CHOITHRAM SCHOOL, MANIK BAGH, INDORE
ANNUAL CURRICULUM PLAN SESSION 2017 – 2018

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:- 15 June:- 8 days	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. Additive inverse of a rational number 4. Multiplicative inverse of rational number 5. plotting of rational numbers on number line 6. Rational numbers between two rational numbers	1.Through the practice of these concepts students will acquire the skill of 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: no activity will be perform resource:- n.c.e.r.t. worksheet (questions from reference book practiced in the class)	Students learned about: 1. know about the different categories of numbers 2. understand the difference between rational and irrational numbers 3. perform various operations on rational numbers like addition, subtraction, multiplication and division. 4. apply different types of properties on rational numbers like closure, commutative, associative properties. 5. understand the concept of additive inverse, multiplicative inverse. 6. plot rational numbers on number line 7. find rational numbers between two numbers	Assessment will be done on the basis of decided Rubrics.
June:- 7 days	linear equations	students will be able to 1. frame linear equation. 2.solve equation when variable lies on one side	students will be able to solve day to day life problems based on algebraic equations	activity:- fun with calender	the students will be able to: 1. frame linear equation. 2. understand rules for solving linear equations	Assessment will be done on the basis of decided

working days in July:- 24 **July:-** **8 days**		**3.solve equation when variable lies on both sides.** **4. understand process of cross multiplication.** **5. understand rules of solving linear equation.** **6. solving an equation by transposition.** **7. solving an equation by cross- multiplication.** **8. understand application of linear equation.** **9. application of linear equations**	**such as** **speed & time** **age related problems** **area and perimeter**	**resource:- n.c.e.r.t.**	**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. solving an equation by cross- multiplication.** **8. understand application of linear equation**	**Rubrics.**
July:- **8 days**	**understanding quadrilaterals**	**upon completion of this lesson students will be able to:** **1. recall understanding 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 question**	**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.**	**activity:-** **sum of measure of exterior angle of polygon is 360^0** **resource:- n.c.e.r.t.**	**Students learned about:** **1. identify polygons** **2. list the properties of polygon** **3. calculate the interior and exterior angles of a triangle** **4. identify quadrilaterals and its types** **5. list the properties of quadrilaterals.**	**Assessment will be done on the basis of decided Rubrics.**
july:-	**Practicalgeometry**	**the students will be able**	**following behavioral**	**activity:-**	**Students learned about:**	**Assessment**

8 days		**to construct:** **1. quadrilateral when four sides and a diagonal is given,** **2. quadrilateral when three sides and two diagonals are given,** **3. quadrilateral when four sides and one angle is given,** **4. quadrilateral when three sides and the two included angles are given.** **5. quadrilateral when two adjacent sides and three angles are given** **6. square, rectangle, parallelogram and kite using their properties**	**objectives can be achieved-** **1. imagination power will be increased** **2. students will learn to do work with accuracy.(importance of accuracy)** **3. students will learn how to do step by step work to achieve decided goal.**	**consecutive angles of a parallelogram are supplementary by paper cutting and pasting method** **resource:-** **n.c.e.r.t.** **reference book**	**1. quadrilateral on the basis of different parameters** **2. sqaure, rectangle, parallelogram and kite using their properties**	**will be done on the basis of decided Rubrics.**
working days in August:- 18 **august:-** **9 days**	**Datahandling**	**students will be able to learn:-** **1. organization and grouping of data** **2. double bar graph** **3. histogram** **4. difference between bar graph and histogram** **5. pie charts** **6. probability**	**students will learn to analyze and represent the any of the data which is based on day today life also through this chapter students will be able to reason out the uses of data handling in real world e.g.** **1. in libraries -to keep record of books.** **2. doctors keep records**	**activity:-** **representation of daily routine of a student through pie – chart** **resource:- n.c.e.r.t.**	**Students learned about:** **1. identify data and its types** **2. identify class intervals and its types** **3. solve histogram** **4. solve circle graphs** **5. solve probability**	**Assessment will be done on the basis of decided Rubrics.**

			of patients 3. meteorologists take records of the weather 4. for recording water levels in rivers. 5. for recording the economical income of each household 6. to display scores of matches			
august:- 9 days working days in September:- 21 September:- 6 days	square and square root	students will be able to 1. identify the square numbers. 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	by practicing the properties of square and square root numbers in their daily life students will develop the skills of logic and calculation like finding the length of diagonal of square play ground, cuboidal room etc.	activity:- construction of three squares of different dimensions and find the ratio of diagonal of that square and it's side resource:- n.c.e.r.t.	Students learned about: 1. identify the square 2. identify the properties of squares 3. know the triangular numbers 4. calculate column method and diagonal method 5. calcualate square roots of decimals by the method of long division	Assessment will be based on rubrics
September:- 8 days	cube and cube root	the students will be able to 1. identify the cubes 2. identify the prime numbers to apply the prime factorization method 3. understand properties	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	activity:- finding volume of cube through it's net resource:- n.c.e.r.t.	Students learned about: 1. 2. identify the cube 3. identify the prime numbers by applying the prime factorization method 4. list the properties of the	Assessment will be based on rubrics

		of cube. 4. identify the perfect cubes. 5. differentiate between cube and cube root. 6. calculate cube root of a perfect cube. 7. word problems based on cube and cube root.	cube which in turn develop their logical and calculation skill		cube 5. identifdy the cube root 6. differentiate between cube and cube roots 7. calculate cube root of a perfect cube without using prime factorization	
September:- 7 days	revision					
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working days in October:- 05 October:- 05 days working days in November:- 23 November:- 8 days	comparing quantities	the 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 and half yearly	1. the student can distinguish between appreciating and depreciating assets 2. practice of concepts of comparing quantities will help students to deal with some banking functions easily	activity:- no activity resource:- n.c.e.r.t.	Students learned about: 1. define interest 2. calculate discount and compound interest 3. find sales tax and value added tax 4. apply compound interest formula for calculating compound interesrannuallu and half yearly	Assessment will be based on rubrics
November:-	algebraic	students will be able to	following behavioral	activity:-	Students learned about:	Assessment will

15 days	**equation and identites**	**1. add and subtract algebraic expressions.** **2. apply concept of addition and subtraction while solve 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 monomial with binomial.** **6. product of two or more than two polynomial.** **7. prove identities** **8. divide polynomial by monomial** **9. divide polynomial by a polynomial by long division method.** **10. define factorization.** **11. understand that factors could be constants, variables and even algebraic expressions,** **12. factories algebraic expression by regrouping terms.** **13. factories algebraic expression by taking**	**objectives can be achieved-** **1. small mistakes also make huge difference in a life so one should never ignore it. (while opening brackets)** **2. students would be able to share their ability of reasoning, logical thinking and problem solving in a group.** **3. to achieve large goal by splitting it into small- small goals.** **4. students will be more confident.**	**verification of (a + b)^{2}by paper cutting and pasting method** **resource:- n.c.e.r.t.**	**1. identify the algebraic expressions** **2. solve degree of a ppolynomial** **3. solve monomials, binomials and polynomials** **4. identify like terms and unlike terms.** **5. solve addition, subtraction and multiplication of the algebraic expressions.** **6. describe identity and standard identities**	**be based on rubrics**

		out common factors. 14. factories algebraic expression by using identities. 15. factories algebraic expression by splitting middle term. 16. apply identities.				
working days in December:- 22 December:- 4 days	visualing solid shapes	the 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 vertices of different objects 5. explain polyhedrons and convex polyhedrons 6. describe prisms, pyramids 7. apply euler's formula	student will be able to perceive the things in different way	activity:- no activity resource:- n.c.e.r.t.	Students learned about: 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 5. explain polyhedrons and convex polyhedrons 6. describe prisms, pyramids 7. apply euler's formula	Assessment will be based on rubrics
December:- 18 days	mensuration	the students will be able to 1. calculate area and perimeter of regular and irregular polygon 2. area and	they will be able to : 1. imagine and visualize the objects along with their nets	activity:- convert 2 – d shape (rectangle) into 3 – d shape (cylinder) and finding csa and volume of cylinder obtained	Students learned about: 1. find the area of trapezium 2. calculate area of quadrilateral 3. evaluate the area of	Assessment will be based on rubrics

		circumference of circle 3. csa, tsa and volume of cylinder 4. compare the areas two figures 5. compare the volumes of two shapes 6. compare the circumferences of two circles	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	resource:- n.c.e.r.t.	rhombus 4. 4. determine the surface areas of cuboid, cube and cylinder 5. measure the volume of cuboid, cube and cylinder	
working days in January:- 20 days January:- 6 days	exponent and power	the 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 calculate: ➢ memory of electronic devices in terms of bytes ➢ growth rate and death rate of certain bacteria	activity:- no activity resource:- n.c.e.r.t. reference book	the students will 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	Assessment will be based on rubrics
January:- 8 days	direct and inverse variation	the students will be able to 1. understand about variation. 2. understand types of variations. 3. understand about direct variation. 4. understand about inverse variation.	following behavioral objectives can be achieved- 1. if we will work alone we require more time to finish it. 2. if we increase speed of efforts we can achieve our goal in a	activity:- no activity resource:- n.c.e.r.t. reference book	Students learned about: 1. discuss the concept of variation 2. define direct proportion 3. solve the problames under direct variations 4. recognize invere proportion 5. evaluate problems	Assessment will be based on rubrics

		5. understand about examples of direct variation from daily life. 6. understand about examples of inverse variation from daily life. 7. understand application of direct variation in daily life. 8. understand application of inverse variation in daily life.	short time.		under inverse proportion	
January:- 6 days working days in February:- 21 February:- 7 days	factorization	student will be able to, 1. factorise a given algebraic expression by identifying the common terms. 2. factorise a given algebraic expression by regrouping the terms. 3. factorise a given algebraic expression by using identity. 4. factorise' a given algebraic expression by splitting the middle term terms. 5. divide an algebraic expression by another	factoring as an exercise in "pattern recognition", that is looking at an expression and seeing a pattern or something familiar that makes us think "this is probably a product of two expressions". this in turn increases our ability to function in the "real world" in an intelligent way.	activity:- no activity resource:- n.c.e.r.t. reference book	Students learned about: 1. compute the factor of algebraic expressions. 2. find the factors using method of common factors. 3. determine the factors by the method of regrouping. 4. deduce the factors of algebraic expressions using the identities. 5. evaluate division of a polynomial by another polynomial. 6. identify errors while evaluating algebraic	Assessment will be based on rubrics

		algebraic expression by taking common factors.			**expressions.**	
February:- **7 days**	**introduction to graph**	**the students will be able to:** **1. understand about cartesian system** **2. understand about coordinate of a point** **3. plot a point** **4. understand about dependent and independent variable** **5. study the line graph** **6. draw line graph**	**students will be able to know real life use of cartesian plan are** **1.to locate there 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.** **3an 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.**	**plotting of points on cartesian plane and obtain their mirror images along x - axis and y – axis** **resource:- n.c.e.r.t.**	**Students learned about:** **1. draw bar graphs** **2. represent the given data in the form of a pie graph** **3. draw histogram** **4. draw line graph** **5. locate a point on the graph** **6. solve some application problems using graphs**	**Assessment will be based on rubrics**
February:- **7 days**	**playing with numbers**	**the students will be able to** **1. identify and list all the factors of a given whole number**	**students would be able** • **to become more calculative in day today life** • **solve challenging**	**activity:-** **no activity** **resource:- n.c.e.r.t.**	**Students learned about:** **1. give the general form of two digit numbers and its reverse** **2. give the grneral form**	**Assessment will be based on rubrics**

		2. **determine the greatest common factor of two or more whole numbers** 3. **formulate a strategy for solving each problem** 4. **explore numbers in more details and ideas help in justifying tests of divisibility.** 5. **develop the tricks while solving the magical question** 6. **solve questions using application of divisibility rules** 7. **complete magic squares** 8. **solve puzzles** 9. **learn how divisibility rule works** 10. **apply their own logic to solve reasoning questions**	**task in daily life** • **develop higher order thinking**		**of three digit number and its reverse** 3. **solve puzzles in general forms of numbers** 4. **check the divisibility of a number by 2, 3, 5, 9 and 10**	