pie - chart Resource:- N.C.E.R.T book	Students would be able to 1.Prepare frequency distribution table 2.Collect, Organize and group the data 3.Draw Double bar graph 4. Draw Histogram and use of kink if needed. 5. Identify the usage of different graphs based on the specific data. 6.Differentiate between Bar graph and Histogram 7.Contruct Pie charts 8. Understand and apply the concept of probability 9.Develop Observatory skill, Systematic approach, Critical thinking, Graph interpretation	Assessment will be done on the basis of decided Rubrics.
Working days in September: 24 AUGUST:03DAYS	square and square root	Students will be able to 1. Identify the square numbers.	By practicing the properties of square and square	Activities:- Teacher will teach some easy calculation trick to find the	Students would be able to: 1. Identify the perfect square number using property.	Assessment will be based on rubrics

SEPTEMBER:13DAYS		**2.learn about perfect square** **3.learn properties of squares** **4.know the triangular numbers** **5.calculate square root by the prime factorization method , long division method and estimating square roots**	**root numbers in their daily life students will be able to** **Develop the skills of logic and calculation like finding the length of diagonal of square play ground, cuboidal room etc.**	**square of numbers.** **To find the square of any digit number by DIAGONAL METHOD** **Resource:- N.C.E.R.T book**	**2.Identify the properties of squares** **3.Know the triangular numbers** **4.Calculate square by diagonal method** **5. Calculate square root by the prime factorization method, long division method and estimating square roots.** **6. Develop the logical thinking and calculation skill.**	
SEPTEMBER:11DAYS	**cube and cube root**	**Students will be able to** **1. Identify the cubes of a number** **2. Identify the prime numbers to apply the prime factorization method** **3. Understand properties of cube.** **4. Identify the perfect cubes.** **5. Differentiate between cube and cube root.** **6. Calculate cube root of a perfect cube.** **7.Estimate the cube root of a number without prime factorization**	**students will be able to** **Apply concept of cube and cube root in daily life situations such as:** **1.while finding volume of cube,** **2.while finding edge of cube which in turn develop their logical and calculation skill**	**Activities:-** **By giving tricky and probing questions based on application of properties of cube will be explain in class like** **1. If a^2 ends in 9, then a^3 ends in ……..** **2. If a^2 ends in 5, then a^3 ends in ……..** **3.finding volume of cube through its net** **Resource:- N.C.E.R.T book**	**Students would be able to:** **1.Identify the cubes of a number** **2.Identify the prime numbers to apply the prime factorization method** **3.Understand Properties of cube** **4.Differentiate between cube and cube root** **5. To calculate cube root of a perfect cube.** **6. Solve word problems based on cube and cube root.** **7. Word problems based on cube and cube root.** **8.Apply concept of cube and cube root in daily life situations such as** *** While finding volume of**	**Assessment will be based on rubrics**

		8. Word problems based on cube and cube root.			cube. * While finding edge of cube	
PAT II						
Working days in October: 22 OCTOBER: 16 DAYS	Comparing quantities	Students will be able to: 1.Define ratio, percentage and interest 2.Calculate increase or decrease in percentage 3.Calculate discount 4.Find profit, loss, profit percentage and loss percentage 5.Find sales tax and value added tax 6.Calculate compound interest 7. Apply compound interest formula for calculating compound interest annually, half yearly and quarterly.	Studentswill be able to 1.Distinguish between appreciating and depreciating assets 2. Practice of concepts of comparing quantities will help students to deal with some banking functions easily	Activities:- To find the amount received on the same principal and rate and time when the interest is compounded annually, half yearly and quarterly. Resource:- N.C.E.R.T book	Students would be able to 1.Define ratio, percentage and interest 2.Calculate increase or decrease in percentage 3.Calculate discount 4.Find profit, loss, profit percentage and loss percentage 5.Find sales tax and value added tax 6.Calculate compound interest 7. Apply compound interest formula for calculating compound interest annually, half yearly and quarterly. 8.Distinguish between appreciating and depreciating assets 9. Practice of concepts of comparing quantities will help students to deal with some banking functions easily	Assessment will be based on rubrics
Working days in	Algebraic	Students will be able to	Students will be	Activity :-	Students would be able to:-	Assessment

November: 20 OCTOBER: 06 DAYS NOVEMBER:12DAYS	Equation And Identities	1. Add and subtract algebraic expressions. 2. Apply concept of addition and subtraction while solving the word problem. 3.Understand Product of algebraic expression 4. Understand that Multiplication does not depend on degree of the polynomial. 5. Understand Product of two Monomials &product of a Monomial with Binomial. 6.Product of two or more than two polynomial. 7.Prove Identities. 8. Apply identities.	able to 1. Share theirability of reasoning, logical thinking and problem solving in a group. 2.Understand that small mistakes also make huge difference in a life so one should never ignore it.(while opening brackets) .	verification of $(a + b)^2$ by paper cutting and pasting method Resource:- N.C.E.R.T book	1. Add and subtract algebraic expressions. 2. Apply concept of addition and subtraction while solving word problem. 3.Understand that small mistakes also make huge difference in a life so one should never ignore it.(while opening brackets) 4.Understand Product of algebraic expression 5. Understand that Multiplication does not depend on degree of the polynomial. 6. Understand Product of two Monomials &product of Monomial with Binomial. 7. Product of two or more than two polynomial. 8.Prove identities 9. Apply identities. 10. Share their ability of reasoning, logical thinking and problem solving in a group.	will be based on rubrics
NOVEMBER:08DAYS	Visualising solid shapes	Students will be able to: 1. Identify 2-d and 3-d shapes 2. Recognize different views of 3-d objects 3. locate a place using map 4. Define faces, edges and	Student will be able to distinguish between 2D and 3D objects	Activity-To draw the net of any pyramid and verify the Euler's formula for it Resource:- N.C.E.R.T book	Students would be able to: 1. Identify 2-d and 3-d shapes 2. Recognize different views of 3-d objects 3. locate a place using map 4. Define faces, edges and vertices of different objects	Assessment will be based on rubrics

		vertices of different objects **5. Explain polyhedrons and convex polyhedrons** **6. Describe prisms, pyramids** **7. Apply Euler's formula**			**5. Explain polyhedrons and convex polyhedrons** **6. Describe prisms, pyramids** **7. Apply Euler's formula.** **8.Distinguish between 2D and 3D objects**	
Working days in December: 20 **DECEMBER: 20 DAYS**	**Mensuration**	**Students will be able to** **1.Calculate area and perimeter of regular and irregular polygon** **2.Calculate area and circumference of circle** **3.Calculate CSA, TSA and volume of cube** **4.Calculate CSA, TSA and volume of cuboids** **5.Calculate CSA, TSA and volume of cylinder** **6. Comparethe areas of two figures.** **7. Compare the volumes of two shapes.** **8.Compare the circumferences of two circles**	**students will be able to :** **1.imagine and visualize the objects along with their nets** **2.develop problem solving approach** **3.to estimate the area of painting , tiling the floor, area to be carpeted etc** **4.save themselves from being cheated like whether exact quantity of petrol is filled or not, exact rate is charged or not by contractor or any dealer**	**Activities:-** **1. By solving warm up exercise on the board to recall the content of previous class.** **2.convert 2 – d shape (rectangle) into 3 – d shape (cylinder) and finding CSATSA and volume of cylinder obtained** **Resource:- N.C.E.R.T book**	**Students would be able to:** **1.Calculate area and perimeter of regular and irregular polygon** **2.Calculate area and circumference of circle** **3.Calculate CSA, TSA and volume of cube** **4.Calculate CSA, TSA and volume of cuboids** **5.Calculate CSA, TSA and volume of cylinder** **6. Comparethe areas of two figures.** **7. Compare the volumes of two shapes.** **8.Compare the circumferences of two circles** **9.Apply concept of perimeter while preparing track to conduct sports; in drawing boarder around rectangular soft board; while counting distance covered by an athlete, while fencing their park to keep cattle away** **10.Apply concept of area in**	**Assessment will be based on rubrics**

					deciding how much carpet size is needed for a dining room; in determining how much paint isneeded; 11.Apply the concept of volume, in finding the different ways of packing the given quantity; in comparing the quantities and gofor best buy; in arrangingor packing books of same kind in a given carton. 11. Develop the skills like Awareness, critical thinking, Accuracy, Analysis, and calculation	
Working days in January: 23 JANUARY: 08DAYS	Exponent and power	Students will be able to 1. Define exponents with negative power 2. State the laws of exponents 3. Express numbers in the exponential form 4. Compare very large and very small numbers	Student will be able to, 1.Follow the principles/ethics to make their live easier 2.Students will learn to elaborate /briefs their views as per requirement. 3.To connect exponents in real life situations as we use units like square feet, square meters, cubic meters	Activity:- verification of the laws of exponent x0=1 and x-m=1/xm Resource:- N.C.E.R.T bookreference book	Students would be able to: 1. Define exponents 2. State the laws of exponents 3. Express numbers in the exponential form 4. Compare very large and very small numbers. 5.To connect exponents in real life situations as we use units like square feet, square meters, cubic meters 6. Use the concept in science, astrology like representing the speed of light, mass of electron etc.	Assessment will be based on rubrics

			4.Use the concept in science, astrology like representing the speed of light, mass of electron etc.			
JANUARY: 10DAYS	Direct and Inverse Variation	Students will be able to 1. Define variation. 2. Understand types of variations. 3. Differentiate between direct proportion and inverse proportion. 4. Apply the concept of direct and inverse proportion in daily life. 5.Give examples of direct proportion and inverse proportion from daily life	Students will be able to: 1.If we will work alone we require more time to finish it. 2.We increase speed of efforts we can achieve our goal in a short time. 3. As the number of articles will increase the overall cost will also increase.	Chapter will be introduced by using the video,teacher will discuss about real life examples. students will be given a task according to that each student will frame 5 Question related to direct proportion or inverse proportion and will also find the solutions of these problems. Resource:- N.C.E.R.T bookreference book	Students would be able to: 1. Define variation. 2. Understand types of variations. 3. Differentiate between direct proportion and inverse proportion. 4. Apply the concept of direct and inverse proportion in daily life. 5. Give examples of direct proportion and inverse proportion from daily life. 6. Understand if we will work alone we require more time to finish it. 7.If we increase speed of efforts we can achieve our goal in a short time	Assessment will be based on rubrics
Working days in February: 23 JANUARY: 05DAYS FEBRUARY: 11DAYS	Factorisation	Student will be able to, 1. Define Factorisation. 2.Understand that factors could be constants, variables and even algebraic expressions	Students will learn: 1. To achieve large goal by splitting it into small aims.	Activities:- 1. A small activity will be conducted in class where students have to write three quadratic polynomial 2. Interpret geometrically	Student would be able to, 1. Define Factorisation. 2.Understand that factors could be constants, variables and even algebraic expressions	Assessment will be based on rubrics

		3. Factorise a given algebraic expression by identifying the common terms. 4. Factorise a given algebraic expression by regrouping the terms. 5.Factorise a given algebraic expression by using identity. 6. Factorise a given algebraic expression by splitting the middle term terms. 7. Divide an algebraic expression by another algebraic expression.	2. Students will be more confident.	factors of quadratic expression using square grids and strips. Resource:- N.C.E.R.T bookreference book	3. Factorise a given algebraic expression by identifying the common terms. 4. Factorise a given algebraic expression by regrouping the terms. 5.Factorise a given algebraic expression by using identity. 6. Factorise a given algebraic expression by splitting the middle term terms. 7. Divide an algebraic expression by another algebraic expression. 8. To achieve large goal by splitting it into small aims. 9. Students will be more confident	
FEBRUARY: 12DAYS	Introduction to graph	Students will be able to 1.Understand about Cartesian system 2. Understand about coordinate of a point. 3.Plot a point 4. Identify dependent and independent variable. 4. Interpret the line graph. 5. Draw Line Graph.	students will be able to know real life use of Cartesian plan are 1.To locate their position in class 2.Anytime one has a need to know the location of something – where something should be or where something actually is – a coordinate plane is a very useful tool.(GPS)	Activities- 1.students will make to sit in six rows and 6 columns then they will be asked to identify their position, considering the particular student as origin 2.With the help of above digital content students will be able to visualize the construction of Bar graphs, Histograms, Pie chart and Line graph Resource:- N.C.E.R.T book	Students would be able to: 1.Understand about Cartesian system 2. Understand about coordinate of a point. 3.Plot a point 4. Identify dependent and independent variable. 4. Interpret the line graph. 5. Draw Line Graph. 6. To locate their position in class. 7.Application in form of GPS 8.Application in air traffic control.	Assessment will be based on rubrics

			3 An air traffic controller must know the location of every aircraft in the sky within certain geographic boundaries. in order to describe where each aircraft is situated, coordinates are assigned to each vehicle in the air.			
Working days in March: 24 MARCH: 09 DAYS	playing with numbers	students will be able to 1.Identify and list all the factors of a given whole number 2. Determine the greatest common factor of two or more whole numbers. 3.Solve questions using application of divisibility rules 4. Solve puzzles. 5. Learn how divisibility rule works. 6. Apply their own logic to solve reasoning questions. 7. Apply factoring concepts and procedures to complete exercises.	Students will be able 1.To become more calculative in day today life 2.To follow the trend whichever is going on 3.Solve challenging task in daily life 4.Develop higher order thinking	Activities:- Few question based on logical and critical thinking will be asked(puzzle) Complete the magic square and triangular pattern. Resource:- N.C.E.R.T book	Students would be able to : 1.Identify and list all the factors of a given whole number 2.Determine the greatest common factor of two or more whole numbers 3.Develop the tricks while solving the magical question 4.Solve questions using application of divisibility rules 5.Complete magic squares 6.Solve puzzles 7.Learn how divisibility rule works 8.Apply their own logic to solve reasoning questions 9.Apply factoring concepts	Assessment will be based on rubrics

					and procedures to complete exercises **10.To become more calculative in day today life** **11.To follow the trend whichever is going on** **12.Solve challenging task in daily life**	
15 DAYS REVISION IN MARCH						
COURSE COMPLETED **REVISION FOR FINAL EXAMS IN MARCH**						