


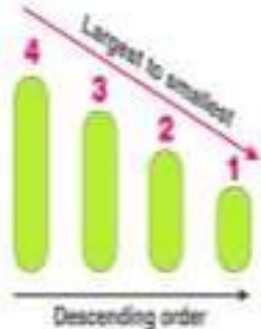



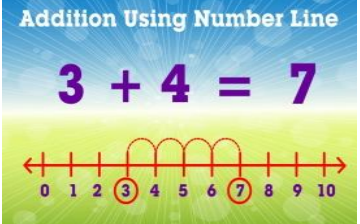

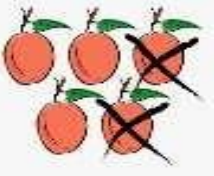


St. RITA HIGH SCHOOL


ANNUAL CURRICULUM 2023-2024

Subject: Mathematics


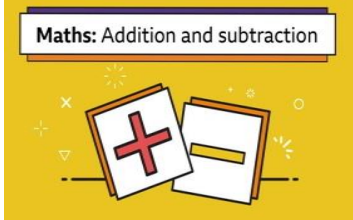

Grade: 1








Month/ W. Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assessment
March/ April(1 7+15 days)	Ch-1: Comparison *Big-small, long-short, before-after, top-bottom, same-different, left-right, heavy-light, full-empty, on-under, more-less, above-below, thick-thin, near-far, big-bigger and biggest, tall, taller and tallest, short-shorter and shortest.	The student will be able to identify: *The position of an object such as inside- outside, above-below, after-before etc. *Compare the different quantities such as big-small and long-short etc. 	A pre-number concept makes a child away of his or her immediate environment. 	Teacher ask the students 1. To pick the two bowls from the kitchen, they have to observe and draw the big and small bowl. 2. Similarly, have them to look for two spoons of different length for long and short etc.	Student will able to: Identify and compares the objects based on quantity, size, length and soon. 	1) Textbook exercises 2) Fun activities doing at home.
June(23 days)	Ch-2: Numbers up to 9 *Numbers *Number names *Concept of zero *After, before and in between numbers *Comparison of numbers	*Identify and write the numbers up to 9. *Connect numbers with corresponding quantity. *Compare the quantity by counting thing. *Recognize the terms after, before and in between number. *Improve the counting skills. *recognize the order of the numbers. *Recognize and read the number names. *Write the number name in numeral.	Students will be able to: * Identify the numbers in daily life. * Apply the concept of after and before in real-life situation.(Eg: I will drink milk after my breakfast) * Compare two quantities in numbers which is greater and smaller.	*Art integrated activity on joining the dots of the given digits to form a kite. 	The students will be able to: 1. Learn to read and write the numerals and number names. 2.Compare (>,<or=)	1) Textbook exercises 2)Cr oss word puzz le
July(23 days)	Ch-3: Ordinal Numbers *Ordinal and Cardinal numbers.	*Differentiate ordinal and cardinal numbers.	Students will be able to- *learn ordinal and cardinal numbers	*Home activity to read ordinal numbers.	The students will be able to- *identify and use of ordinal numbers.	1) Textbook exercise







			<p style="text-align: center;">Position</p> 			
	<p>Ch-4: Addition up to 9</p> <ul style="list-style-type: none"> • Introduction of addition with symbol (+) • Addition by counting forward • Addition of 1 digit numbers by horizontal and vertical methods. • Addition on the number line • Properties of additions • Story sums 	<ul style="list-style-type: none"> • Aware and familiar with mathematical symbol (+ and =) • Explain the terms like sum, addends and total. • Add while counting forward • Add 1-digit numbers in horizontal and vertical method. <p>Solve problems of addition using concrete objects and pictorial.</p>	<p>Students will be able to :-</p> <ul style="list-style-type: none"> • Learn about togetherness. <p>Know the importance of addition in daily life like shopping, Banking, Cooking etc.</p> 	<p>*Maths lab activity.</p> 	<p>The child will be able to</p> <ul style="list-style-type: none"> • Define addition, read and write the keywords related to addition. • Find the sum on the number line. 	<p>1) Textbook exercise 2) Fun time</p>
<p>August(24 days)</p>	<p>Ch-5: Subtraction up to 9</p> <p>*Introduction of subtraction symbol (-) of with</p> <p>*Subtraction by crossing out. by</p> <p>*Subtract by backward counting.</p> <p>*Subtract by using vertical method.</p> <p>*Subtract on the number line.</p> <p>*Story sums.</p>	<p>*Articulate subtraction as a take away process.</p> <p>*Subtract by backward counting.</p> <p>*Read and write the key words related to subtraction.</p> <p>*Know how to apply the place value while solving subtraction.</p> 	<p><u>The child will be able to</u></p> <p>*Learn to apply the knowledge of subtraction in real –life situation. For example: Shopping etc.</p> <p>*Create subtraction story sums by using the given numbers.</p>	<p>Subtraction Using Number Line</p> <p>4 - 2 = 2</p>  <p>Subtraction Resulting in Zero</p> <p>7 - 7 = 0</p>  <p>Maths lab activity</p>	<p><u>The child will be able to:</u></p> <p>1. Learn the process to take away.</p> <p>2. Apply the knowledge in real-life situations.</p>	<p>1) Textbook exercise 2) Fun time</p>

	<p>Ch-6 Numbers from 11 to 20</p> <p>*Numbers, *Number names, *After, before and n between numbers *Comparison of numbers. *Ordering of numbers(Ascending and Descending order), *Expanded form *Less than and greater than numbers.</p>	<p>*Identify and write the numbers up to 20. *Compare the quantity by counting thing. *Recognize the terms after, before and in between number. *Improve the counting skills. *Recognize and read the number names. *Write the number name in numeral. *To develop the ability to categorize objects in the groups of ones and tens. *Differentiate bigger/smaller number. *Arrange the numbers in ascending and descending order.</p>	<p><u>Students will be able to:</u> *Identify the numbers in daily life. *Learn to write the date by using numbers. *Apply the concept of after and before in real-life situation.(Eg: I will drink milk after my breakfast) *Compare two quantities (numbers)</p>	<p>*Maths lab activity on comparison of numbers.</p> 	<p><u>The students will be able to:</u> 1. read and write the numerals and number names. 2.Compare (>,<or=) 4. write the numbers in ascending and descending order.</p>	<p>1) Textbook exercise 2) Fun time</p>
<p>September(21 days)</p>	<p>Ch-7 Numbers up to 50</p> <p>*Numbers, *Number names, *After, before and n between numbers *Comparison of numbers *Ordering of numbers(Ascending and Descending order), *Expanded form *Less than and greater than numbers.</p>	<p>*Identify and write the numbers up to 50. *Connect numbers with corresponding quantity. *Compare the quantity by counting thing. *Recognize the terms after, before and in between number. *Improve the counting skills. *Recognize and read the number names. *Write the number name in numeral. *To develop the ability to categorize objects in the groups of ones and tens. *Differentiate bigger/smaller number. *Arrange the numbers in ascending and descending order</p>	<p><u>Students will be able to:</u> *Learn to write the date by using numbers. *Apply the concept of after and before in real-life situation.(Eg: I will drink milk after my breakfast) Compare two quantities (numbers)</p>	<p>*Maths lab activity on comparison of numbers.</p>	<p><u>The students will be able to:</u> 1.read and write the numerals and number names. 2.Identify the place value and write the ascending and descending order.</p>	<p>1) Textbook exercise 2) Fun time</p>

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

	<p>Ch-8 Numbers up to 100</p> <p>*Numbers, *Number names, *After, before and in between numbers *Comparison of numbers *Ordering of numbers(Ascending and Descending order)</p>	<p>Identify and write the numbers up to 100. *Connect numbers with corresponding quantity. *Compare the quantity by counting thing. *Recognize the terms after, before and in between number. *Improve the counting skills. *Recognize the order of the numbers And read the number names. *Write the number name in numeral. *Identify the place value of a given number.</p>	<p><u>Students will be able to:</u> * Identify the numbers in daily life. *Apply the concept to after and before in real-life situation.(Eg: I will drink milk after my breakfast) * Compare two quantities(numbers *They use the terms first, second etc in day-to-day life.</p> 	<p>*Maths lab activity on comparison of numbers.</p>	<p><u>The students will be able to:</u> 1. read and write the numerals and number names. 2.Compare (>,<or=) 5. Identify the place value and write the ascending and descending order.</p>	<p>1) Textbook exercise 2) Fun time 3) Puzzle</p>
<p>October(16 days)</p>	<p>Ch-9 Addition and Subtraction up to 99</p> <p>*Introduction of addition and subtraction with symbol(+)(-) *Addition and subtraction by counting forward and backward. *Addition and subtraction on the number line. *Properties of addition and subtraction.</p>	<p>*Learn to add and subtract 1 and 2-digit numbers without regrouping. *Solve problems of addition and subtraction using concrete objects and pictorial representation *Read, write and interpret mathematical statement. *Create a number story for the given numbers.</p>	<p>*Learn the concept while purchasing things (Chocolates, candies, etc.) *know the importance of addition and subtraction in daily life like: Shopping, Banking, Cooking etc.</p> 	<p>Maths lab activity on addition of two digit numbers with regrouping using matchsticks.</p> 	<p><u>The child will be able to:</u> *Define addition and subtraction *Solve story problem on addition and subtraction.</p>	<p>1) Textbook exercise 2) Fun time 3) Puzzle</p>
<p>November(24</p>	<p>Ch-10 Introduction to Multiplication</p>	<p>*Memorize tables. *Learn the repeated addition is multiplication.</p>	<p><u>The students will be able to:</u> *Develop logical and mathematical abilities.</p>	<p>Maths lab activity on order property of multiplication.</p>	<p>The child will be able to 1. Identify groups and the number in each group 2.Revision multiplication</p>	<p>1)Textbook exercise 2) Fun time 3) Puzzle</p>

<p>days)</p>	<p>*Multiplication as Repeated addition. *Facts. *Tables from 0 to10.</p> 	<p>*Explain the key words related to multiplication.</p> 	<p>*Show the relation between repeated addition and multiplication.</p> 		<p>through repeated addition</p>	
	<p>Ch-11 Shapes <u>Ch-4 Shapes</u> *Distinguish between straight and curved line. *Plane figures can be formed using different sizes and shapes. *Solid figures. *Roll and slide.</p>	<p>*Identify the shapes around them. *Recognize the plane figures and identify the sides and corners. *Able to draw the curve and straight line. *Analyze plane and solid figures</p> 	<p><u>The child will able to:</u> *Create a figure or picture using different types of lines.</p> 	<p>Maths lab activity on plane shapes using Geoboard.</p>	<p><u>The child will be able to:</u> *Name the types of lines. *Identify the sides and corners for plane figures and identify the examples for solid figures. Ex:Book, duster etc.</p>	<p>1)Textbook exercise 2) Fun time</p>
<p>December(23 days)</p>	<p>Ch-12 Patterns *Patterns Patterns made by different shapes and objects, Colour pattern, Number pattern, Alphabetical pattern.</p>	<p>*Create patterns with shapes and numbers. *Identify the object that roll and slide.</p> 	<p><u>The child will able to:</u> *Create a figure or picture using different types of lines. *Design their own picture using different patterns.</p>	<p>Draw a stem of the flower using a thin stick dipped in poster colour.</p>	<p><u>The child will be able to:</u> *Name the types of lines. *Identify the sides and corners for plane figures and identify the examples for solid figures. *Create patterns with shapes, numbers etc.</p>	<p>)Textbook exercise 2) Think and answer</p>
	<p>Ch-13 Measurement Length *Weight *Capacity *Non-standard units and standard units.</p>	<p>*Compare the terms such as long-short, heavy-light, more-less. *Learn to measure different objects using non-standard (Give knowledge of old ways of measurement)and standard units. *Identify the standard tools.</p>	<p><u>The students willable be:</u>*Take the temperature with a thermometer. *Perform home task such as cooking and baking using weighing scale.</p>	<p>Maths lab activity on measuring length using body parts.</p> 	<p><u>The child will able to:</u> *Know the importance of standard units. *Learn the importance of measurement in real-life situation .</p>	<p>1)Textbook exercise 2) Fun time</p>





						
<p>January(24 days)</p>	<p>Ch-14 Money *Introduction of currency with symbol (coins and notes). *Keywords *Combination of money. *Addition of money.</p>  <p>Ch-15 Time *Parts of a clock. *Read, draw and write the time.(o'clock) *Days of the week. Months of a year and Calendar.</p>	<p>*Acquire knowledge about money and how to use for daily needs and activities. *Recognize the coins and identify their value. *Identify paper money and know the its value. *Add any amount of coins and paper money upto 99.</p> <p>*Tell and write time to the hour and half-an-hour. *Match the written time with the digital time. *Tell the names of the days of the week and names of the months. *Identify the dates on the English calendar.</p>	<p>The students will able to: *Learn what pocket money is actually worth and its value. *Learn to prioritize wants and needs.</p>  <p>*Explain the importance of time. *Learn time management and prioritize the work.</p> 	<p>*List the items you bought from the market and find out how much money your parent spent on each item.</p> <p>Maths lab activity on make their own clock and show the time.</p>	<p>The child will be able to: *Identify the denominations. *Read and write the key words related to money. *Recognize the symbol of rupee.</p> <p>The child will be able to: *Read and write the given time.. *Memorize the spellings of: Days of the week and Months of a year.</p>	<p>1)Textbook exercise 2) Value corner</p> <p>1)Textbook exercise 2) Value corner</p>
<p>February(23 days)</p>	<p>Ch-16 Data Handling *Collect and record data. Interpret the givendata.</p> 	<p>*Define data *Sort and organize data. *Interpret the data.</p>	<p>The students will be able to: *Learn to organize their own things. *Learn to make a check list before doing the work.</p> 	<p>Maths lab activity on process of collection of data.</p>	<p>The child will be able to: Sort and organize the data. Interpret the given data.</p>	<p>1)Textbook exercise 2) Value corner</p>

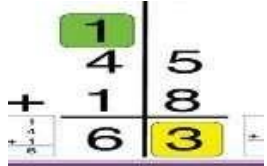

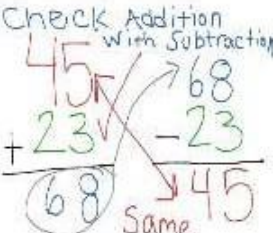
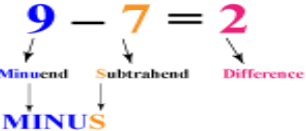
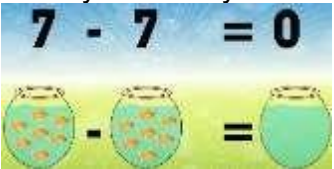
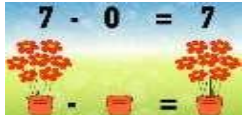
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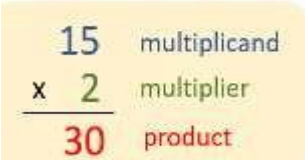
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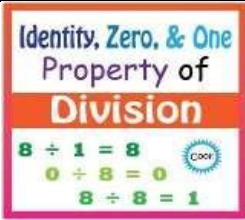

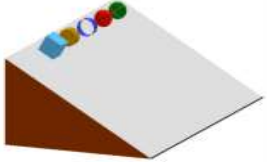
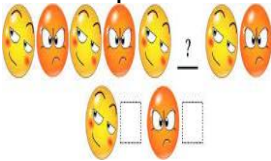
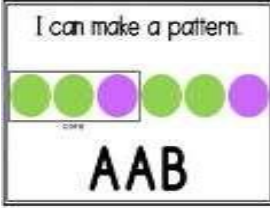

Subject: Mathematics

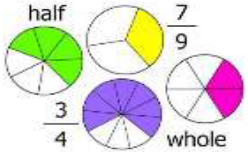



Class: 2





Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assessment
March/ April(17 +15 days)	<p>Ch-1: Numbers up to 999</p> <ul style="list-style-type: none"> *learn and write numbers names up to 999. *Place value and face value up to three digit numbers. *Expanded and short form up to three digit numbers. *comparison of 2 and 3 digit numbers using symbols and words. 	<ul style="list-style-type: none"> *Recall forward, backward and missing numbers up to 99. *recognize numbers and number names up to 2 and 3-digit numbers. *tell the biggest and smallest numbers among the given numbers. *read and write the place values of digits in a three digit numbers. *explain the concept of place value with the position of digits in a number. 	<p>The student will be able to identify:</p> <ul style="list-style-type: none"> *learn that numbers represented in different ways. *learn the quantities more/less. *learn to write date by using numbers. *apply the concept of after, before and between in real life situation. 	<p>*To represent the numbers on the abacus.</p> 	<p>Student will able to:</p> <ul style="list-style-type: none"> *Recall or recognize numbers and number names up to 999. *Different place and face value. *read and write the 2 and 3-digit numbers using the knowledge of the place values. *make out that if position of a digit changes, then values of the number changes. 	<ol style="list-style-type: none"> 1) Textbook exercises 2) Puzzle 3)Hots
June(23 days)	<p>Ch-2: Addition of 2- Digit Numbers</p> <p>Addition of 2-digit number.</p> <ul style="list-style-type: none"> *Properties of addition *Addition using number line *Terms related to addition *Addition of 2 digit numbers with regrouping 	<p>Learn that addition means putting together</p> <p>Addend Addend Sum</p>  <ul style="list-style-type: none"> *Explain the rules of addition *Learn to add numbers using number line by counting forward *Learn to solve addition of 1,2 digit/without numbers with regrouping. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> *Learn addition by putting together things/objects. *Learn to solve addition by concretely, pictorially And symbolically *Create addition story sums in their own words. * Learn to apply the knowledge of addition in real life situation. 	<p>*Write as many addition facts for a given number</p> 	<p>The students will be able to:</p> <ul style="list-style-type: none"> *Define addition and terms related to addition *Learn the rules of addition -Extend the concept of addition to every day life 	<ol style="list-style-type: none"> 1) Textbook exercises 2) Puzzle 3)Hots 4)Review exercise

	<p>*Story sums on addition</p> 	<p>*Learn keywords related to addition. *Illustrate addition story sums.</p>			<p>Commutative Property The order of addends will not change the sum</p> 	
<p>July(23 days)</p>	<p>Ch-3: Subtraction of 2-Digit Numbers *Subtraction of 2-digit number. *Subtraction using number line *Properties of subtraction *Subtraction of 2 digit numbers with regrouping -Relation between addition and subtraction</p> <p>Check Addition with Subtraction</p> 	<p>*learn that taking out a number from another number is subtraction</p>  <p>*Explain the rules of subtraction *Learn to subtract numbers by counting backward using number line *Learn to solve subtraction of 2 digit numbers with/without regrouping *Verify subtraction by addition</p>	<p>Students will be able to- *Learn to solve subtraction by concretely, pictorially and symbolically</p>  <p>*Create subtraction story sums in their own words *develop logical, conceptual, mental ability skills *Learn to apply the knowledge of subtraction in real life situation</p>	<p>*Maths lab activity on subtraction</p>	<p>The students will be able to- *Define subtraction and terms related to subtraction</p>  <p>*Subtract 1, 2 digit numbers with/without regrouping *Check subtraction by using addition *Extend the concept of subtraction to everyday life</p>	<p>1) Textbook exercise 2) Puzzle 3)Hots 4)Review exercise</p>
	<p>Ch-4: Addition and Subtraction of Greater Numbers *Addition and subtraction of 2 and 3-digit numbers. *terms related to addition and</p>	<p>*Learn that addition means putting together and subtraction means take away. *explain the rules of addition and subtraction. *learn to add and subtract numbers using number line by counting</p>	<p>Students will be able to- * learn to solve addition and subtraction by concretely, pictorially and symbolically. -develop logical, conceptual, mental ability skills.</p>	<p>*Subtraction using number grid.</p>	<p>The child will be able to *define addition and subtraction sums related to addition and subtraction. *learn the keywords related</p>	<p>1) Textbook exercise 2) Hots 3)Review exercise</p>

	<p>subtraction. *addition and subtraction using number line. *word problems on addition and subtraction.</p> 	<p>forwarded. *learn to solve addition and subtraction of 1, 2 and 3-digit numbers with/without regrouping. *verify subtraction by addition. *know how to apply addition and subtraction in real life situation.</p>			<p>to addition and subtraction in solving the sums. *extend the concept of addition and subtraction to everyday life</p>	
August(24 days)	<p>Ch-5: Multiplication *Multiplication as repeated addition *Terms related to multiplication *Multiplication using number line *Properties of multiplication *Multiplication of 1 and 2 digit numbers *Story sums on multiplication *Tables from 0–10.</p>	<p>*Learn that repeated addition is multiplication *Explain the key words related to multiplication *Recite tables upto 10 *Learn multiplication using number line. *Learn to multiply 1 & 2 digit numbers by memorizing tables *Know how to apply subtraction in real life situations</p> <p>Parts of Multiplication</p> 	<p><u>The child will be able to</u> *find the total numbers in a group by repeated addition. *Appreciate the value of Sharing in one's own life *shows carefulness in solving story sums</p>	<p>*Multiplication table of 4 using broom sticks and bindis.</p>	<p><u>The child will be able to:</u> *Do multiplication by counting repeated addition *Apply the properties of multiplications in multiplying the numbers *Apply the knowledge of multiplication in real life situations.</p>	<p>1) Textbook exercise 2) Fun time 3) Mental Maths Corner 4) Hots</p>
September(21 days)	<p>Ch-6 Divisions *Division as equal sharing and equal grouping. *Division as repeated subtraction.</p>	<p>*Explain the rules in solving the division sums. *Relate multiplication and division. *Solve division sums by recalling tables.</p>	<p><u>Students will be able to:</u> *Appreciate the value of sharing in one's own life. *Apply division concept in solving real life situation. *Shows carefulness in solving story sums.</p>	<p>*Maths lab activity on division as repeated subtraction.</p>	<p><u>The students will be able to:</u> *Learn division using equal grouping and repeated subtraction.</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>

	<p>*Division using number line. *Relation between multiplication and division *Long division sums. *Story sums on division sums.</p> 	<p>*Apply the knowledge of division in real life situation.</p> 		<p>Any number divided by ZERO  1. UNDEFINED</p>	<p>*Identify the properties of division. *Finds relation multiplication and division. *Apply the knowledge of division in real life situation.</p>	
	<p>Ch-7 Patterns *Patterns *Patterns in nature. *Patterns in man-made things. *Pattern in number and letters. *Rolling and sliding.</p> 	<p>*Identify objects that slide/roll/both *Draw and distinguish between different types of line *Identifies patterns and extend picture/alphabetical/ *Number patterns</p>	<p><u>Students will be able to:</u> Create patterns with numbers, alphabets and shapes. *Design pictures using different types of lines and shapes</p>  <p>*sort out different objects according to different shapes, size and colour</p>	<p>*To make patterns using vegetables.</p>	<p><u>The students will be able to:</u> *Create patterns using numbers, alphabets, shapes etc.</p> 	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>
<p>October (16 days)</p>	<p>Ch-8 Fractions *Introduction of fraction *Fraction of collection of objects</p>	<p>*To introduce the terms Numerator and Denominator *Recall the terms half, one-third, quarter and whole *Understand fraction and equal parts of a whole</p>	<p>Students will be able to: *Know the importance of fractions in daily life(eg: Dividing pizza slices equally amongst everyone)</p>	<p>*Math lab activity with Paper folding and paper plates.</p> 	<p>The child will be able to: *Remember: the terms like half, one-third, quarter and whole *Explain the part of a whole is</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>

					called fraction	
November(24 days)	<p>Ch-9 Shapes *Plane and Solid Shapes</p> 	<p>*Learn about open and closed figures *Know about 2D and 3D shapes *Know about the properties of 2D and 3D shapes(edges, faces, sides and corners) *Differentiate plane and solid shapes *Know the plane figures that can be drawn using cube, cuboid, cone and cylinder *Draw the figures neatly</p>	<p><u>The students will be able to:</u> *Explore the geometrical figures used in construction of buildings, bridges etc. *Know that Some of the common applications include measurement of a line and surface area of land, etc.</p>	<p>*Maths lab activity on understanding straight lines.</p>	<p>The child will be able to *Recognize: The 2D and 3D shapes *Explain the properties of 2D and 3D shapes *Draw plane shapes by using solid shapes like cube, cuboid, cylinder and cone.</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>
December(23 days)	<p>Ch-10 Measurement *Standard and Non-Standard Units *Choosing Correct Unit of measurement Conversion of units of Length, Weight and Capacity</p> 	<p>*Give knowledge of old ways of measurement *Explain the importance of standard units *Explain the conversion of units of length, weight and capacity</p> 	<p><u>The child will be able to:</u> *Know the importance of standard unit to measure in day to day life (eg:school uniform) *Estimate measurements with real life while calculating length, distance and weight.</p>	<p>*Maths lab activity on making your own Beam Balance.</p>	<p><u>The child will be able to:</u> *Identify the importance of standard units *Use appropriate tools to measure and record length, weight and capacity using standard units-metre, gram and litre</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>



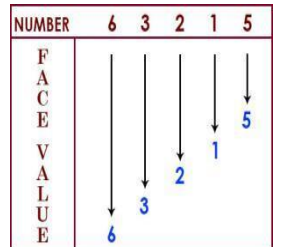

<p>January (24 days)</p>	<p>Ch-11 Money *Introduction of currency with symbol (coins and notes). *Combination of money. *Addition and subtraction of money.</p> 	<p>*Acquire knowledge about money and how to use for daily needs and activities. *Recognize the coins and identify their value. *Express the money in long and short form *Add and subtract the rupees without paise *Convert rupees to paise and paise to rupees *Solve the Word problems</p>	<p>The students will be able to: *Relate the value of money to personal consumption *Develop smart spending habits from early age *Discuss the importance of saving money. *Explain that we need money to buy things and it is earned by doing work</p>	<p>*List the items you bought from the market and find out how much money your parent spent on each item.</p>	<p>The child will be able to: *recognize the value of money and compare *Calculate the sum and difference of rupees *Solve the problems on money in real life situations</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>
	<p>Ch-12 Time *Telling Time *Conversion of units of time *Calendar</p> 	<p>*Read calendar *Read time from clock in minutes, half an hour and quarter *Write the time in A.M and P.M *Explain the relation between different units of time *Convert the units of time</p>	<p>The students will be able to: *Explain the importance of time. *Learn time management and prioritize the work.</p> 	<p>Maths lab activity on make their own clock and show the time.</p>	<p>The child will be able to: *Interpret the calendar *Tell time from clock in minutes, half an hour and quarter *Explain the concept of conversion of units of time</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>
<p>February (23 days)</p>	<p>Ch-13 Data Handling *Collect and record data in tabular form.</p> 	<p>*Define data *Sort and organize data. *Interpret the data.</p>	<p>The students will be able to: *Learn to organize their own things. *Learn to make a check list before doing the work.</p>	<p>Maths lab activity on to represent data using pictures or symbols.</p>	<p>The child will be able to: Sort and organize the data. Interpret the given data.</p>	<p>1) Textbook exercise 2) Fun time 3) Review exercise</p>


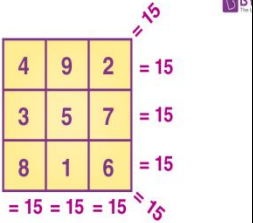
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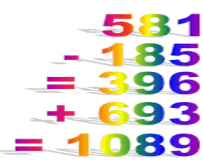



ANNUAL CURRICULUM 2023-2024


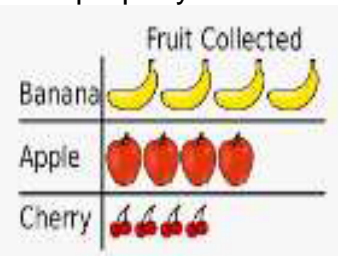


Subject: Mathematics


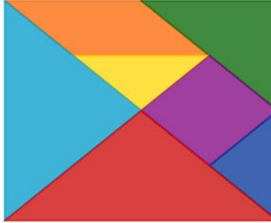

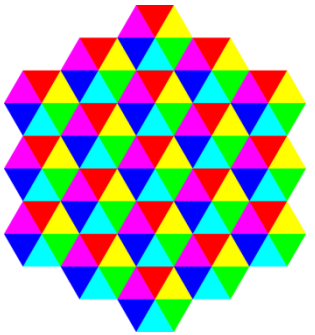
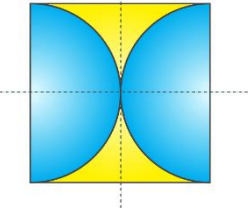
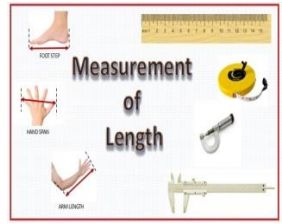
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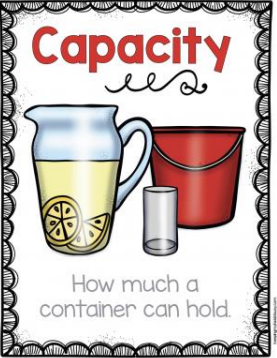

Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Reso urces	Learning Outcomes	Assessme nt
March(1 7 days)	Ch-1: Numbers* *Introduction of 4 Digit Numbers *Place & Face Value *Expanded form 	*Reading and writing four digit numbers *Understanding of place value and face value. *Expanded form of a number 	The student will be able to : *Read and write 4 digit numbers. *differentiate between place value and face value. *expand the given number depending on their place values. 	*Maths lab activity on understanding place value and face value.	Student will be able to: Read and write 4 digit numbers. *differentiate between place value and face value. *expand the given number depending on their place values.	1) Textbook exercises 2) Puzzle 3)Hots 4)Review exercise
April(15 days)	Ch-2: More about Numbers *Introduction of 4– Digit Numbers *Place & Face Value *Odd & Even Numbers *Ordering of Numbers *Ascending and descending order *Skip counting *Successor and predecessor *Forming numbers	*Explain the place value up to 4-digits *Classify the numbers and distinguish according to periods and place value *Explain the concept of even and odd numbers *Compare and arrange: the numbers in ascending and descending order*Do	The student will be able to : *Identify even and odd numbers *compare the numbers as greater or smaller *form the numbers in ascending and descending order. *form greater and 	*Solving puzzles on numbers.	Student will be able to: *Classify the even and odd numbers *Compare and arrange the given numbers in increasing and decreasing order *Identify the predecessor and successor of the given number * Complete number sequence with skip	1) Textbook exercises 2) Puzzle 3)Hots 4)Re view exercise





	<p>Even & Odd Numbers</p> <p>Even: 2, 4, 6, 8, 10</p> <p>Odd: 1, 3, 5, 7, 9</p>	skip counting			counting																														
June(23 days)	<p>Ch-3: Roman numerals <i>teachoo.com</i></p> <p>Most Common Roman Numerals</p> <table> <tr><td>1</td><td>I</td></tr> <tr><td>5</td><td>V</td></tr> <tr><td>10</td><td>X</td></tr> <tr><td>50</td><td>L</td></tr> <tr><td>100</td><td>C</td></tr> <tr><td>500</td><td>D</td></tr> <tr><td>1000</td><td>M</td></tr> </table>	1	I	5	V	10	X	50	L	100	C	500	D	1000	M	<p>*Symbols of roman numerals</p> <p>*Writing numbers in roman numerals.</p> <table> <tr><td>1 I</td><td>6 VI</td><td>10 X</td></tr> <tr><td>2 II</td><td>7 VII</td><td>50 L</td></tr> <tr><td>3 III</td><td>8 VIII</td><td>100 C</td></tr> <tr><td>4 IV</td><td>9 IX</td><td>500 D</td></tr> <tr><td>5 V</td><td>10 X</td><td>1000 M</td></tr> </table>	1 I	6 VI	10 X	2 II	7 VII	50 L	3 III	8 VIII	100 C	4 IV	9 IX	500 D	5 V	10 X	1000 M	<p>Students will be able to:</p> <p>*Identify each roman numeral.</p> <ul style="list-style-type: none"> *write roman numbers from 1 to 39 	*Maths lab activity on roman numbers	<p>The students will be able to:</p> <p>*Identify each roman numeral.</p> <p>*write roman numbers from 1 to 39</p> <p>*form more numbers in roman numerals.</p>	<p>1) Textbook exercises</p> <p>2) Puzzle</p> <p>3)Hots</p> <p>4)Mental math corner</p>
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3 III	8 VIII	100 C																																	
4 IV	9 IX	500 D																																	
5 V	10 X	1000 M																																	
	<p>Ch-4: Addition</p> <p>*Addition of 4- Digit Numbers Without and with carrying</p> <p>*Adding 10, 100 and 1000</p> 	<p>*Addition of 4- Digit Numbers Without and with carrying</p> <p>*Adding 10, 100 and 1000</p> <p>*Properties of addition</p> <p>*Solve word problems</p> 	<p>Students will be able to:</p> <p>*do addition with properties and without properties</p> <p>*add 10, 100, 1000 to the number very easily</p> <p>*solve problems in daily life situation.</p>	*Maths lab activity on creating a magic square	<p>The students will be able to:</p> <p>*Apply the knowledge of addition in real life</p> <p>*solve the problems on additions using their basic learnt knowledge.</p>	<p>1) Textbook exercises</p> <p>2) Puzzle</p> <p>3)Hots</p> <p>4)Review exercise</p>																													
	<p>Ch-5: Subtraction</p> <p>*Subtraction of 4- Digit numbers without and with Regrouping</p> <p>*Combination of</p>	<p>*Introduce the terms subtrahend, minuend, difference</p> <p>*Arrange the numbers in columns and do subtraction</p>	<p>Students will be able to:</p> <p>*Realize the importance of subtraction in our daily life (In purchasing</p>	*Solving a puzzle	<p>The students will be able to:</p> <p>*Identify: the terms related to subtraction</p> <p>*Simplify the</p>	<p>1) Textbook exercises</p> <p>2) Puzzle</p> <p>3)Hots</p> <p>4)Re</p>																													

	<p>addition and subtraction</p> 	<p>*know the combination of addition and subtraction *Explain word problems with framed sentence</p>	<p>things) *learn to subtract bad memories from the mind and be happy.</p> 		<p>problems involved in addition and subtraction *Recognize the operation in the given word problem and solve it correctly.</p>	<p>view exercise</p>
<p>July(23 days)</p>	<p>Ch-6: Multiplication *Multiplication of 2,3,4-Digit numbers by 1 and 2-digit numbers without/with regrouping *Word Problems</p> 	<p>*Introduce the terms multiplicand, multiplier, product *Arrange the numbers in columns and do multiplication *Identify the operation in word problems</p>	<p>Students will be able to- *Realise the importance of Multiplication in our daily (finding the cost of one to many) *Multiply by 10 and 100</p> 	<p>*Maths lab activity on multiplication using the grid.</p>	<p>The students will be able to- *write: the given numbers in columns and find their product correctly *Frame the word problems on multiplication</p>	<p>1) Textbook exercise 2) Puzzle 3)Hots 4)Review exercise</p>
	<p>Ch-7: Division *Division with/without remainder *Division by 10 *Framing word problems</p> 	<p>* Introduce the terms related to division like dividend, divisor, remainder, quotient *Compute the division of 3 and 4-digit numbers by 1-digit number *Explore division by 10 *Solve the word problems and calculate correctly</p>	<p>Students will be able to- *explore the importance of division in daily life (To find the cost of one from many) *make the students understand the importance of sharing and caring for each other.</p>	<p>*Maths lab activity on division algorithm.</p>	<p>The students will be able to- *Identify the terms related to division *Find the quotient and remainder using long division method *Divide 3,4-digit numbers by 1-digit and solve word</p>	<p>1) Textbook exercise 2) Hots 3)Review exercise</p>

		$\begin{array}{r} 6 \text{ --- quotient} \\ 4 \overline{)24} \text{ --- dividend} \\ \underline{4} \\ 0 \end{array}$ <p style="text-align: center;"> divisor</p>			problems	
August(24 days)	<p>Ch-16: Data Handling</p>  <p>*Introduction of Pictographs and Bar graphs</p>	<ul style="list-style-type: none"> *Collect data and organise data *Define Pictograph and Bar graph *Interpret Pictograph and Bar Graph 	<p>Students will be able to-</p> <ul style="list-style-type: none"> *Maintain his/her personal data to have a quick check *It is important to keep information organized to work properly. 	<ul style="list-style-type: none"> *Maths lab activity on recording data and drawing a pictograph 	<p>The students will be able to-</p> <ul style="list-style-type: none"> *Gather data and organise data *Specify Pictograph and Bar Graph *Analyse and interpret the given pictograph and bar graph. 	<ol style="list-style-type: none"> 1) Textbook exercise 2) Hots 3) Review exercise
September(21 days)	<p>Ch-8 Fractions</p> <ul style="list-style-type: none"> *Introduction of fraction *Fraction of collection of objects *Types of fractions *Comparison of like fractions 	<p>To:</p> <ul style="list-style-type: none"> *Introduce the terms Numerator and Denominator *Recall the terms half, one-third, quarter and whole *Understand fraction and equal parts of a whole *Illustrate fraction as shaded part *Write fraction for the shaded figure *Compare the like fractions 	<p>Students will be able to:</p> <ul style="list-style-type: none"> *Know the importance of fractions in daily life(eg: Dividing pizza slices equally amongst everyone) *Different fractions of liquids are mixed in the right amounts to make Milk shakes 	<ul style="list-style-type: none"> *Maths lab activity on finding one-half using square paper. 	<p>The students will be able to:</p> <ul style="list-style-type: none"> *Identify the terms numerator and denominator or *Remember: the terms like half, one-third, quarter and whole *Explain the part of a whole is called fraction *Express the given collection as fraction 	<ol style="list-style-type: none"> 1) Textbook exercise 2) Hots 3) Review exercise

<p>October (16 days)</p>	<p>Ch-9 Basic Geometrical concepts *Geometrical terms: Point Line segment Line *Plane and solid shapes *Tangrams</p>	<p>*Define point, line segment and line *Measuring and drawing line segments *Knowing plane shapes, solid shapes and making tangrams</p> 	<p>Students will be able to: *learn basic geometrical concepts *define parallel and intersecting line *know about plane shapes, solid shapes and tangram.</p> 	<p>*Math lab activity on creating shapes through paper folding and cutting.</p>	<p>The child will be able to: *identify the open and closed figures *Recognize the 2D and 3D shapes *Draw plane shapes by using solid shapes like cube, cuboid, cylinder and cone</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>
<p>November(24 days)</p>	<p>Ch-10 Patterns and symmetry *Patterns *Symmetry</p> 	<p>*Patterns *Tessellations *Symmetry *Number pattern</p> 	<p>The students will be able to: *make different patterns in numbers and shapes *know about tessellation pattern *identify and draw symmetrical figures.</p> 	<p>*Math lab activity on making matchstick patterns.</p>	<p>The child will be able to: *identify patterns in shapes *identify with tile patterns *identify the line of symmetry in the figures *identify number patterns</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>
	<p>Ch-11: Measurement of length</p> 	<p>*Centimetre, metre and kilometer are the standard units. *Smaller unit to bigger unit and vice versa *Addition and subtraction problems</p>	<p>The students will be able to: *know the standard units of length. *convert smaller unit to bigger unit and vice versa. *solve word problems.</p>	<p>*Measuring the dress of student using tape</p>	<p>The child will be able to: *identify centimeter, metre and kilometer as the standard units of measuring length. *Convert smaller units to bigger units and vice versa.</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>

					*add and subtract lengths. *Apply the concept of measuring lengths in real life problems.	
Decem ber(23 days)	Ch-12 Measurement of weight 	*Gram and kilogram are the standard units. *Smaller unit to bigger unit and vice versa *Addition and subtraction problems 	The child will able to: *know the standard units of weight. *convert smaller unit to bigger unit and vice versa. *solve word problems.	Solving puzzle and value corner based questions.	The child will be able to: *identify gram and kilogram as the standard units of measuring weight. *Convert smaller units to bigger units and vice versa. *add and subtract weights. *Apply the concept of measuring weights in real life problems.	1) Textbook exercise 2) Hots 3) Review exercise
	Ch-13: Measurement of capacity 	*Millilitre and litre are the standard units. *Smaller unit to bigger unit and vice versa *Addition and subtracti  Measuring Capacity on problems	The child will able to: *know the standard units of capacity. *convert smaller unit to bigger unit and vice versa. *solve word problems.	*Maths lab activity on usage of water.	The child will be able to: *identify milliliter and litre as the standard units of measuring capacity. *Convert smaller units to bigger units and vice versa. *add and subtract capacities. *Apply the concept of measuring capacity in real life problems.	1) Textbook exercise 2) Hots 3) Review exercise

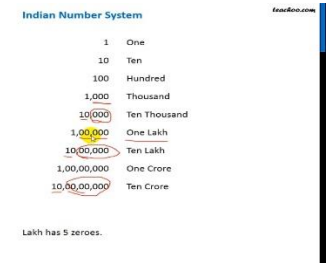

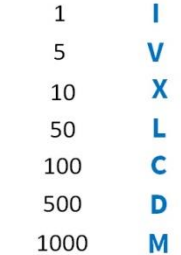
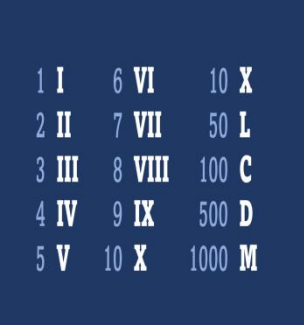

<p>January (24 days)</p>	<p>Ch-14 Money *Rupees and paise *Bills</p> 	<p>*various denominations of coins and notes *conversion of rupees into paise and vice versa *basic calculations on money</p> 	<p>The students will be able to: *identify the coins and notes of various denominations*convert rupees into paise and vice versa *do all 4 basic calculations on money *identify bills</p>	<p>*Art integrated activity on role play</p>	<p>The child will be able to: *add and subtract rupees and paise correctly *multiply and divide money by a whole number *apply the concept of money in real life problems. *create a bill</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>
<p>February (23 days)</p>	<p>Ch-15 Time</p> 	<p>*AM and PM *Reading time correctly Calendar</p> 	<p>The students will be able to: *read time correctly *Explain the importance of time (time waits for no one, every second counts) *Learn time management and prioritize time and to enjoy every minute of time.</p>	<p>Maths lab activity on different activities done by students.</p>	<p>The child will be able to: *differentiate between am and pm *read time correctly in minutes *convert hours into minutes *Convert days into hours *converts years into months and years into days *convert weeks and months into days.</p>	<p>1) Textbook exercise 2) Hots 3) Review exercise</p>

St. RITA HIGH SCHOOL

ANNUAL CURRICULUM 2023-2024

Subject: Mathematics

Grade: 4

Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Reso urces	Learning Outcomes	Assessment
March(1 7 days)	Ch-1: Numbers AND Numeration *Introduction of 6 Digit Numbers *Place & Face Value *Expanded form *Rounding off numbers 	*Reading and writing six digit numbers *Understanding of place value and face value. *Expanded form of a number *Successor and predecessor *Comparison of numbers *Forming greater and smaller number *Rounding of numbers	The student will be able to : *Recognize the large numbers in real life situations like population of countries, Covid – 19 cases, mobile numbers and vehicle numbers. 	*Maths lab activity on building numbers using cards.	Student will be able to: *read and write 6- digit numbers *write face value and place value of a number *compare numbers *form greatest and smallest numbers *round off numbers to nearest 10, 100, 1000.	1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's
April(15 days)	Ch-2: Roman Numerals <i>teachoo.com</i> Most Common Roman Numerals 	*Hindu Arabic Numeral *Roman Numeral 	The student will be able to : *Identify the Roman Numeral labelled on the Clocks, Dice, Question numbers in the exam etc... 	*Forming Roman Numbers using matchsticks.	Student will be able to: *identify the basic rules of writing Roman Numerals *read and write Roman numerals up to 100.	1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's
June(23 days)	Ch-3: Addition	*Define the terms related to addition	Students will be able to:	*Solving a puzzle in	The students will be able	1)Textbook exercises

*Addition of 5, 6 digit numbers



*Arrange 5 digit and 6 digit numbers according to their place values and do addition and with and without grouping.
*Solve the word problems to calculate correctly.



*Check the bills given in the supermarkets, malls, etc. and correct if any mistake.
(Add all the individual prices to find the total of the Bill and Subtract from the given amount in order to collect back the change.)

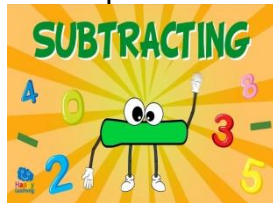
textbook

to:
*Compute the sum of 5 digit and 6 digit numbers without and with grouping
*apply the concept of addition in solving real life problems.
*identify the properties of addition

- 2) Puzzle
- 3)Hots
- 4)Review exercise
- 5)Competency based MCQ's

Ch-4: Subtraction

*Subtraction of 5, 6 digit Numbers
*Relation between Addition and Subtraction
*Word problems



* Find the missing number without carry or borrow.
*Check the answer in subtraction by adding.
*Identify the operation in a word problem.
*Solve the word problems to calculate correctly.

Students will be able to:
*Find the time duration
*Share the things

SUBTRACTION WITH REGROUPING WORKSHEETS




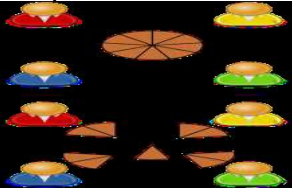
Two digit subtraction with regrouping


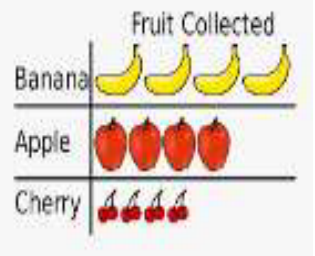

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4) $\begin{array}{r} 21 \\ -14 \\ \hline \end{array}$	5) $\begin{array}{r} 36 \\ -19 \\ \hline \end{array}$	6) $\begin{array}{r} 23 \\ -15 \\ \hline \end{array}$
7) $\begin{array}{r} 40 \\ -28 \\ \hline \end{array}$	8) $\begin{array}{r} 43 \\ -17 \\ \hline \end{array}$	9) $\begin{array}{r} 56 \\ -29 \\ \hline \end{array}$


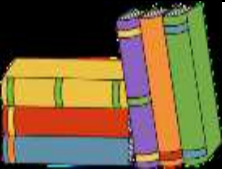
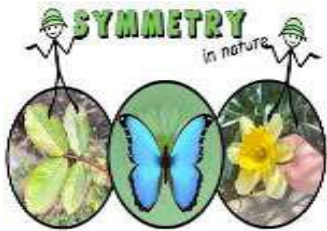
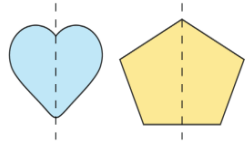
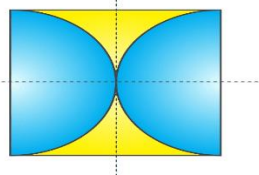

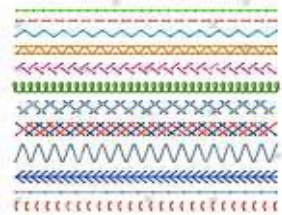
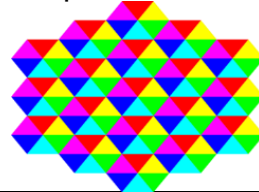
*Solving a puzzle in textbook



The students will be able to:
*Compute the difference of 5 digit and 6 digit numbers without and with grouping
*apply the concept of subtraction in solving real life problems.
*identify the properties of subtraction.*estimate the sum and difference

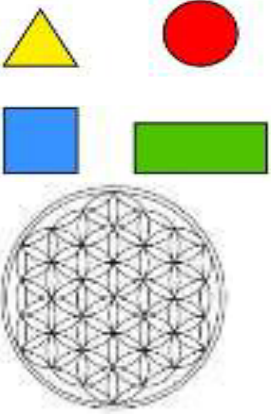

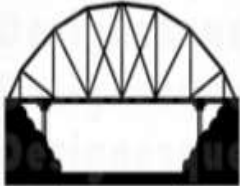


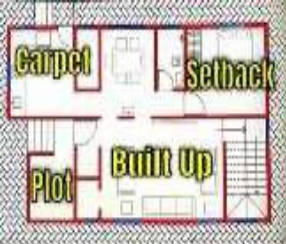

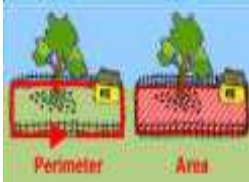
- 1)Textbook exercises
- 2) Puzzle
- 3)Hots
- 4)Review exercise
- 5)Competency based MCQ's




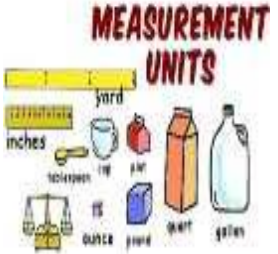

<p>July(23 days)</p>	<p>Ch-5: Multiplication *Properties of multiplication *Multiplying by 10, 100 & 1000 *Multiplying 2 digit and 3 digit numbers *Estimating products</p>  <hr/>	<p>*Recall the multiplication tables to understand the multiplication facts. *Explain the properties of multiplication. *Introduce key terms like multiple, factor, double, multiplicand, multiplier, product, groups, times, repeated addition. *Learn the multiplication with 2 & 3 digit numbers. *Multiply with multiples of 10,100 & 1000. *Solve word problems *Estimate product.</p>	<p>Students will be able to- *Use math knowledge when cooking. For example, if the ingredients for one person, we can multiply the quantities if need to prepare for more persons.</p>  <p>*Understand the values like sharing and cooperation, importance of saving money by multiplication.</p>	<p>*Maths lab activity on Lattice Multiplication.-</p>	<p>The students will be able to- *identify the properties of multiplication and their application in simplification *compute the product using expanded notation. *estimate the product *apply the concept of multiplication in real life problems.</p>	<ol style="list-style-type: none"> 1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's
	<p>Ch-6: Division</p>  <hr/> <p>*Properties of division *Dividing 3,4 digit number by 1,2 digit number</p>	<p>*Define the terms related to division. *Explain multiplication and division as inverse operation. *Discuss quick division, long division methods and the verification. *Explain division facts from the multiplication. *Learn the properties of division.</p>	<p>Students will be able to- *Divide the items among the group, like candies, pizza, Money, etc... *Find the cost of one item from many. * Understand the values like sharing and cooperation.</p> 	<p>*Mental Maths Corner</p>	<p>The students will be able to- *identify the properties of division *compute the quotient and remainder when a number is divided by 10, 100 or 1000 *divide large numbers by 1 digit and 2 digit numbers. *apply the</p>	<ol style="list-style-type: none"> 1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's




					concept of division in solving real life problems *estimate the quotient	
August(24 days)	Ch-7: Unitary Method	*Finding one value from more *Finding more from one value	Students will be able to- *understand how to find the value of one quantity and more quantity.	*Mental Maths Corner *Value corner	The students will be able to- *identify the method of ones, the unitary method *solve real life problems using unitary method.	1)Textbook exercise
	Ch-17: Data Handling 	*Collect data and organise data *Define Pictograph and Bar graph *Interpret Bar Graph	Students will be able to- *Maintain his/her personal data to have a quick check *It is important to keep information organized to work properly. 	*Maths lab activity on representing data in the form of bar graph.	The students will be able to- *read a pictograph *interpret a bar graph	1)Textbook exercises 2) Puzzle 3)Review exercise
September(21 days)	Ch-8 Factors and Multiples *Factors and multiples *HCF and LCM *Divisibility rules 	*Differentiate factor and multiple. *State the divisibility rules of 2, 3, 5, 6, 9 & 10 *Define factors and multiples and study their properties. * recognize prime	Students will be able to: Use factors to arrange things in different ways. Eg, arranging books in rows & columns, making groups of things in different ways etc...	*Maths lab activity on finding factors of small numbers using squared paper.	The students will be able to: *find factors and multiples of a number *recognize prime and composite numbers *prime factorize a	1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's

		<p>and composite numbers</p> <p>*Write the Prime factorization by drawing a factor tree and division method.</p> 	 <p>*Enable the students to do smart work.</p> <p>*Divide something into equal pieces.</p>		<p>number</p> <p>*find HCF and LCM</p> <p>*test the divisibility of numbers</p>	
	<p>Ch-12 Symmetry</p> 	<p>*Differentiate symmetry.</p> <p>*Draw the line of Symmetry</p> 	<p>*Identify the natural symmetry and manmade symmetries</p> 	<p>*Art integrated activity</p> <p>*Making Inked-string Patterns</p>	<p>The students will be able to:</p> <p>*identify symmetrical figures</p> <p>*Define and identify line of symmetry</p> <p>*Locate the line of symmetry in various figures</p>	<p>1)Textbook exercises</p> <p>2)Hots</p> <p>3)Mental Maths corner</p>
<p>October (16 days)</p>	<p>Ch-10 More about patterns</p> 	<p>Observe the given pattern to break the codes</p> 	<p>Students will be able to:</p> <p>* Develop logical skills</p> <p>*Enhance creative thinking and imagination</p> <p>*Observe different patterns of sewing.</p>	<p>*Math lab activity on Mental Maths Corner.</p>	<p>The child will be able to:</p> <p>*create and extend patterns in numbers and shapes</p> 	<p>1)Textbook exercises</p> <p>2)Hots</p> <p>4)Review exercise</p>
<p>Novem ber(24</p>	<p>Ch-9 Fractions</p>	<p>*Find the equivalent of a fraction</p>	<p>The students will be able to:</p>	<p>*Math lab activity on</p>	<p>The child will be able to:</p>	<p>1)Textbook exercises</p>

<p>days)</p>	<ul style="list-style-type: none"> *Fractions *Equivalent fractions *Lowest terms *Types of fractions *Conversion of fractions *Addition, subtraction and multiplication of fractions. 	<ul style="list-style-type: none"> *Convert the fraction into its lowest form *Proper and improper fractions *Mixed fractions *Like and unlike fractions *Order of fractions *Word problems on addition, subtraction and multiplication. 	<ul style="list-style-type: none"> *Realize that fraction is nothing but a part of a whole (example, Dividing pizza slices equally. The shutter speed of a camera is calculated using fractions *Know the importance of time (in fractions). *Develop the ability of Reasoning *apply the concept of fractions in real life problems. 	<p>introducing decimals from fractions.</p>	<ul style="list-style-type: none"> *define and find equivalent fraction of a given fraction. *reduce the fraction into its lowest form *differentiate between like and unlike fractions, proper and improper fractions *convert mixed fractions into improper fractions and vice versa *compare the like fractions and arrange them in ascending and descending order *compute the sum, difference and product of the fractions 	<ol style="list-style-type: none"> 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's
	<p>Ch-11: Basic Geometry</p> <ul style="list-style-type: none"> *Point *Line segment *Line *Ray *Polygons and types of polygons *Angles *Circle and its parts 	<ul style="list-style-type: none"> *Observe and identify the line, line segment, ray. *Draw and represent line, line segment and ray. *Differentiate the terms like point, line, ray and line segment. 	<p>The students will be able to:</p> <ul style="list-style-type: none"> *Observe and identify the geometrical shapes in the surroundings like, buildings, bridges, shapes of the things etc... 	<ul style="list-style-type: none"> *Art integrated activity *Maths lab activity to 1) find the centre of a circle by paper folding 2)to understand the relation between radius 	<p>The child will be able to:</p> <ul style="list-style-type: none"> *define point, line, line segment, ray. *find shapes that can be used for tilings. *understand shapes around them 	<ol style="list-style-type: none"> 1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's

	<p>*Nets of solid shapes</p> 	<p>*Learn the concept of types of polygons parts of circle and their properties. *Know more about triangles *Draw the circle and label its parts. *Know 3-D shapes and their nets.</p> 	 <p>*know about parallel lines in railway tracks.</p> 	<p>and diameter of a circle.</p>	<p>*identify a circle and its parts. *draw 3-D shapes using nets. *draw top/front/side view of simple objects.</p>	
<p>December(23 days)</p>	<p>Ch-13 Perimeter and Area *Perimeter *Area</p> 	<p>*To find perimeter of irregular figures *know about area and how to find area. *Units of area</p>  	<p>The child will be able to: *Realize fencing /outer wall of a field is nothing but Perimeter of that field and the space occupied by tiles is called area. *Relates the concept to construction of a house or apartment.</p> 	<p>*Maths lab activity on finding perimeter on squared paper.</p>	<p>The child will be able to: *find perimeter of simple shapes *identify the unit of perimeter *compute the perimeter of irregular figures *find area of simple shapes *identify the unit of area</p>	<p>1)Texbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's</p>

	<p>Ch-15: Money *Addition and subtraction of money *Multiplication of money *Division of money *Word Problems</p> 	<p>*Learn the key terms of the concepts. *Read and write money *Convert lower unit to bigger unit and vice versa *Perform the basic operations on money</p> 	<p>The child will able to: *Realise that Money earn by hard work(Wages and salaries), money is to survive but one should know how to spend the money wisely.</p>  <p>*know not to run back of money, money should run back of us. *Help each other.</p>	<p>*Solving Puzzle and Hots</p>	<p>The child will be able to: *read and write money correctly as a combination of rupees and paise *convert rupees into paise and paise into rupees *add and subtract money *multiply and divide money by a whole number *apply the concept of money in real life problems.</p>	<p>1)Textbook exercises 2)Review exercise 3)Competency based MCQ's</p>
<p>January (24 days)</p>	<p>Ch-14 Measurement *Measurement of length, weight and volume *Metric conversions</p> 	<p>*Length, mass and capacity. *Differentiate smaller unit and larger unit. *Convert the units from smaller to larger and vice versa. *Perform the word problems on measurement.</p> 	<p>The students will able to: *Calculate the consumption of liquids in litres (eg: water, Milk and oil) *Observe the measures used by mother in the kitchen. *Get the awareness about non standard units.</p>	<p>*Maths lab activity</p>	<p>The child will be able to: *identify the basic units and standard units of length, weight and capacity. *covert smaller unit to bigger unit and vice versa *add and subtract units of length, weight and capacity *apply the concept of</p>	<p>1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's</p>

					metric measures in real life problems.	
February (23 days)	<p>Ch-16 Time</p> <ul style="list-style-type: none"> *Reading time *Use of A.M and P.M *24 – Hour clock *Addition and subtraction of time * Time Interval *Finishing time *Calendar *Time line 	<ul style="list-style-type: none"> *Read time from a given depiction using 'past' and 'to'. *Recall the terms like hours, minutes, seconds etc. *Identify the units of time and hands of clock. *Tell before and after time. *Convert the units of time. *Read a calendar and prepare a timeline. *Represent the time in a. m and p. m *Solve word problems 	<p>The students will be able to:</p> <ul style="list-style-type: none"> *Understand time management is very important in one's life.  <p>*Learn the conversions of Clock.</p> 	<p>Maths lab activity on making a timeline.</p>	<p>The child will be able to:</p> <ul style="list-style-type: none"> *read time to exact minutes *identify the second hand *write time using a.m. and p.m. *relate 12 hour and 24 hour clock. *convert units of time *calculate elapsed time *add and subtract time. 	<ol style="list-style-type: none"> 1)Textbook exercises 2) Puzzle 3)Hots 4)Review exercise 5)Competency based MCQ's

St. RITA HIGH SCHOOL





ANNUAL CURRICULUM 2023-2024




Subject: Mathematics

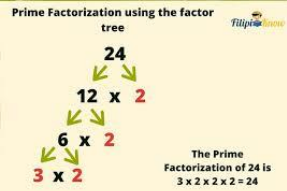
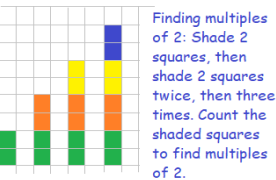


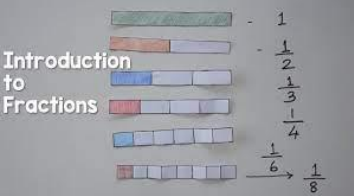

Textbook:- Mathematics Made Easy

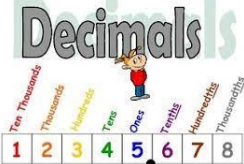
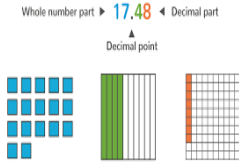
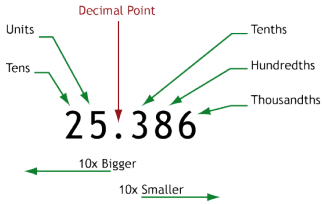
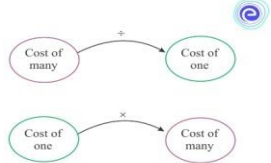
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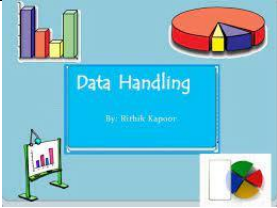

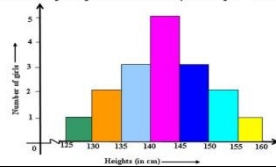


Grade: 5







Mo nth/ W.D ays	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resour ces	Learning Outcomes	Assessment
Mar ch- 17	Ch-1 Numbers and Numeration *Numbers up to 9 digit *Successor and predecessor of numbers *Comparison of numbers 	 <p>*Read and write 7 digit 8 digit and 9 digit numbers *Identify place, face and place values of numerals up to 9 digit numbers in Indian and international system of numeration *Compare Indian and international system of numeration and breakdown the numeral to write in expanded form up to 9 digit number *frame greatest and smallest numbers using given digits</p>	Students will be able to *Interpret place value for large numbers *Recognize the large numbers used in real life situations like population of countries distance between planets reading and writing.	*Collect the information about Telangana states population and arrange it ascending order and descending order. 	*The child will be able to present the numbers in both system of numeration up to 9 digit numbers *Expanded form using place values in both systems up to 9 digit number	*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity
	Ch-2: Roman Numerals *Hindu Arabic Numbers *Roman Numbers	<p>*Explain Roman numerals *To write Roman numerals using properties *Roman numerals to Hindu Arabic and vice versa</p>	Students will be able to- *Recognize Roman numerals in daily life 	*Make a poster showing the usage of Roman numerals	The child will be able to- *Execute the rules to present Roman numerals by using 7 basic symbols *Convert Roman numerals to Hindu	*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity

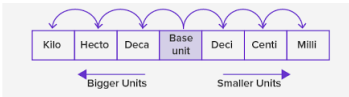
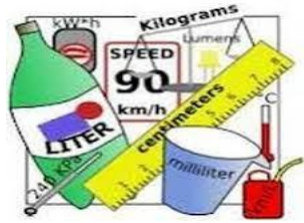


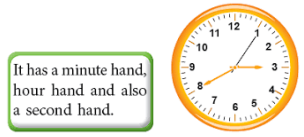
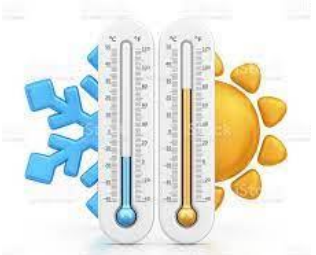
					Arabic numerals and vice versa.	
Apr il- 15	Ch-3 Addition and Subtraction *Addition, Subtraction upto 6-digit and 7-digit numbers	*Recall the terms involved in addition and subtraction *Add and Subtract large numbers upto 6-digit numbers *Verify addition and subtraction using addition and subtraction facts	Enable the students to learn *The importance of cooperation and sharing which adds pleasure to life *Subtracting negative thoughts life can be lost by negative ideas	*Grouping Property of Addition by coloured paper strips.	The child will be able to *Operate addition and subtraction of the given numbers *Read the word problem, understand and solve them.	*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity
Jun e- 23	Ch-4 Multiplication and Division *Multiplication and Division of 4 and 5- digit numbers by 2,3-digit numbers	*Multiply and divide large numbers *Use quick method to multiply numbers by powers of 10 *solve word problems	Enable the students to learn- *Multiplication is repeated addition of the same number and division is repetition of subtraction 	*Showing grid multiplication by activity method.	The child will be able to- *Operate multiplication and division of the given numbers. *Read the word problem, understand and solve them.	*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity
	Ch-5 Simplification *BODMAS rule	*Use of brackets *BODMAS rule *Simplify the numbers using four operations.	The students will be able to- *identify and use DMAS rule *identify various kinds of brackets *identify and use BODMAS rule.	*Solving any puzzled question.	The child will be able to- *use DMAS rule *use various kinds of brackets *use BODMAS rule in simplification.	*Review Exercise *Hots Questions *Competency based MCQ's
Jul y- 23	Ch-6 Factors and Multiples  * Divisibility rules *Prime and composite	*Implement the rules of divisibility of 2,3,4,5,6,9,10 *Distinguish between prime and composite numbers *Evaluate prime factorization by division	*Apply the divisibility rules while finding factors of a given number 	*Colour the tree based on factors	The child will be able to *Check the numbers divisible by 2,3,5,6,9,10 without doing actual division. *Predict the given	*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity

	<p>numbers</p> <ul style="list-style-type: none"> *Prime factorization by factor tree and division method. *HCF by listing the factors and prime factorization. *LCM by listing common multiples, prime factorization and division method. 	<p>and factor tree methods</p> <ul style="list-style-type: none"> *Describe HCF by listing common factors and prime factorization *Demonstrate LCM by listing common multiples, prime factorization and division method 			<p>number as composite or prime.</p> <ul style="list-style-type: none"> *Calculate LCM and HCF by prime factorization and division method 	
<p>Ch-7 Fractions</p> 	<ul style="list-style-type: none"> *Types of fractions *Writing equivalent fractions to a given fraction *Fractions in its lowest form *Comparison of like and unlike fractions *Additions, subtraction of like and unlike fractions *Multiplication and division of fractions 	<ul style="list-style-type: none"> *Recall types of fractions *Compare the given fractions of like and unlike fractions *Operate four basic operations on fractions *Write reciprocal of the given fractions 	<p>Students will be able to-</p> <ul style="list-style-type: none"> *Identify greater than or less than for fractions *Knows the importance of time in fractions 	<ul style="list-style-type: none"> *Art integrated activity on a Fraction Bird. 	<ul style="list-style-type: none"> *Child will be able to identify all types of fractions and can solve operations on them. 	<ul style="list-style-type: none"> *Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity
<p>Aug ust- 24</p>	<p>Ch-8 Decimal Numbers</p>	<ul style="list-style-type: none"> *Recall the definition of decimals and its representation. *Identify the place and place value of a decimal number. 	<p>Students will be able to-</p> <ul style="list-style-type: none"> *Represent height, weight, money in decimals. *Small things make 	<ul style="list-style-type: none"> *Comparing decimals by using graph sheet. 	<p>Students will be able to</p> <ul style="list-style-type: none"> *learn the definition of decimals and its representation. *arrange the 	<ul style="list-style-type: none"> *Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab

	 <p>*Place value of decimals *Expanded form of decimals *Conversion from decimal to fraction and vice versa. *Like and unlike decimals *Comparing and ordering of decimals</p>	<p>*Explain like and unlike decimals</p>	<p>huge changes.</p>		<p>decimals in its place value chart. *arrange the decimals in ascending and descending order by converting unlike decimals to like decimals.</p>	<p>Activity</p>						
	<p>CH-9 Operations on Decimal Numbers *All the four basic operators of decimals.</p>	<p>*Operating 4 basic operators on decimals. *Solving real life problems on decimals.</p> 	<p>The students will be able to- *compute the sum and difference of two or more decimal numbers. *multiply and divide decimal numbers *apply the concept of operations on decimal numbers in solving real life problems.</p>	<p>*Solving puzzle questions</p> $\begin{array}{r} 4 \overline{) 2.00} \\ \underline{- 0} \\ 200 \\ \underline{- 200} \\ 0 \end{array}$	<p>The students will be able to- *execute all 4 basic operations on decimals. *multiply and divide decimal numbers *apply the concept of operations on decimal numbers in solving real life problems.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>						
<p>Sep tem ber- 21</p>	<p>Ch-10 Unitary method</p>	<p>*Solving problems on unitary method.</p> 	<p>Students will be able to *identify the unitary method *apply the concept of unitary method.</p>	<p>Unitary Method</p> <table border="1" data-bbox="1357 1114 1547 1206"> <thead> <tr> <th>No. of pens</th> <th>Total Cost Rs.</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>600</td> </tr> <tr> <td>32</td> <td>?</td> </tr> </tbody> </table>	No. of pens	Total Cost Rs.	24	600	32	?	<p>The students will be able to- *apply the concept of unitary method in solving real life problems.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>
	No. of pens	Total Cost Rs.										
24	600											
32	?											
<p>Ch-11 Money</p>	<p>*Understanding the concept of money *Conversion of money into paise and vice versa.</p>	<p>Students will be able to- *learn the units of money *calculating 4</p>	<p>*Collect some duplicate notes and paste them according to their value.</p>	<p>The students will be able to- *convert rupees into paise and vice versa.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>							

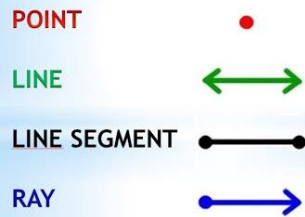
			<p>operations on money</p> 		<p>*apply the concept of addition, subtraction, multiplication and division of money in solving real life problems.</p>	<p>*Maths Lab Activity</p>																		
	<p>Ch-24 Data Handling</p>  <p>*Tally marks *Reading pictograph and pie chart. *Constructing bar graph.</p>	<p>*Recall tally marks *Demonstrate pie ,line and bar graphs *Construct bar graphs and line graphs</p> 	<p>*Organizing the book shelves wardrobes neatly *It is important to keep information organized to work properly *Academic ups and downs should be rectified by continuous follow up of your mistakes`</p>  <table border="1"> <caption>Number of girls vs Height (in cm)</caption> <thead> <tr> <th>Height (in cm)</th> <th>Number of girls</th> </tr> </thead> <tbody> <tr><td>125</td><td>1</td></tr> <tr><td>130</td><td>2</td></tr> <tr><td>135</td><td>3</td></tr> <tr><td>140</td><td>5</td></tr> <tr><td>145</td><td>3</td></tr> <tr><td>150</td><td>2</td></tr> <tr><td>155</td><td>1</td></tr> <tr><td>160</td><td>0</td></tr> </tbody> </table>	Height (in cm)	Number of girls	125	1	130	2	135	3	140	5	145	3	150	2	155	1	160	0	<p>*Construct a bar graph for number of hours you spent to do homework from Monday to Friday</p>	<p>*The child will be able to represent the data in tally marks *Read pie chart and bar graph. *Construct bar graph</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity</p>
Height (in cm)	Number of girls																							
125	1																							
130	2																							
135	3																							
140	5																							
145	3																							
150	2																							
155	1																							
160	0																							
<p>Oct obe r-16</p>	<p>Ch-12 Percentage *Percentage *Principle, amount and interest *Simple Interest</p>	<p>*Define percentage and identify symbol.</p> 	<p>Students will be able to-</p> <p>*express fraction and decimal as percentage *define principle, amount and interest.</p> 	<p>*Art integrated on A Square Rangoli.</p>	<p>Students will be able to-</p> <p>*apply the concept of percentage in solving real life problems. *compute simple interest and amount.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity</p>																		

<p>Ch-13 Profit and Loss *Cost price and Selling price *Profit and Loss</p>	<p>*Solving problems on profit and loss.</p> 	<p>*comparing prices while shopping *calculating the proper amounts for ingredients in recipes. *know the meaning of profit and loss based on cost price and selling price.</p>	<p>*Activity based on to understand the concept of profit and loss in purchasing all the school items.</p>	<p>Students will be able to *differentiate profit and loss based on their cost price and selling price.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity</p>
<p>Ch-14 Bills</p>	<p>*Collect information for bill *Do required calculations.</p>	<p>*Students will be able to make bills and correct them.</p>	<p>*Create own bill of any purchase.</p>	<p>Students will be able to- *identify information provided by a bill. *make and correct bills.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity</p>
<p>Ch-15 Average</p> 	<p>.*Learn the definition of average *Identify average is not an actual value,it is equal distribution among the values</p>	<p>.</p>  $\text{Average Formula} = \frac{\text{Total Sum of All Numbers}}{\text{Number of Item in the Set}}$	<p>*Finding the average height of 5 students of your class.</p>	<p>Students will be able to- *define average *compute average of the given data.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>
<p>Ch-16 Speed, Distance and Time</p> 	<p>Formula for Speed </p>  <p>*Define formulas for speed, distance and time.</p>	<p>Students will be able to learn- *Units of speed and their conversion. *Solve real life problems on speed, distance and time.</p>	<p>*Collect the pictures of some land animals and find their speed in km/h.</p>	<p>Students will be able to- *define and compute speed *identify the units of speed *convert km/hr to m/sec and vice versa. *apply the concept of speed, distance and time in solving</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>

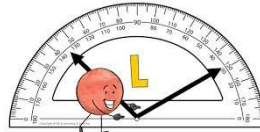
					problems.	
Dec em ber- 23	<p>Ch-17 Measurement</p> <p>*Different units of measurements of length, mass and capacity *Convert higher units to lower units and vice versa. *Addition and subtraction of metric measures.</p>	<p>*Relate different units of measurements like length, mass and capacity. *Convert higher units to lower units and vice versa. *Apply all 4 basic operations on measurements.</p> 	<p>*Use the metric system of measure for length, mass and capacity. *Relate appropriate tool to measure the given things.</p> 	<p>*Measuring the objects in daily life *weighing the objects.</p> 	<p>*The child will be able to- *Recall the properties to convert higher to lower perform multiplication and lower to higher perform division. *Perform the calculations on addition and subtraction of metric measures.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>
	<p>Ch-18 Time</p> <p>*Conversion of time *Addition and subtraction of time *Time intervals</p>	<p>*Conversion from bigger unit to smaller unit. *Perform addition and subtraction of time. *Assess number of days, starting time and ending time.</p> 	<p>*Read and convert the time. *Time zones of world. *Learn the functions of clock.</p> 	<p>*Design a clock and write 5 features of your clock.</p>	<p>The child will be able to *identify the type of unit bigger or smaller *execute the rules to calculate number of days, starting and ending time.</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's</p>
	<p>Ch-19 Temperature</p>	<p>*Describe temperature, units of temperature.</p> 	<p>*Learn the functions of thermometer. *Know the conversion of units of Celsius and Fahrenheit.</p>	<p>*Use the newspaper or the internet to find out the temperature around the world. Which is the coolest and hottest place in the world?</p>	<p>Students will be able to- *explain temperature and its units. *measures atmospheric and body temperatures</p>	<p>*Review Exercise *Hots Questions *Competency based MCQ's *Maths Lab Activity</p>

Ch-20
Lines and Angles
*Basic geometrical concepts
*Angles and its parts
*Kinds of angles
*Measuring and construction of angles using protractor

*Recall the basic concepts like point ,ray ,line segment and line
*Learn the definition of angle and kinds of angles
*Identify the kinds of angles
*Explain measuring and constructing angles



*Construct the angles using protractor
*Explore the different geometrical shapes used in the field of architecture



*To construct angles using a circular sheet of paper

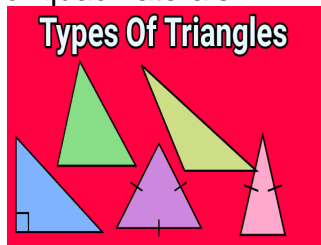


The child will be able to state the basic concepts of geometry
*Describe angle and its parts
*Identify the type of angle by its properties
*Measure and construct the angles by using a protractor

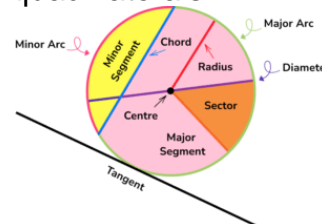
*Review Exercise
*Hots Questions
*Competency based MCQ's
*Maths Lab Activity

Ch-21
Circles, Triangles and Quadrilaterals
*Parts of circle
*Types of triangles
*Types of quadrilaterals

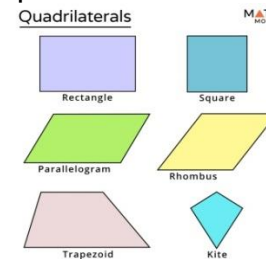
*To know radius and diameter of a circle
*Different parts of a circle.
*Construction of a circle.
*Triangles and its classifications
*Quadrilaterals and types of quadrilaterals.



Students will be able to-
*learn all parts of circle, types of triangles and quadrilaterals.



*Cut outs of circle, triangles and quadrilaterals.



Students will be able to-
*define circle and its parts.
*construct a circle with a given radius.
*define a triangle and its sides, vertices and angles.
*classify the triangles on based on sides and angles.
*Understand angle sum property of a triangle.
*identify various types of quadrilaterals.

*Review Exercise
*Hots Questions
*Competency based MCQ's
*Maths Lab Activity

Ch-22
Perimeter Area and Volume

*Recall the meaning of perimeter and area and learn their definitions.

*Calculate the perimeter of different figures in different

*Draw a figure on graph paper and find its perimeter

*The child will be able to-
*Learn the

*Review Exercise
*Hots Questions

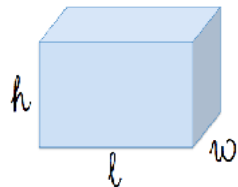


- *Perimeter of square and rectangle.
- *Area of square and rectangle
- *Area of irregular shapes.
- *Volume of cube and cuboids.
- *Nets of cube, cuboids, cone and cylinder.

*Find perimeter and area of rectangle and square.

Volume

The space inside of a 3D shape



- *Describe volume
- *Differentiate area and volume.
- *Demonstrate and distinguish cube and cuboids.
- *Calculate volume of cube and cuboids.

ways.

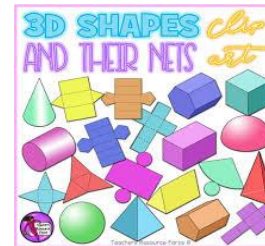
*Use formulas to find perimeter and area of given shapes.

Triangle	$P = a + b + c$	$A = \frac{1}{2} (b \times h)$ <small>(b = the base)</small>
Square	$P = 4 \times l$	$A = l \times l$
Rectangle	$P = 2 \times (l + w)$	$A = l \times w$
Parallelogram	$P = 2 \times (l + w)$	$A = b \times h$ <small>(b = the base)</small>
Rhombus	$P = 2 \times (l + w)$	$A = b \times h$ <small>(b = the base)</small>
Trapezoid	$P = a + b + c + d$	$A = \left(\frac{a+b}{2}\right) \times h$ <small>(a & b = the parallel sides)</small>
Regular n-gon	$P = 5a$ <small>(a = the length of sides are equal)</small>	$A = \frac{1}{2} (n \times a \times a)$ <small>(n = the number of sides)</small>
Circle	$P = 2 \pi r$	$A = \pi r^2$

- *Use formula to find volume of the given shapes.
- *Drawing cubes and cuboids on isometric dot sheet.

and area.

*To draw cube or cuboid on a graph and find its volume.



formulas of perimeter and area of square and rectangle and use them in solving problems.

- *state plane figures and solid figures. Demonstrate volume.
- *calculate the volume of cube and cuboids.

*Competency based MCQ's
*Maths Lab Activity

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Ch-2 Patterns

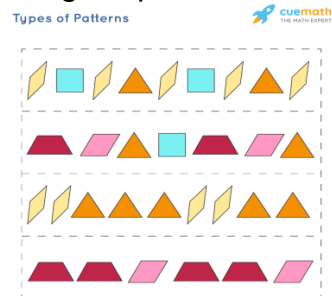


*Magic square

2	7	6
9	5	1
4	3	8

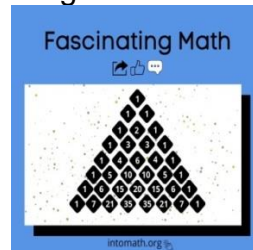
*Inspect and design the patterns

*Magic squares

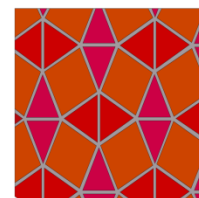


Students will be able to-

- *Develop logical skills to be in sequential manner
- *Enhance creative thinking and imagination



*Art integrated activity on tessellations.



The child will be able to

- *identify patterns in shapes and numbers.
- *Complete the patterns like magic squares, Pascal's triangle and triangular numbers.

*Review Exercise
*Hots Questions
*Competency based MCQ's
*Maths Lab Activity

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Revision and exams



St. RITA HIGH SCHOOL

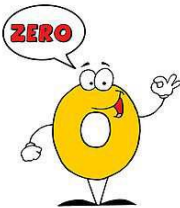
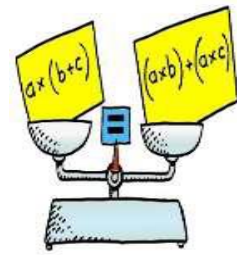
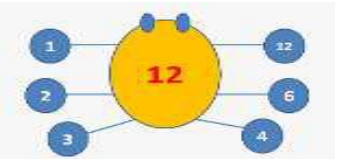


ANNUAL CURRICULUM 2023-2024

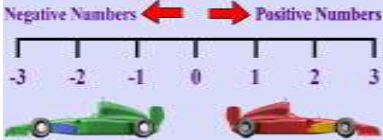


Subject: Mathematics Textbook:- Mathematics Made Easy

Publisher:- Cardova

Grade: 6

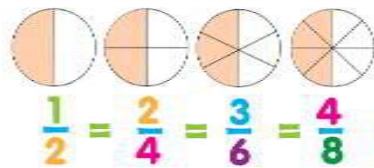
Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assessment
March-17	<p><u>Ch.1.Knowing our numbers</u></p> <ul style="list-style-type: none"> *Comparing numbers. *Ordering numbers. *Forming the numbers using the given digits. *Place value (Indian system, International system). *Number names. *Expanded form and Short form. *Word problems based on 4 basic operations. *Estimation (sum, difference and product). *BODMAS Rule. 	 <ul style="list-style-type: none"> * Explain the importance of Place Value of numbers (more than 5 digits). * Read and write large numbers in Indian and International system of numeration. * Compare 2 or more numbers and order them in Ascending and Descending order 	<p>Students will be able to</p> <ul style="list-style-type: none"> * Interpret place value for large numbers. * Recognize the large numbers used in real life situations like population of countries, distance between planets etc. * Recognize Roman numerals in daily life. * Estimate their marks, number of people arriving for an occasion, family budget etc. 	<ul style="list-style-type: none"> * Forming numbers using digits (Flashcards) * Estimate the budget of your home for one month. * Roman Numeral * Video on Roman numerals 	<p>The students will be able to</p> <ul style="list-style-type: none"> * Recognize the importance of Place Value. * Differentiate between Indian system and International system of numeration. * Solve daily life situation problems involving addition, multiplication, subtraction, division. * Estimate the given number. * Express numbers in Roman Numerals & vice versa 	<ol style="list-style-type: none"> 1. Review exercise 2. Hot questions 3. Maths Lab Activity 
April-15	<p><u>Ch.2 Whole numbers</u></p> <ul style="list-style-type: none"> * Predecessor & Successor * Number line, addition, subtraction. * Properties of whole numbers. * Closure law. 	<ul style="list-style-type: none"> * Define Natural numbers and whole numbers. * Know about successor and predecessor. * Represent whole numbers on number 	<p>* Enable the students to learn what pocket money is actually worth and its value.</p> <ul style="list-style-type: none"> * Learn to prioritize wants and needs. * Recognize the importance of 0 in whole numbers and 1 as the identity element 	<ul style="list-style-type: none"> * Making a chart depicting all the properties of whole numbers. 	<p>The students will be able to</p> <ul style="list-style-type: none"> * explain about natural and whole numbers. * state the properties of whole numbers. * calculate faster 	<ol style="list-style-type: none"> 1. Puzzle 2. Mental Maths corner 3. Review exercise 4. Hot questions 5. Maths Lab Activity

	<p>Commutative law. Associative law. Distributive law. Identity law. * Zero property. *Patterns observation.</p>	<p>line. *Appreciate and demonstrate the properties of whole numbers. *Know the difference between additive and multiplicative identity. *Identify patterns in whole numbers. *Know the existence and importance of identity element.</p>	<p>of whole numbers. *Acquire the techniques of doing the calculations faster.</p>	 <p>*Number line strips *Properties of whole numbers chart</p>	<p>using the properties of whole numbers.</p> 	
<p>June-23</p>	<p><u>Ch. 3 Playing with numbers</u> *Factors and Multiples. *Properties of factors and multiples. *Prime and Composite numbers. *Divisibility rules. *Common factors and Multiples. *Prime Factorization. *Highest Common Factor (HCF). *Lowest Common Multiple (LCM). *Application of HCF and LCM.</p>	<p>*Learn the terms prime and composite numbers and identify them. *Apply divisibility rules, identify factors and multiples. *Construct factor tree. *Know common factors and multiples. *Calculate HCF and LCM. *Know the relationship between HCF and LCM. *Apply the concept of HCF and LCM in</p>	<p>Enable the students to do smart work.</p>  <p>*Patterns of numbers are useful especially for verbal calculation and help the students to understand the properties of numbers better. *Apply the divisibility rules while finding factors of a given number</p>	 <p>*Finding multiples using paper strips. *Create a factor tree.</p>	<p>The students will be able to *Explain the factors and multiples of given numbers. *Identify the different kinds of numbers like prime, composite, even, odd etc. *State the divisibility rules. *Solve for HCF and LCM. *Apply the concept of HCF AND LCM in daily life situations.</p>	 <p>1. Review exercise 2. Hot questions 3. Value corner 4. Maths lab activity</p>

	<p>Ch-4: <u>Integers</u></p> <p>*Representation of integers on a number line.</p> <p>*Ordering of integers.</p> <p>*Concept of zero.</p> <p>*Addition of integers.</p> <p>*Addition of integers on a number line.</p> <p>*Subtraction of integers.</p> <p>*Subtraction of integers on a number line.</p>	<p>real life situations.</p> <p>*Learn integers as a collection of whole numbers and negative counting numbers.</p> <p>*Explore and identify integers on a number line.</p> <p>*Find the absolute value of an integer.</p> <p>*Acquire the knowledge of additive inverse.</p> <p>*Explain the concept that the value of the integer becomes smaller as it moves to the left and becomes large as it moves to the right.</p> <p>*Perform addition and subtraction of integers with and without using number line.</p>  	<p>*Students able to differentiate the positive and negative aspects of life.</p> <p>*Recognizes the opposite situations in real life.</p> <p>*Visualizes the height and depth of various places and learns about the hierarchy of rulers in History using timeline etc.</p> <p>*Use of negative numbers in life like altitude, depth, asset, debt (banking) etc.</p>	<p>*Create real life word problems based on integers.</p> <p>*Number line strips</p> <p>*Integer Puzzle</p>	 <p>The students will be able to</p> <p>*understand the need for integers.</p> <p>*compare and order the integers.</p> <p>*add and subtract integers.</p>	<ol style="list-style-type: none"> 1. Puzzle 2. Review exercise 3. Hot questions 4. Maths lab activity
<p>July-23</p>	<p>Ch.5: <u>Fractions</u></p> <p>*Fractions on a number line.</p> <p>*Proper, improper and</p>	<p>*Define fractions, its components and types of fractions.</p> <p>*Represent fractions</p>		<p>*Represent fractions (Mixed, Improper, Proper) using paper</p>	<p>The students will be able to</p> <p>*learn basic concept of fractions.</p>	<ol style="list-style-type: none"> 1. Review exercise 2. Competency based MCQ's 3. MathLab

mixed fractions*Simplest form of a fraction.
 *Like fractions
 *Comparing like Fractions
 *Unlike fractions.
 *Comparing unlike fractions
 *Addition and Subtraction of like fractions
 *Addition and Subtraction of unlike fractions

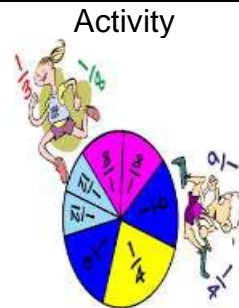
on number line.
 *Convert improper to mixed fractions and vice versa.
 *Explore equivalent fractions.
 *Find the simplest form of fractions.
 *Compare 2 or more fractions and order them.
 *Perform addition and subtraction on fractions and extend it in solving word problems.



*Display the different types of fractions using shaded part of pictures.
 *Knows the importance of time (in fractions)
 *Develops the ability of reasoning.

cutting.
 *Equivalent fractions by paper cutting method.

*explain different types of fractions.
 *add, subtract and simplify fractions.



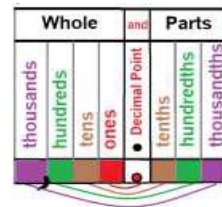
Ch.6: Decimals

*Representation of decimals on a number line.
 *Fractions as decimals.
 *Decimals as fractions
 *Place value.
 *Comparing decimals.
 *Using decimals in Money, Length and Weight.
 *Addition of decimals.
 *Subtraction of decimals.

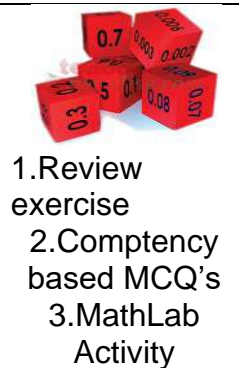
*Define decimal fractions.
 *Represent decimals on the number line.
 *Know the place value of decimal number.
 *Compare and perform various operations.
 *Use the decimals in real life.
 *Perform the conversion of units in metric measures.
 *Perform 4 basic

*Unity is strength, no matter how small the individual unit is. (addition of decimals)
 *Record can be broken with even the smallest decimal unit.
 *Life can be saved or lost by difference of few decimal places in seconds.
 *We must never underestimate even the small things.
 *The combination of medicine in the drug must be very accurate. Even the difference of 0.01 or

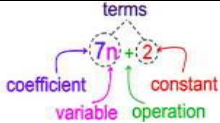

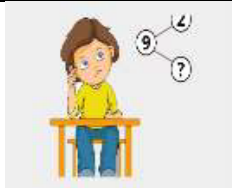

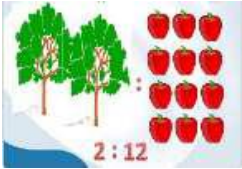
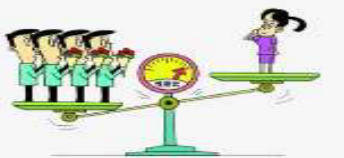

*Comparison of decimals using graph sheet.

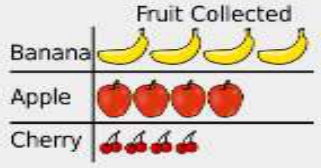
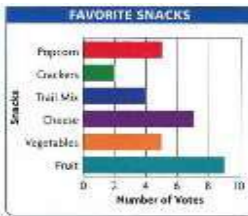

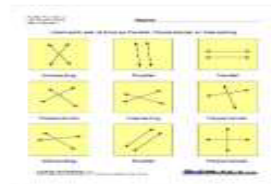


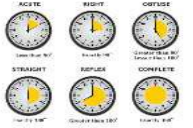


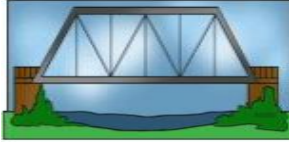
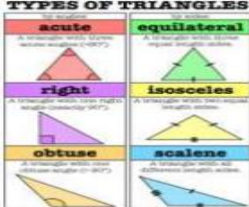
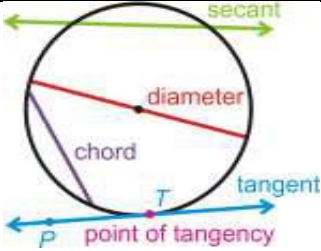
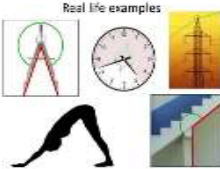

The students will be able to
 *explain basic concept of decimals.
 *compare and order decimals.
 *add and subtract decimals.


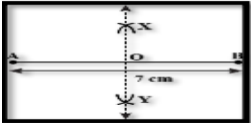

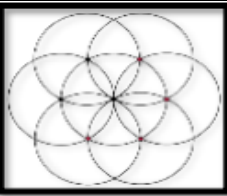
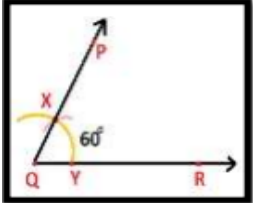

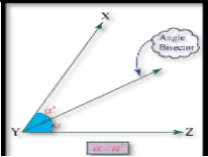
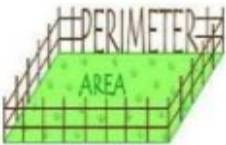
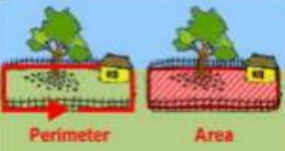
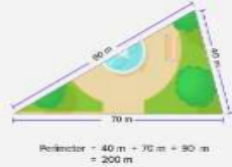
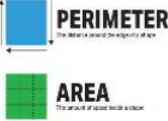



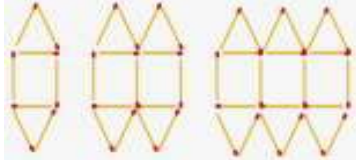




1.Review exercise
 2.Comptency based MCQ's
 3.MathLab Activity

		operations on decimals numbers.	0.001mg can cause severe health issues.			
August-24	<u>Ch.7:Algebra</u> *Match stick patterns *Statement as expression *Expression as statement *Variables *Use of variables in common rules *Rules for arithmetic *What is an equation? *Solution of an equation.	 *Define algebraic terms and expressions. *Frame algebraic expressions and equations for the statements. *Identify constants, variables, terms. *Solve equations by hit and trial method and transposition method.	*While comparing two things, people or situations the parameters must be the same. We must know that there is more than one way to solve a problem. 	*Match sticks for Patterns *Tricks to solve an equation	 The students will be able to *know about variable & constant *explain terms associated with algebra. *classify algebraic expressions.	 1.Review exercise 2.Competency based MCQ's 3.MathLab Activity
September-21	<u>Ch.8:Ratio and Proportion</u> *Ratio *Same ratio in different situations *Proportion *Unitary method.	*Define ratio. * Find equivalent ratios. *Compare ratios. *Simplify the ratios. *Define proportion. *Solve problems using unitary method. 	*Cooking by using the ingredients in proper ratio to have delicious recipe. *Combinations of paints in wall painting must be in proper ratio to give an elegant look. *Incorrect ratios of hormones and enzymes in human body could result in illness. 	*Finding ratios of ages of their family members.	The students will be able to *Explain properties of ratio. *Know how ratio and proportion are related to unitary method.	 1.Review exercise 2.Competency based MCQ's 3.MathLab Activity

	<p><u>Ch. 18. Data Handling</u></p> <ul style="list-style-type: none"> *Recording data. *Pictograph. *Interpretation of Pictograph. *Bar Graph. *Interpretation of bar graph. *Drawing a bar graph. 	<ul style="list-style-type: none"> *Distinguish primary and secondary data. *Record data. *Organize raw data using tally marks and prepare frequency distribution. *Represent data as bar graphs & pictographs. 	<p style="text-align: center;">Fruit Collected</p>  <p>*It is important to keep information organized to work properly.</p> <p>*In our life there will be ups and downs. We should be honest and should learn to face the downs with courage.</p>	<p style="text-align: center;">FAVORITE SNACKS</p>  <ul style="list-style-type: none"> *Power consumption analysis. (Graph sheet) *Graph sheets *Charts 	<p>The students will be able to</p> <ul style="list-style-type: none"> *Know about raw data, to organize data and represent the data using tally marks, pictographs and Bar graphs. 	 <ol style="list-style-type: none"> 1. Value corner 2. Review exercise 3. Competency based MCQ's 4. Maths lab activity
<p style="text-align: center;">October-16</p>	<p style="text-align: center;"><u>Ch.9:basic Geometrical Ideas</u></p> <ul style="list-style-type: none"> *Points. *Line Segments *Lines. *Intersecting lines. *Parallel lines *Perpendicular lines 	<ul style="list-style-type: none"> *Differentiate between line, line segment and ray. *Identify the pairs of lines such as intersecting, parallel and perpendicular lines. 	<ul style="list-style-type: none"> *Use of parallel lines in electric poles. 	<ul style="list-style-type: none"> *Geometrical Instruments *Geo Board 	<p>The students will be able to</p> <ul style="list-style-type: none"> *Draw the types of lines. 	<ol style="list-style-type: none"> 1. Value corner 2. Review exercise 3. Competency based MCQ's 4. Maths lab activity
	<p style="text-align: center;"><u>Ch.10: Angles</u></p> <ul style="list-style-type: none"> *Angles. *Types of angles 	<ul style="list-style-type: none"> *To define and name angle, vertex and arm and identify interior and exterior of an angle. 	<p style="text-align: center;">Real life examples</p>  <ul style="list-style-type: none"> *Know the importance of different angles in daily life. 	<ul style="list-style-type: none"> *Drawing the types of angles from surroundings. *Geometrical Instruments *Geo Board 	<p>The students will be able to:</p> <ul style="list-style-type: none"> *Explain the types of angles. *Measure the different types of angles. 	 <ol style="list-style-type: none"> 1. Value corner 2. Review exercise 3. Competency based MCQ's 4. Maths lab activity

Novem ber-24	<u>Ch.11-Triangles and parallel lines</u> *Triangles. *Types of triangles based on sides and angles.	Know about open, closed and simple curve. *Name triangle, its vertices, sides, angles, interior and exterior region.	*Explore the different geometrical shapes used in the field of sports, architecture, science etc. *know the importance of triangles in the construction of bridges etc. 	*Making polygon using paper strips. *Geometrical Instruments	The students will be able to *Explain different types of polygons. *Explain types of triangles. 	1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity
	<u>Ch-12.Quadrilaterals</u> *Concave , Convex quadrilateral *Angle sum property of Quadrilateral	* Name quadrilateral, its vertices, sides, diagonals, angles, opposite sides, adjacent sides, interior and exterior region of convex quadrilateral.	*Explore the different geometrical shapes used in the field of sports, architecture, science etc.	*Making polygon using paper strips. *Geometrical Instruments	The students will be able to: *Explain concave and convex quadrilaterals.	1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity
	<u>Ch-13.Circles</u> *Diameter *Radius *Circumference	*Explain and identify the parts of circle.		*Geometrical Instruments 	The students will be able to: *Draw the circle and define its parts.	1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity
Decem ber-23	<u>Ch-14.Understanding three dimensional shapes.</u> *3-D Shapes. *cube, cuboid, cone, cylinder	*Identify various 3-D shapes. *Make 3-D shapes using their nets.	*Use of shapes in architecture and in the field of production. *Analyses the various solid figures used in construction of buildings, bridges etc.	*Solid figures wooden pieces *Nets of Solid figures. 	*Find the number of faces, edges, vertices of 3D shapes and draw the nets of solid figures.	1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity

	<p><u>Ch.15.Practical Geometry</u></p> <p>*Circle *Construction of a circle when its radius is known *Line segment *Construction of line segment of a given length *Use of ruler and compass *Constructing a copy of a given line segment</p> <p>*Perpendiculars</p> <p>*Perpendicular to a line through a point.</p> <p>*Perpendicular bisector of a line segment *Constructing an angle of given measure</p> <p>*Constructing a copy of an angle unknown measure *Bisector of an angle.</p> <p>*Construction of special angles.</p>	<p>*Construct circles and concentric circles when radius is given. *Construct a line segment, perpendicular bisector of given line segment. *Construct angles of different measure (multiples of 15)</p> <p>*Construct a copy of line segment and copy of angle</p>  	<p>*Students will know the importance of accuracy.</p> <p>*Learns to achieve the desired goal by systematic approach.</p> 	 <p>*Construct different patterns in circles using compass. *Check if the perpendicular bisector of a chord passes through the centre of the circle by paper folding method.</p> <p>*Ruler *Compass</p> <p>*Set squares</p> <p>*Protractor</p>	<p>The students will be able to *Construct perpendicular bisector of line segment. *Construct special angles.</p> <p>*Construct angle bisectors. *Construct copy of angles.</p>  	 <ol style="list-style-type: none"> 1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity
<p>Januar y-24</p>	<p><u>Ch-16. Mensuration:</u></p> <p>*Perimeter *Perimeter of square and rectangle *Area *Area of square and rectangle. *Area of irregular figures.</p>	 <p>Identify regular and irregular polygons.</p> <p>*Know what is a boundary and region. *Find area and perimeter of square and rectangle. *To</p>	 <p>*Not all people are alike, every one of us is unique and have our own importance just like formula for calculating perimeter of different figures in different ways.</p>	 <p>*Paper cutting method to show that figures with same perimeter can have different area.</p>	<p>The students will be able to *understand the concept of perimeter and area.</p> <p>*learn the units of perimeter and area and solve related problems.</p> <p>The students will be able to</p>	 <ol style="list-style-type: none"> 1.Value corner 2.Review exercise 3. Competency based MCQ's 4.Maths lab activity

		solve real life problems based on area and perimeter.				
February-23	<p><u>Ch.17 Symmetry</u></p> <ul style="list-style-type: none"> *Making symmetric figures *Ink blot devils *Inked string patterns *Figures with 2 lines of symmetry *Figures with multiple lines of symmetry *Reflection and symmetry *Paper decoration *Application of reflection 	<ul style="list-style-type: none"> *Identify symmetrical objects. *Identify symmetry in geometrical shapes. *Create symmetrical figures and patterns. 	<ul style="list-style-type: none"> *Beauty is irrespective of symmetry and asymmetry. Develops creative thinking and imagination. *Develops aesthetic sense. 	<ul style="list-style-type: none"> *Explore symmetry in alphabet. *Symmetry in Geometry by paper folding method. *Paper patterns *Rangoli patterns 	<ul style="list-style-type: none"> *Identify symmetrical figures. *Draw lines of symmetry in 2D shapes. *Explain about lateral Inversion. 	<ol style="list-style-type: none"> 1. Value corner 2. Review exercise 3. Competency based MCQ's 4. Maths lab activity 
March-19	Revision and examinations.					

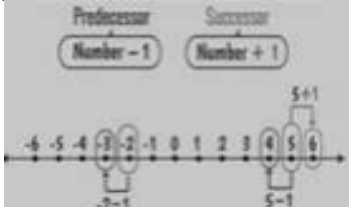
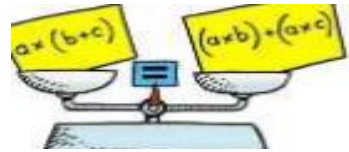
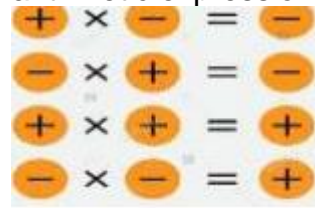

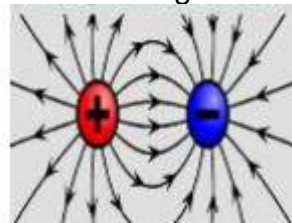
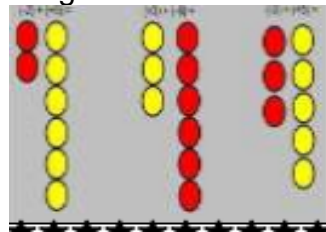
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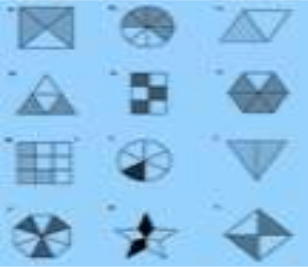
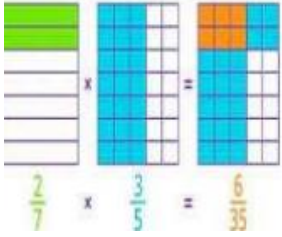

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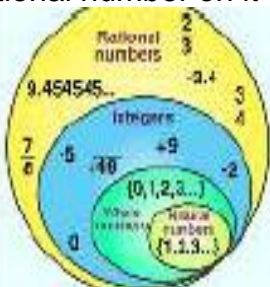

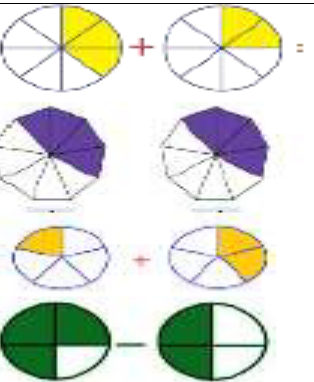
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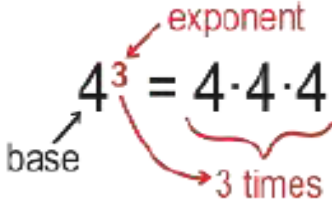
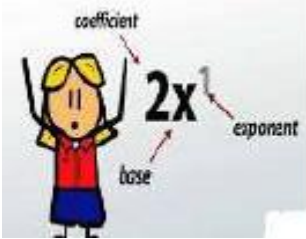
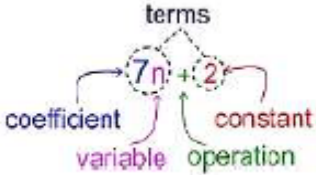
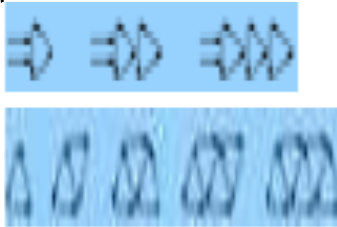
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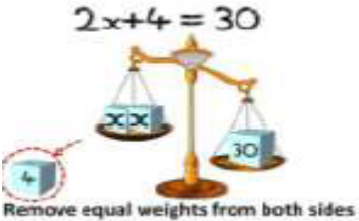




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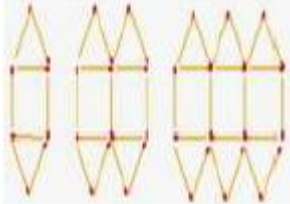



Month/ W.Days	Theme & Sub- Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assessment
March- 17	<p>CH-1 INTEGERS</p> <ul style="list-style-type: none"> ➤ Number line ➤ Properties of integers Closure law Commutative law Associative law Distributive law Identity law Zero property ➤ Properties under addition, subtraction and multiplication of integers 	<ul style="list-style-type: none"> ➤ Recall the integers to differentiate between whole number and integers ➤ Represent the number line <p>Appreciate and Demonstrate the properties of integers</p>   <ul style="list-style-type: none"> ➤ Apply the properties of integers with basic operations to simplify arithmetic expressions 	<p>Able to Understand that positive and negative numbers are used together to find the temperature above/below zero</p>  <ul style="list-style-type: none"> ➤ Visualize the elevation above/below sea level ➤ Recognize the positive/negative electric charge 	<ul style="list-style-type: none"> ➤ Create real life word problems based on integers.  <p>To prove multiplication of integers is commutative.</p>	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Recognise the integers to differentiate between whole number and integers ➤ Represent on the number line ➤ Learn and identify the properties ➤ Relate the properties of integers with basic operations to simplify arithmetic expressions EVERY TIME YOU SUBTRACT NEGATIVE FROM YOUR LIFE , YOU MAKE ROOM FOR MORE POSITIVE 	<ul style="list-style-type: none"> ➤ Competency based MCQ's ➤ Mental Maths Corner ➤ Review exercise ➤ Hots Question ➤ Puzzles



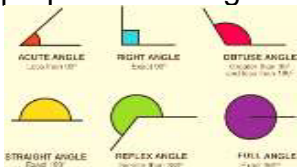




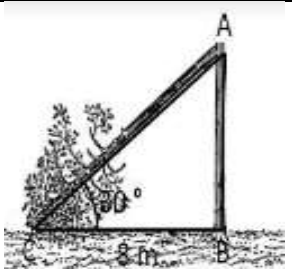
<p>April-15</p>	<p><u>CH-2 FRACTIONS</u></p> <ul style="list-style-type: none"> ➤ Fraction and its types ➤ Multiplication and Division of fractions 	<ul style="list-style-type: none"> ➤ Define fractions. Classifying and comparing fractions. ➤ Simplifying with all basic operations. 	<ul style="list-style-type: none"> ➤ Knows the importance of time (in fractions) ➤ Develops the ability of reasoning.  <ul style="list-style-type: none"> ➤ know how to mix drinks in proper fraction.  <ul style="list-style-type: none"> ➤ To determine how much of each ingredient is added to prepare pizza. 	<p>To divide a fraction by a whole number.</p> <ul style="list-style-type: none"> ➤ Write the fractions of the given figures 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ simplify with all basic operations. ➤ identify the types of fractions. <p>Multiplying Fractions</p>  <p>$\frac{2}{7} \times \frac{3}{5} = \frac{6}{35}$</p>	<ul style="list-style-type: none"> ➤ Competency based MCQ's ➤ Mental Maths Corner ➤ Review exercise ➤ Hots ➤ Question ➤ Puzzles
<p>June-23</p>	<p><u>Ch.3. Decimals</u></p> <ul style="list-style-type: none"> ➤ Decimal number in place value chart ➤ Multiplication and Division of 	<ul style="list-style-type: none"> ➤ Comparing fractions and decimals. ➤ Converting decimal to fractions. 	<ul style="list-style-type: none"> ➤ Even the difference of 0.01 or 0.001mg in the drug can cause severe health issues. 	<ul style="list-style-type: none"> ➤ Flash cards displaying different decimal numbers 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Elicit fraction and decimal ➤ Recognise and compare fractions and decimals ➤ Multiply the 	<p>Decimal Word Problems</p>  <ul style="list-style-type: none"> ➤ Competency


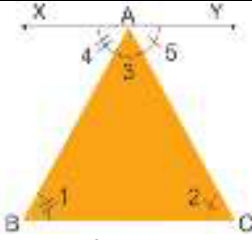
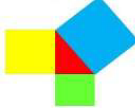
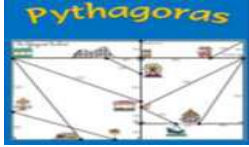
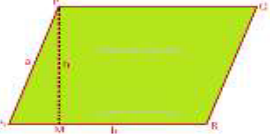
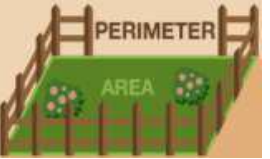

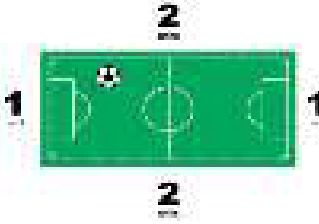
	decimal number by 10, 100 and 1000				decimal number by 10, 100 and 1000 in order to infer right shift in decimal point ➤ Divide the decimal number by 10, 100 and 1000 in order to infer left shift in decimal point	based MCQ's ➤ Mental Maths Corner Review exercise Hots Question Puzzles
	<p><u>CH-4: Rational Numbers</u></p> <ul style="list-style-type: none"> ➤ Rational numbers ➤ Number line ➤ Standard form ➤ Insert rational numbers between two rational numbers 	<ul style="list-style-type: none"> ➤ Define rational number ➤ Construct a number line to represent rational number on it 	<ul style="list-style-type: none"> ➤ To recognize how these ideas relate to one another. ➤ To embrace new ideas and find new connections among familiar ones. 		<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Represent number line, to represent rational number on it ➤ apply the rules of Standard form ➤ find Equivalent Rational numbers ➤ Insert rational numbers between two rational numbers 	<ul style="list-style-type: none"> ➤ Competency based MCQ's ➤ Mental Maths Corner ➤ Review exercise ➤ Hots Question Puzzles
July-23	<p><u>Ch-5. Operations On Rational Numbers</u></p> <ul style="list-style-type: none"> ➤ Rational numbers ➤ Number line ➤ Standard Form 	<ul style="list-style-type: none"> ➤ Basic mathematical operations on Rational Numbers. 	<ul style="list-style-type: none"> ➤ To recognize how these ideas relate to one another. 	Rational numbers on a number line.	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Do calculations on rational numbers 	<ul style="list-style-type: none"> ➤ Competency based MCQ's ➤ Review exercise
	<p><u>CH-6. EXPONENTS AND POWERS</u></p> <ul style="list-style-type: none"> ➤ Exponent 	<ul style="list-style-type: none"> ➤ Define exponent 	<ul style="list-style-type: none"> *Think of your existing power as the exponent in an equation that determines the value 	To convert the distance from the sun in the form	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Elicit exponent ➤ Express numbers 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review








	<ul style="list-style-type: none"> ➤ Laws of exponents ➤ Scientific notation 	 <ul style="list-style-type: none"> ➤ Apply laws of exponents to simplify given expression ➤ Frame scientific notation ➤ Express numbers in exponential form ➤ Converting into large and small numbers into scientific notation 	<p>of information. *The more power you have, the more additional power you derive from the new data</p> 	<p>of Scientific notation</p>	<p>in exponential form</p> <ul style="list-style-type: none"> ➤ Apply laws of exponents to simplify given expression ➤ Frame scientific notation ➤ Convert numbers into scientific notation 	<p>exercise</p> <ul style="list-style-type: none"> ➤ Puzzles ➤ Mental Maths Corner
<p>August-24</p>	<p><u>CH-7. ALGEBRAIC EXPRESSIONS</u></p> <ul style="list-style-type: none"> ➤ Algebraic expressions and its types ➤ Constant, Coefficients, Powers, Like and Unlike terms ➤ Framing expressions ➤ patterns 	<ul style="list-style-type: none"> ➤ Define algebraic expressions and its types ➤ Identify constant, coefficients, powers, like and unlike terms ➤ 	<p>While comparing two things, people or situations the parameters must be the same. situation where one or more quantities have an unknown value or can change in value.</p>	<p>Find the general formula for the number of matchsticks required to make the following pattern</p> 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Define algebraic expressions and its types. ➤ Recognize constant, coefficients, powers, like and unlike terms. ➤ calculate the given variable in order to evaluate the algebraic expression ➤ Verify the patterns in order to verify whether the given algebraic expression satisfies or not. 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review exercise ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity
<p>Septem</p>	<p><u>CH-8: SIMPLE</u></p>	<ul style="list-style-type: none"> ➤ Discuss methods of 	<ul style="list-style-type: none"> ➤ It enables a person 	<p>Find the value for</p>	<p>Students will be</p>	<ul style="list-style-type: none"> ➤ Competenc




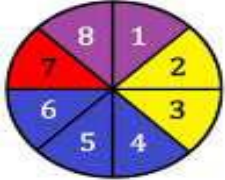



<p>ber-21</p>	<p><u>EQUATIONS</u></p> <ul style="list-style-type: none"> ➤ Equation and Expression ➤ Methods of solving an equation. 	<p>solving an equation</p> <ul style="list-style-type: none"> ➤ Framing equations ➤ Rules to be followed for transposition method ➤ Simplifying the Equations. 	<p>to break down a problem first and then find its solution</p> <ul style="list-style-type: none"> ➤ Problems at some point in life will train your mind to think logically. ➤ Balancing the situations is very important (cooking, driving a car). 	<p>which equation holds true</p>  	<p>able to</p> <ul style="list-style-type: none"> ➤ Framing equations ➤ Differentiate methods of solving an equation ➤ Learn rules to be followed for transposition method ➤ Find the equations 	<p>y based</p> <p>MCQ's Review exercise</p> <ul style="list-style-type: none"> ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity
	<p><u>Ch-18. Visualising Solid shapes</u></p> <p>*3-D Shapes.</p> <p>*cube, cuboid, cone, cylinder</p>	<p>*Identify various 3-D shapes. *Make 3-D shapes using their nets.</p>	<p>*Use of shapes in architecture and in the field of production.</p> <p>*Analyses the various solid figures used in construction of buildings, bridges etc.</p>	<p>*Solid figures wooden pieces *Nets of Solid figures.</p>  <p>*Isometric sheets</p>	<p>*Find the number of faces, edges, vertices of 3D shapes and draw the nets of solid figures on isometric sheets.</p>	<p>Competency based MCQ's Review exercise</p> <ul style="list-style-type: none"> ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity
<p>October -16</p>	<p><u>CH-9. Ratio and proportion.</u></p> <ul style="list-style-type: none"> ➤ Ratio and equivalent ratios ➤ Proportions. 	<ul style="list-style-type: none"> ➤ Compare quantities in order to represent them as ratio ➤ Equate ratios in order to represent them in proportion ➤ Explain ratio and proportion, direct and inverse proportions 	<ul style="list-style-type: none"> ➤ importance of cooperation and sharing which adds pleasure to life ➤ comparing prices while grocery shopping, calculating the proper amounts for ingredients in recipes 	<p>Make the given shape by using the pieces of tangram</p> 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Differentiate the quantities in order to represent them as ratio ➤ Simplify the ratios in order to represent them in proportion 	<p>Competency based MCQ's Review exercise</p> <ul style="list-style-type: none"> ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity

		 <p>"5 girls to 15 boys" 5 girls : 15 boys</p>				
	<p><u>Ch-17. Symmetry</u> *Makingsymmetric figures *Ink blot devils *Inked string patterns *Figures with 2 lines of symmetry *Figures with multiple lines of symmetry *Reflection and Symmetry *Paper decoration *Application of Reflection symmetry *Rangolipatterns.</p>	<p>* Identify symmetrical objects. *Identify symmetry in geometrical shapes. *Create symmetrical figures and patterns.</p> 	<p>*Beauty is irrespective of symmetry and asymmetry. Develops creative thinking and imagination. *Develops aesthetic sense.</p> 	<p>*Explore symmetry in alphabet. *Symmetry in Geometry by paper folding method. *Paper patterns</p> 	<p>The students will be able to *Identify symmetrical figures. *Draw lines of symmetry in 2D shapes. *Explain about lateral inversion.</p>	
<p>November-24</p>	<p><u>Ch-10. Percentage and its application.</u> > Percentages > Convert fraction and decimal to percentage > Profit and Loss > Simple Interest.</p>	<p>> Convert fractions or decimals in percentages > Solving the problems based on profit and loss > Solving the problems based on Simple interest</p>	<p>> Comparing prices while grocery shopping, calculating the proper amounts for ingredients in recipes</p> 	 <p>Problems based on real life examples to be solved by students and find out some more questions based on</p>	<p>Students will be able to: > Express fractions or decimals in percentages > Interpret the shaded part in the form of percentage in order to estimate the part of an area > Solve ratio and</p>	<p>Competency based MCQ's Review exercise > Puzzles > Mental Maths Corner > Maths lab activity</p>

				their logical thinking.	proportion, direct and inverse proportions > Solve the problems based on simple interest 	
	<p>CH-11. LINES AND ANGLES</p> <ul style="list-style-type: none"> > Line, Line segment and Ray > Types of angles > Pair of lines > Pair of angles > Transversal line > Two parallel lines cut by transversal 	<ul style="list-style-type: none"> > Recall the terms related to geometry > Discuss different types of angles and lines > Demonstrate about pair of angles and properties of angles  <ul style="list-style-type: none"> > Create a strategy in order to determine whether the given lines are parallel or not 	<ul style="list-style-type: none"> > Explore the different geometrical shapes used in sports, bridges, architecture... > know the importance of triangles in the construction of bridges 	 <p>> From the given picture identify the pair of lines and angles.</p> 	<p>Students will be able to</p> <ul style="list-style-type: none"> > Memorize the terms related to geometry > Identify different types of angles and lines > Learn the properties of angles > verify whether the given lines are parallel or not 	<ul style="list-style-type: none"> > Competency based MCQ's Review exercise > Puzzles > Mental Maths Corner > Maths lab activity
December-23	<p>Ch-12. The Triangle and its Properties.</p> <ul style="list-style-type: none"> > Triangle and its properties > Triangle based on > Angles and Sides 	<ul style="list-style-type: none"> > Define triangle, median and altitude > State Exterior angle property > Classify the length of the sides and angles of triangle > Apply the Pythagoras theorem 	 <p>Human pyramid</p>	To verify the exterior angle property of a triangle by using paper cutting	<p>Students will be able to</p> <ul style="list-style-type: none"> > Define triangle, median and altitude. > Generalize the length of the sides and angles of triangle. > State and verify 	<ul style="list-style-type: none"> > Competency based MCQ's Review exercise > Puzzles > Mental Maths Corner > Maths lab

<ul style="list-style-type: none"> ➤ Median and Altitude ➤ Exterior Angle property ➤ Angle sum property ➤ Pythagoras theorem ➤ Pythagorean Triplet 	<p>and Angle sum property in order to simplify the given problems</p> <ul style="list-style-type: none"> ➤ Discuss Pythagorean Triplet 		 <p>To verify Pythagoras theorem by paper cutting and pasting method by using paper cutting</p> 	<p>Exterior angle property</p> <ul style="list-style-type: none"> ➤ State and verify Pythagoras theorem and Angle sum property. ➤ Identify Pythagorean triplet. 	<p>activity</p>
<p><u>Ch.13. Perimeter and Area</u></p> <ul style="list-style-type: none"> ➤ Area and Perimeter of Square, Triangle, Rectangle and Parallelogram ➤ Area of circle ➤ Circumference of a circle ➤ Concentric circles ➤ Area of Paths 	<ul style="list-style-type: none"> ➤ Describe area and perimeter of plane figures (Square, Triangle, Rectangle and Parallelogram)  <ul style="list-style-type: none"> ➤ compare area of triangle and area of parallelogram  <ul style="list-style-type: none"> ➤ Calculate area and circumference of a circle. ➤ Find area of path. 	<ul style="list-style-type: none"> ➤ Estimate the area of irregular shapes by counting squares ➤ Use formulae to find area and perimeter 	<ul style="list-style-type: none"> ➤ Find the area and perimeter of the play ground 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Elicit area and perimeter of plane figures ➤ Calculate grid sheets in order to find area and perimeter ➤ Identify between area of triangle and area of Parallelogram ➤ Simplify area of paths. ➤ Calculate area and circumference of a circle 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review exercise ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity

	<p><u>Ch.14:</u> <u>Congruence of Triangles.</u></p> <ul style="list-style-type: none"> ➤ Congruence ➤ Congruence of triangles ➤ Criteria for Congruence of triangles (SSS, SAS, ASA and RHS) 	<p>➤ Define congruency</p>  <p>➤ Use the conditions of congruency criteria (SSS, SAS , ASA and RHS) to examine whether the given triangles are congruent or not</p>	<p>➤ Identify corresponding parts of congruent plane figures.</p> 	<p>Students can show different shapes like Star, rangoli by using congruent triangles</p> 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Define congruency ➤ Generalize the superposition of different figures in order to verify congruence of two figures ➤ To verify the conditions of congruency of triangles (SSS, SAS, ASA and RHS) 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review exercise ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity
<p>January -24</p>	<p><u>Ch.15: Practical Geometry</u></p> <ul style="list-style-type: none"> ➤ Construction of parallellines ➤ Construction Of perpendicular line Construction of triangles 	<p>➤ Use a ruler and compass in order to Construct parallel and perpendicular line</p>  <p>➤ Execute the steps to construct triangles with different measures (SSS, SAS, ASA ,RHS)</p> 	<p>➤ Importance of accuracy Architecture.</p> 	<p>To make 150 , 300, 450,600, 750 and 900 angles without using a protector</p>	<p>*Students will be able to</p> <ul style="list-style-type: none"> ➤ Construct perpendicular line and parallel lines ➤ Construct triangles with different measures (SSS, SAS, ASA , RHS) 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review exercise ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity

<p>February y-23</p>	<p><u>Ch.16:Dta Handling</u></p> <ul style="list-style-type: none"> ➤ Data and its types ➤ Grouped Andungrouped data ➤ Range and Centraltendency ➤ Frequency distribution ➤ Bar and Double bargraph ➤ Probability 	<ul style="list-style-type: none"> ➤ Collect, record and present data in order to organiseexperience ➤ Find range, mean median and mode of the given data ➤ Represent the data using Bar and Double bar graphs  <table border="1"> <caption>Burgers sold during the last week</caption> <thead> <tr> <th>Week Days</th> <th>Number of Burgers sold</th> </tr> </thead> <tbody> <tr> <td>Mon</td> <td>25</td> </tr> <tr> <td>Tue</td> <td>30</td> </tr> <tr> <td>Wed</td> <td>45</td> </tr> <tr> <td>Thu</td> <td>60</td> </tr> <tr> <td>Fri</td> <td>15</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ➤ Explain about event, sample space, coin and dice 	Week Days	Number of Burgers sold	Mon	25	Tue	30	Wed	45	Thu	60	Fri	15	<p>*Face the downs with courage.</p> <p>1. Flipping a coin.</p>  <p>Choosing a card from the deck.</p> <p>Throwing a dice.</p> 	<ul style="list-style-type: none"> ➤ Draw a bar graph on top 7 hitcountries BY“ COVID – 19 “ , World wide ➤ Draw a graph of your class students birthday ➤ Find the probability from the spinner 	<p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Collect, record andpresent data in order to organise experience ➤ Find range, mean median ➤ Interpret the data using Bar and Double bar Graphs 	<ul style="list-style-type: none"> ➤ Competency based MCQ's Review exercise ➤ Puzzles ➤ Mental Maths Corner ➤ Maths lab activity
Week Days	Number of Burgers sold																	
Mon	25																	
Tue	30																	
Wed	45																	
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Fri	15																	
<p>March- 19</p>	<p>Revision and Exams</p>																	

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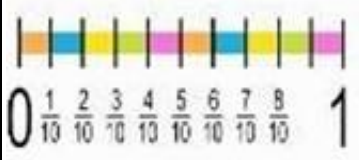
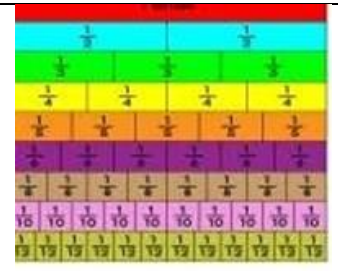
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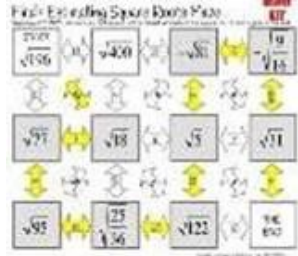
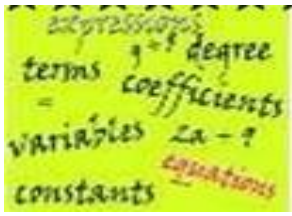
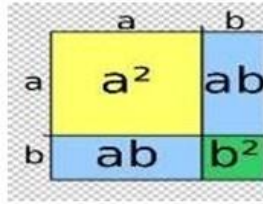
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Textbook:- Mathematics Made Easy



Publisher:- Cardova



Grade: 8


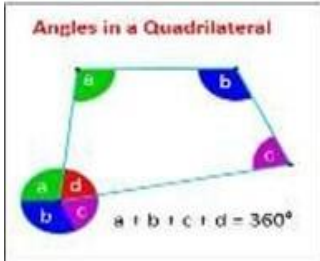
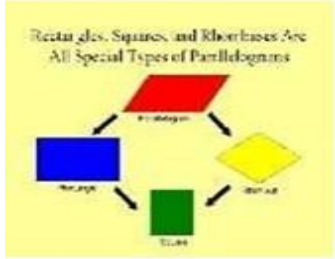

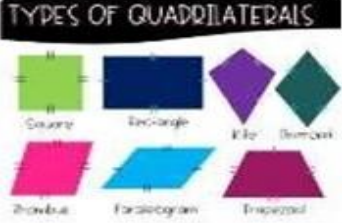


Month/ W.Days	Theme & Sub- Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assessme nt
MARCH	Ch.2: Exponents: *Powers with negative exponents. *Laws of exponents *scientific notation	*Simplify powers with negative exponents. *Apply laws of exponents. *Express very large and very small numbers in scientific notation or standard form.	*Use of exponents and powers in Measuring the strength of earthquakes. *Discuss the *discuss maintaining Eco- balance	*Find the mass of the planets and represent in scientific notation on a chart	Students will be able to *simplify exponents *simplify given expressions by applying laws of exponents. *convert very small and very large numbers into scientific notation	1. Review exercise. 2. Value corner. 3. Hots
APRIL	. Ch1: Rational numbers * Rational Number definition *properties *Distributive property *Additive identity *Multiplicative identity and inverse *Plot on number line *Find rational numbers	*To define and apply the properties of rational numbers. *To know about distributive property of multiplication over addition and subtraction. *Identify additive identity and inverse *Recognize multiplicative identity and inverse. *Plot rational numbers on number line *Find rational numbers between given rational numbers	Through the practice of these concept students will * Acquire the skill of representing rational numbers of numberline. Develop their analytical and calculations skills 	 *To arrange rational number written in colored strips in ascending and descending order. *To represent rational numbers on number line. *NCERT text book. *Number line stripes. *Colored strips representing rational numbers. *PPT	The students will be able to *Explain about a rational number. *State and apply the properties of rational numbers like closure Commutative, associative properties for addition, subtraction, multiplication and division. *Apply distributive property of multiplication over addition an subtraction. *Write additive identity and inverse of rational numbers. *Write multiplicative identity an inverse(Reciprocal	



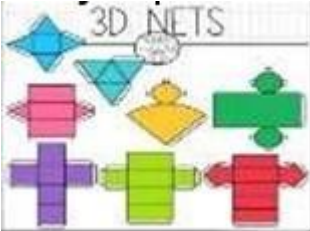

<p>JUNE</p>	<p>Ch.3: Squares and square roots *Square numbers *properties of square numbers *Square root *Square of decimals *Estimating square root.</p>	<p>*Define perfect square. *identify various patterns and properties related to square numbers. *know about Pythagorean triplets. *define square root *explain relation between square and square root. *Know methods of finding square root. *explore and identify integers on a number line</p>	<p>Child will *develop logical thinking in finding the length of the diagonal of a playground. *reason effectively and critically. *know the importance of squares in real life. *improve decision making skills</p>	<p>*calculate the square and square root and complete the given maze. *cards with perfect square and non perfectsquare numbers written onit.</p> 	<p>The students will be able to *identify squares and square number *analyze and apply the properties of square numbers. *Find the unknown value in Pythagorean triplets. *Differentiate between perfect square and square root. *calculate square root of a number by repeated subtraction, prime factorization, long division and estimation methods</p>	<p>1.Review exercise. 2.Hots. 3.Maths lab activity</p>
<p>JULY</p>	<p>Ch. 6: Algebraic expressions and identities: *basic terms related to algebra. *addition and subtraction of expressions. *multiplication of algebraic expressions *what is an identity? *standard identities and application</p>	 <p>*identify the terms related to algebraicexpressions. *identify like and unlike terms to add and subtract algebraicexpressions. *use distributive property for multiplication of algebraic expressions. *simplify expressions</p>	<p>*Enable students to understand that there can be different approaches to solve problems in life. So stay positive and solve problems confidently</p>	 <p>*to prove the identity $(a+b)^2 = a^2 + 2ab + b^2$</p>	<p>Students will be able to *define terms like monomial, binomial, trinomial, variable. *regonise like and unlike terms and perform addition and subtraction of expressions. *find product of algebraic expressions by applying distributive property. *calculate value of the variable by simplifying the expressions. * Use various algebraic identities in order to</p>	<p>1. Review exercise 2.Hots. 3. Maths lab activity</p>

		<p>for a given value of the variable.</p> <ul style="list-style-type: none"> *define and compare equation and identity. *use multiplication of binomials to explore and verify identities 			<p>solve problems related to day to day life</p>	
AUGUST	<p>Ch. 7: Factorisation</p> <ul style="list-style-type: none"> *Factors *common factor method. *Regrouping method. *factorization using identities. *Division of algebraic expressions. *Finding errors 	<ul style="list-style-type: none"> *express each term into irreducible factors. *find common factors for the given terms. * explain about factorization by common factors method. *know about regrouping the terms and factorise. *apply standard identities to factorise given expressions. *explain about common factor method to divide a monomial by a monomial. *factorise given expression by common factor method. *divide a polynomial with another polynomial *find possible errors in the given mathematical statements. 	<p>*factorizing is a useful skill in real life. Students will acquire knowledge in</p> <ul style="list-style-type: none"> *exchanging money *comparing prices *understanding time and making calculations during travel. 	<ul style="list-style-type: none"> *finding factors of the given expressions using cards. *finding area of a plot when dimensions are given in factors form 	<p>The students will be able to</p> <ul style="list-style-type: none"> *represent the terms as product of their factors. *factorise the given expression by common factors methods. *factorise by regrouping the terms. *express the algebraic expressions by applying identities. *Use common factors method and divide the polynomials. *check the mathematical statements in order to find the errors and rectify numbers 	<ol style="list-style-type: none"> 1. Review exercise 2. Puzzle 3. Hot questions

<p>AUGUST</p>	<p>Ch. 5: Playing with numbers. *numbers in general form. *Games with numbers. *Letters for digits. *Tests of divisibility.</p>	<p>*find possible errors in the given mathematical statements. *Recall expanded form. *Express given number in expanded form. *Express 2-digit and 3- digit numbers in expanded form. *Recognise number patterns. *Familiarise with divisibility rules</p>	<p>*develop problem solving skills. *develop Imagination skills *creativity skills.</p> 	<p>*create three puzzles of your own using patterns learnt. *Take a newspaper of any day and from the given data or statistics about an event find number patterns between a minimum of 5 numbers</p>	<p>The students will be able to *write given numbers in expanded form. *write 2-digit and 3-digit numbers in expanded form. * *apply divisibility rules and find unknown value</p> 	<p>1. Hot questions.</p>
<p>SEPTEMBER</p>	<p>. Ch-8: Linear equations in one variable: *Define, frame and solve. *Cross multiplication. *Rules of solving. *Transposition. *Application</p>	<p>* . Define a linearequation. *Frame linear equation for the statement. * Solve equation when variable lies on one side and both sides. *Learn and understand the process of cross multiplication. *Learn the rules and solve the equations by transposition method. *Learn the method in solving real life situation problems</p>	<p>Through the practice of these concept students will be able to solve day to day life problems based on algebraic equations such as – speed & time, age related problems, area & perimeter</p>	<p>. *To solve linear equations through grid and square paper. *Frame a real- life situation which can be expressed as a linear equation and whose solution is 10[value of the variable] *chart paper</p>	<p>.The students will be able to *Explain and frame linear equations. *Simplify linear equations using different methods.*Interpret the given word problems, analyze, frame the equation and solve it</p>	<p>1. Hots. 2. Review exercise</p>

<p>SEPTEMBER</p>	<p>Ch. 9:Percentage and its applications: *Ratios and percentages *increase and decrease percent *Discount, tax. *Profit and loss</p>	<p>. *recall and recollect knowledge related to ratios and percentages. *find increase and decrease percent. *Find discount on a commodity. *familiarize with the concept of tax</p>	<p>*discuss about the importance of imposing tax on life saving drugs. (value of empathy) *develop logical and decision- making skills.</p>	<p>. *list any 5 essential household items needed. Find the cost and the GST imposed on them and prepare a bill</p>	<p>The students will be able to *compute increase and decrease of the value with respect to percentage. *calculate discount with respect to marked price and find selling price</p>	<p>1.Puzzle. 2.Value corner 3. Review exercise 4.Hots.</p>
<p>OCTOBER</p>	<p>Ch.10.Compound Interest: * Simple Interest * Compound Interest</p>	<p>*recall and recollect knowledge related to interest. *know about new interest and its application</p>	<p>*explaining the formula for compound interest Students will understand that the amount of success</p>	<p>*to solve some puzzle questions based on interest and compound interest</p>	<p>*students will be able to know the difference between interest and compound interest</p>	<p>1. Puzzle. 2. Review exercise 3.Hots</p>
<p>NOVEMBER</p>	<p>Ch.11: Direct & inverse Proportions *Direct proportion. *Inverse proportion</p>	<p>*observe relationship between two qualities. *Examine situations and decide whether the two quantities are proportional to each other. *convert the given statement between two quantities into a table and identify the missing quantity</p> 	<p>achieved is directly proportional to the hard work. *Discuss about the relation between actual distance and the distance on the map of countries</p>	<p>*Give examples of real life situations that involve variations. * Represent on a chart creatively</p> 	<p>The students will be able to *analyse and find the type of variation between given two quantities. *calculate the missing value in the given situation. *solve real life problems related to variations</p>	<p>1. Value corner 2 .Puzzle. 3.Review exercise. 4.Hots</p>
	<p>. Ch.12: Understanding</p>	<p>*define 2D shapes. * define polygon</p>	<p>. *Develop observation,</p>	<p>. *Angle sum property of a</p>	<p>. The students will be able to</p>	<p>.1.Review exercise</p>

<p>NOVEMBER</p>	<p>quadrilaterals *2D shapes *Polygons and properties. *Types of polygons. *Quadrilateral and kinds of quadrilateral. *Exterior angle property</p>	<p>and identify various types of polygons. *Define a diagonal. *Classify polygons *Explain and identify types of quadrilaterals. *State angle sum property of quadrilateral</p>	<p>analytical and application skills. *Explore and apply in the fields of architecture, construction of building</p> 	<p>quadrilateral. *Properties of Rhombus by paper cutting method</p> 	<p>* analyze and differentiate between various types of polygons. *Classify quadrilaterals according to their properties. *apply angle sum property of a quadrilateral.</p> 	<p>e 2.Hots. 3.Maths lab activity</p> 
<p>DECEMBER</p>	<p>Ch.13: Practical Geometry *Unique quadrilateral. *Five measurements out of eight. *Four sides and one diagonal. *Three sides and 2 diagonals. *Three angles and two sides *Three sides and two included angles. *Special quadrilaterals</p>	<p>*Elicit 10 possible combinations of 5 parameters that form quadrilateral *draw a rough sketch and explain steps of constructions. *construct a unique quadrilateral from a set of given measurements. *construct a special type of quadrilateral</p> 	<p>. Students *Creativity will increase. *Imagination power will be increased, *Learn to do the work accurately. *learn to do step by step work to achieve decided goals. *do presentable work. *Will know the importance of quadrilaterals in the construction of bridges and buildings.</p> 	<p>*draw blue print of your house or any building. *Geometrical Instruments *Geo Board</p> 	<p>. The students will be able to * construct a quadrilateral using geometrical instruments for given measurements. Use the property of each type of quadrilateral and learns to construct special types of quadrilaterals stepwise * Apply the properties of trapezium and construct it.</p>	<p>1. Hot questions.</p>

<p>DECEMBER</p>	<p>Ch. 14: Visualizing solid shapes *2D and 3D shapes. *views of 3D shapes. *Mapping space around us. *faces, edges and vertices. *Euler's formula</p>  	<p>*identify 2D and 3D shapes. *identify different shapes in nested objects. * discuss views of an object in order to identify the object. *identify polyhedrons and their types. *know the difference between a map and a picture. *identify faces, edges and vertices in a given solid. *count number of faces, edges and vertices in a given solid and verify Euler's formula.</p>	<p>*Enhance creative thinking and imagination.</p> 	<p>. *draw the pictures of any 4 polyhedron objects you come across in day-to-day life on a chart and verify Euler's formula. *Draw the nets of the given solids</p> 	<p>The students will be able to *differentiate between 2D and 3D shapes. *make the model of net of a solid shape. *visualize and draw the top view, side view and front view of 3D shapes. *visualize faces, edges, vertices of a 3D shape and verify Euler's formula. *differentiate between a map and a picture and draw a route map with proper scale.</p>	<p>1. Review exercise 2. Value corner</p>
<p>JANUARY</p>	<p>Ch. 15.: Area of a trapezium and a polygon: *plane figures *Area of trapezium *Area of polygons</p>	<p>*recall basic formulas for areas and perimeter of plane figures. *Breakdown a given trapezium into known plane figures. *express areas of polygons by dividing it into triangles and rectangles</p>	<p>*Discuss about the area of plots in real estate. Discuss about the area and perimeter of the ground required for different sports</p>	<p>*collect objects that are in the shape of trapezium and different types of polygons Measure their dimensions and find their area</p>	<p>Students will be able to *use appropriate methods to calculate area of a given polygon.</p>	<p>1. Review exercise. 2. Hots 3. Maths lab activity</p>

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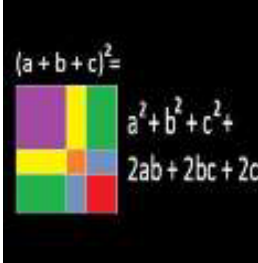
Subject: Mathematics

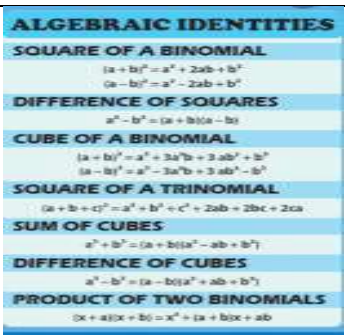
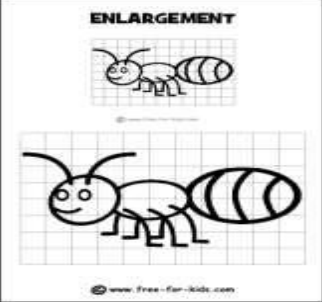
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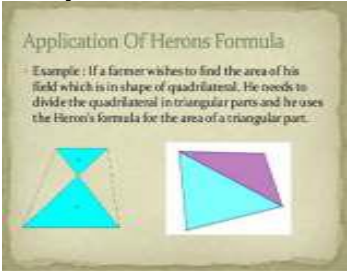
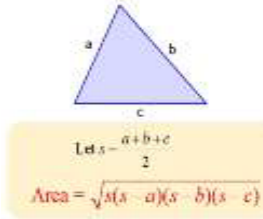
Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resou rces	Learning Outcomes	Assess ment
March	<p>NUMBER SYSTEM (ch-1)</p> <p>1. Review of representation of natural numbers, integers, and rational numbers on the number line. Rational numbers as recurring/terminating decimals. Operations on real numbers.</p> <p>2. Examples of non-recurring/non-terminating decimals. Existence of non-rational numbers (irrational numbers) such as $\sqrt{2}$, and their representation on the number line. Explaining that every real number is represented by a unique point on the number line and conversely, viz. every point on the number line represents a unique real number.</p> <p>3. Definition of nth root of a real number</p> <p>4. Rationalization (with precise meaning) of real numbers</p> <p>5. Recall of laws</p>	<p>Recalls the Various number systems learnt in earlier classes.</p> <p>Defines rational and irrational numbers represent a real no. on the number line.</p> <p>Computes the Basic operations on real numbers.</p> <p>Rationalizes the denominator of the given irrational number.</p> <p>Extends the laws of exponents for real numbers.</p>	<p>Any problem can have many solutions.</p> <p>Relates as every point is unique on the number line so is the finger print of human beings .</p>	<p>Develops a beautiful spiral for depicting the construction of irrational numbers</p> <p>Laws of exponents chart</p>	<p>The student will be able to:-</p> <p>Define rational number and irrational number.</p> <p>Verifies the decimal expansion of rational and irrational numbers.</p> <p>Explores the uniqueness of the point on the number line.</p> <p>List out the identities involving square roots.</p> <p>Chooses appropriate rationalizing factor of the denominator in order to rationalize it.</p> <p>Applies laws of exponents for real numbers.</p>	<p>LA SA T/F</p>

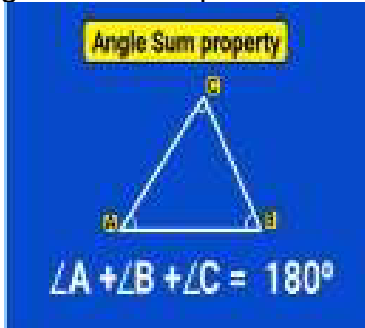
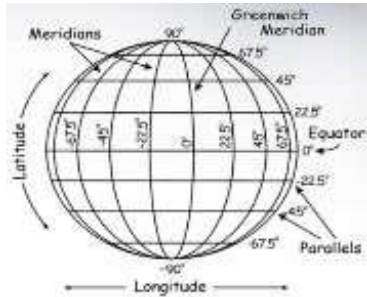
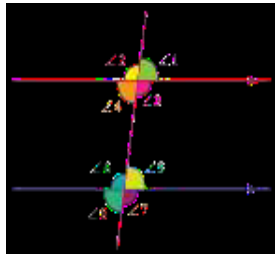
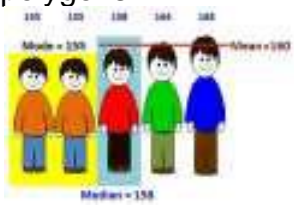


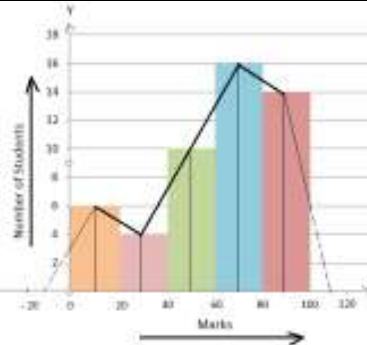
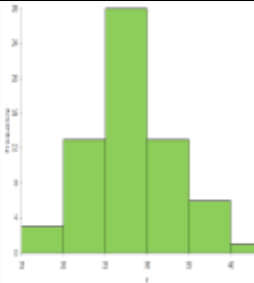



Laws of Exponents	
Product of Powers:	$x^m \cdot x^n = x^{m+n}$
Quotient of Powers:	$\frac{x^m}{x^n} = x^{m-n}$
Power of a Power:	$(x^m)^n = x^{mn}$
Power of a Product:	$(xy)^m = x^m y^m$
Power of a Quotient:	$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$
Negative Exponent:	$x^{-n} = \left(\frac{1}{x}\right)^n \quad \left(\frac{x}{y}\right)^{-n} = \left(\frac{y}{x}\right)^n$
Identity Exponent:	$x^1 = x$
Zero Exponent:	$x^0 = 1$

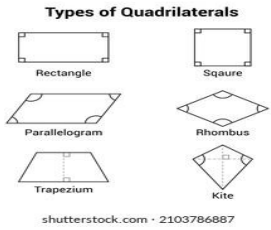
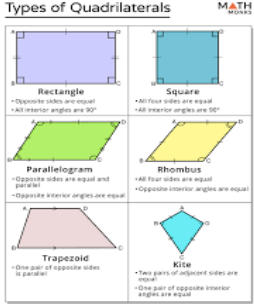


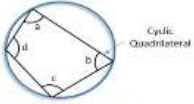
	<p>of exponents with integral powers. Rational exponents with positive real bases (to be done by particular cases, allowing learner to arrive at the general laws.)</p>					
<p>April (25days)</p>	<p>POLYNOMIALS(ch:2) 1.POLYNOMIALS (26) Periods Definition of a polynomial in one variable, with examples and counter examples. Coefficients of a polynomial, terms of a polynomial and zero of polynomial. Degree of a polynomial. Constant, linear, quadratic and cubic polynomials. Monomials, binomials, trinomials. Factors and multiples. Zeros of a polynomial. Motivate and State the Remainder Theorem with examples. Statement and proof of the Factor Theorem. Factorization of $ax^2 + bx + c$, $a \neq 0$ where a, b and c are real numbers, and of cubic polynomials using the Factor Theorem. Recall of algebraic expressions and identities. Verification of identities and their use in factorization of</p>	<p>Recognises the variables and their degree in a given polynomial in order to identify the polynomial in one variable . Defines zero of the polynomial and finds the zero of given polynomial State & proves Remainder theorem also applies it to find remainder of given polynomial Applies the factor theorem to find the factors of the given polynomial Point out to an Algebraic identity that can be used in order to factorise the given expression Selects Appropriate algebraic identity to evaluate the given expression</p>	<p>Propose a bill in super market by use of algebraic expression .</p>  <p>Contemplate to know the application of polynomials in building the roller coaster .</p> 	<p>Activity on geometrical proof of the algebraic identity .</p>  <p>Identities chart.</p>	<p>Identifies /Classifies the polynomials among algebraic expressions in order to apply appropriate algebraic identities to factorise them. Finds out the remainder without performing the long division .</p>	<p>LA SA T/F</p>

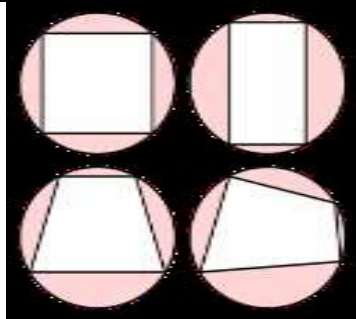
	polynomials	 <p>ALGEBRAIC IDENTITIES</p> <p>SQUARE OF A BINOMIAL $(a + b)^2 = a^2 + 2ab + b^2$ $(a - b)^2 = a^2 - 2ab + b^2$</p> <p>DIFFERENCE OF SQUARES $a^2 - b^2 = (a + b)(a - b)$</p> <p>CUBE OF A BINOMIAL $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ $(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$</p> <p>SQUARE OF A TRINOMIAL $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$</p> <p>SUM OF CUBES $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$</p> <p>DIFFERENCE OF CUBES $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$</p> <p>PRODUCT OF TWO BINOMIALS $(x + a)(x + b) = x^2 + (a + b)x + ab$</p>				
JUNE (25days)	<p>COORDINATE GEOMETRY (ch: 3) The Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane, notations.</p>	<p>Observe a given ordered pair in order to comment on its location Plot a point on the Cartesian plane in order to determine the Quadrant of the point .</p>	<p>Admires the usage of coordinate system in google map and computer based drawings .</p>  <p>ENLARGEMENT</p> <p>www.free-for-kids.com</p>	Activity on mirror image of the given point in Cartesian plane . Graph Paper . Colour paper	Develops strategies from understanding of coordinate geometry in order to locate points in a Cartesian plane .	MCQ SA LA.
JULY (25days)	<p>Introduction to Euclid's Geometry (CHAPTER5) History - Geometry in India and Euclid's geometry. Euclid's method of formalizing observed phenomenon into rigorous mathematics with definitions, common/obvious notions, axioms/postulates and theorems. The five postulates of Euclid. Showing the relationship between axiom and theorem, for example:</p>	Euclid's Definitions Axioms Postulates Equivalent version of Euclid's fifth postulate	*Introduce to Euclid's definitions, postulates, axioms & theorems		*Students will be able to Define basic terms of geometry Establish the relationship between axiom & theorem Attain esthetic value of mathematics by learning the history of mathematics.	MCQ SA T/F

	<p>(Axiom)</p> <p>1. Given two distinct points, there exists one and only one line through them. (Theorem)</p> <p>2. (Prove) Two distinct lines cannot have more than one point in common</p>					
<p>AUGUST T (21days)</p>	<p>Linear Equations in two variables(CHAPTER4)</p> <p>Recall of linear equations in one variable. Introduction to the equation in two variables. Focus on linear equations of the type $ax + by + c = 0$. Explain that a linear equation in two variables has infinitely many solutions and justify their being written as ordered pairs of real numbers, plotting them and showing that they lie on a line.</p>	<p>Linear equation Solution of Linear equation Equation of the lines parallel to X axis & Y – axis Graphical representation of Linear equation</p>	<p>To teach about the Definition of Linear equation in two variable . Solution of Linear equation. Graphical representation of Linear equation</p>	<p>Students will be able to Define Linear Equations in two variables Conclude that a linear Equations in two variables has infinitely many solutions . Represent the problems related to real life situation in linear Equations in two variable & graphically analyse about it</p>	<p>Collect information about the runs scored by your favourite cricketer in a match & represent it graphically. calculate the run rate .</p>	<p>SA LA .</p>
<p>AUGUST T (21days)</p>	<p>HERON'S FORMULA(ch:12)</p> <p>Area of a triangle using Heron's formula (without proof)</p>	<p>Defines the semi perimeter . Calculates the area of triangle Using Heron's Formula . Applies the Heron's formula in finding out the area of a Quadrilateral .</p>	<p>Perceives that big problems can be resolved into smaller components so as to find the solutions easily .</p> 	<p>Chart preparation</p> 		<p>S/A L/A</p>

<p>SEPT MBER (25days)</p>	<p>LINES & ANGLES(ch:6) 1. (Motivate) If a ray stands on a line, then the sum of the two adjacent angles so formed is 180° and the converse. 2. (Prove) If two lines intersect, vertically opposite angles are equal. 3. (Motivate) Lines which are parallel to a given line are parallel.</p> 	<p>Define segment, ray, collinear points, noncollinear points, acute angle, right angle, obtuse angle, supplementary & complementary angle . Apply the concepts of linear pair of angles & vertically opposite angles in order to Establish relationships between the angles in a given figure and solve for missing values . Labels angles created by a transversal intersecting two parallel lines in order to identify corresponding angles, alternate angles ,interior angles and define the relationship between these angles.</p>	<p>Students will be able to : Design a plan or Draw a route map using the various lines and angles . Link the parallel lines concept in latitude and longitudes and also in Ray diagrams of lens and similar other real life situations .</p> 	<p>Geometrical proof of angle sum property of triangle . PPT Blogs related to geometry .</p>	<p>Applies axiomatic approach and derives the proofs of mathematical statements particularly related to geometric concepts ,like parallel lines , perpendicular lines in order to solve the problems using them</p> 	<p>MCQ LA SA</p>
<p>OCTO BER (25days)</p>	<p>STATISTICS (ch-14) Bar graphs, histograms (with varying base lengths), and frequency polygons.</p> 	<p>Identify an appropriate scale and labels in order to represent the given data through bar graph or histogram or a Frequency polygon . Read the given</p>	<p>It is important to keep information organized to work properly.</p>	<p>Depiction of the data in the form of histogram by collection of data .</p>	<p>Students will be able to Construct the grouped frequency distribution table of the given raw data. Convert the discontinuous classes to continuous in order to</p>	<p>LA SA CASE STUDY</p>

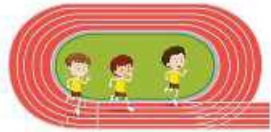
		<p>bar graph ,Histogram or a frequency polygon in order to infer a variety of information from it .</p> <p>Learns about the measures of central tendencies .</p>		 <p>Graph book .</p>	<p>represent in the form of Histogram . Draw frequency polygon with or without histogram . Apply the appropriate formula to calculate mean , median Or mode of the given data . Uses the formula of mean to find the missing value of the observation.</p>	
<p>NOVEMBER(19 days)</p>	<p>Triangles (CHAPTER7)</p> <p>1.Congruence of triangles Criteria for Congruence of triangles</p> <p>2. (Prove) The angles opposite to equal sides of a triangle are equal.</p> <p>3.(Motivate) The sides opposite to equal angles of a triangle are equal.</p>	<p>Observe the angles and sides of the given figures in order to show that they are congruent or not.</p> <p>Illustrate the criteria of congruencies of triangle through diagrams (ASA, SAS, SSS and RHS) in order to prove relationships between given angles, sides and triangles of a given figure.</p> <p>Uses properties</p>	<p>*know the importance of triangles in the construction of bridges etc</p>  <p>Explores the congruent objects in day to day life for example two ATM cards , coins</p>  <p>Discovers the usage of triangles in architecture as triangular structure is</p>	<p>Verifies experimentally that in a triangle ,angle opposite to longer side is greater . Reference books, Colour papers, Bangles .</p>	<p>Applies axiomatic approach and derives proofs of mathematical statements particularly related to geometrical concepts of triangles in order to solve problems using them. Lists out the criteria for congruence of triangles .</p>  <p>Define the congruent triangles . Justify that in a right</p>	<p>SA LA CASE STUDY</p>

		of inequalities in triangles proves the relationship between any given sides or angles in a given figure.	the most stable structure. It is very simple & easy to construct .Reasons why electric towers are designed in a triangular patterns.		angled triangle ,the hypotenuse is the longest side .	
DECEMBER	CHAPTER8: QUADRILATERALS: Properties of a quadrilaterals and midpoint theorem	Angle sum property of a quadrilateral, types of quadrilateral and proof of midpoint theorem 	Children can identify the type of quadrilateral and learn properties of quadrilateral. Children can learn sum of angles in a quadrilateral	Drawing the pictures of quadrilateral on chart 	Able to say definition of quadrilateral and properties of quadrilateral and solving the problems on quadrilateral	VAS LA MCQS
JANUARY (25days)	CIRCLES(ch:10) Circles and its related terms . Angle subtended by a chord at a point . Perpendicular from the centre to the chord . Circle through 3 points. Equal chords and their distances from the centre . Angle subtended by an Arc of a circle .Cyclic Quadrilateral .	Recall the basic terminology related to circles like radius, diameter, segment ,arcs, interior and exterior of the circle. Apply theorems regarding angle subtended by a chord in a circle in order to find the measure of an angle in the given figure . Develope an idea about perpendicular from the center	Realises that the arches (semi circular) are most commonly used in construction ,because they were able to support more weight than the vertical posts and horizontal beams .  Identifies why are the wheels made in circular shape ? 	Verify that the opposite angles of a cyclic quadrilateral are supplementary by cutting & pasting method .  $a + c = 180$ $b + d = 180$ Colour paper Reference books.	Define radius ,diameter, Segments ,arcs ,interior and exterior of the circle. Derives proofs of mathematical statements particularly related to geometrical concepts of circles	MCQ SA LA CASE STUDIE S.



to the chord in order to find the missing values in a given figure. **Knows** that the sum of opposite angles of a cyclic quadrilateral is 180° .

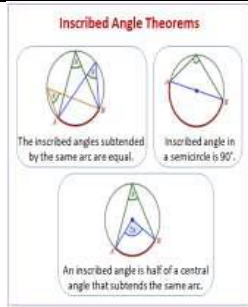
Reason for semi circular paths comibed with oval shape is preffered for running track .



Explores why do most of the trees grow in a circular pattern .



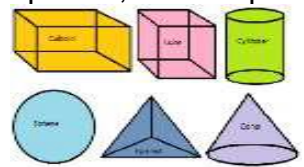
Students will know the importance of accuracy.



Use the value of radius and perpendicular to the chord in order to compute the length of a chord .
Apply the relation between angles of a Cyclic quadrilateral in order to solve for unknown angle values of the given examples .

FEBRUARY (22days)

SURFACE AREAS & VOLUMES (ch:13)
Surface areas & volumes of Cube, Cuboid, Cylinder, Cone, Sphere ,& Hemisphere



Visualize cuboid, cylinder and cone in its 2D form in order to calculate the Surface area.
Calculate the surface area of cube, cuboid, cone, cylinder, sphere and hemisphere to determine the cost of painting or covering the surfaces.
Calculate the volume of the given solid to infer the quantity of any substance it can hold.

Not all people are alike, every one of us is unique and have our own importance just like formula for calculating perimeter/surface areas of different figures in different ways.

Derives the formula for finding surface areas of cube, cuboid and cylinder.



And Colour paper, scissors, glue.
Conversions chat

Derives formulae for surface areas and volumes of the given solids. Make conversions in the units as per requirement. Selects appropriate formula to find the unknown values.

Volume unit	Conversion factor
Cubic metre (m^3)	$1 m^3 = 1 m^3$
Lite (L)	$1 L = 0.001 m^3$
Kilolitre (KL)	$1 KL = 1 m^3$
Gallon	$1 gal = 0.00454 m^3$
Cubic yard	$1 cu. yd = 0.76455 m^3$
Cubic foot	$1 cu. ft = 0.028316 m^3$

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CASE STUDY

St. RITA HIGH SCHOOL

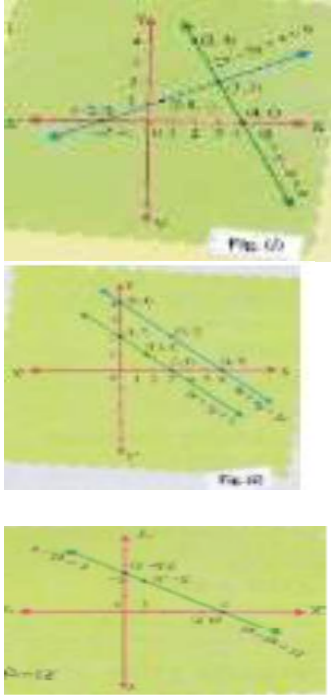

ANNUAL CURRICULUM 2023-2024


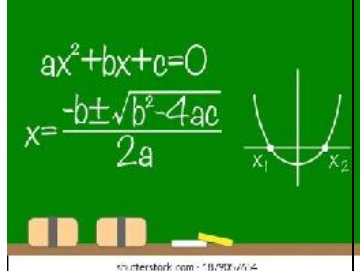
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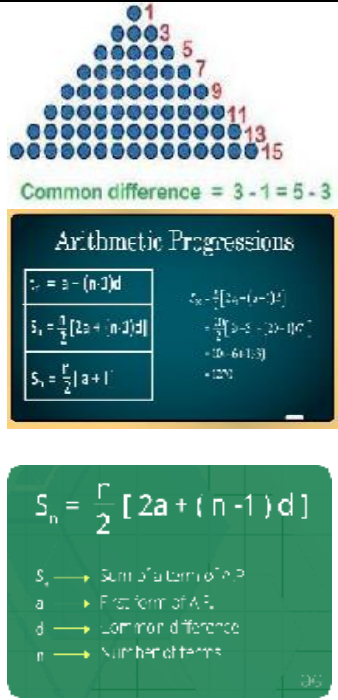
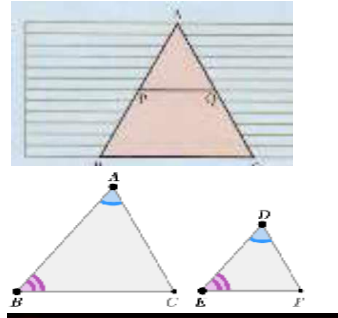
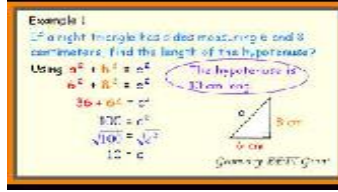
Textbook: NCERT

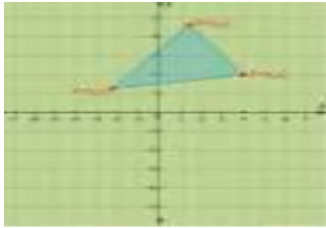
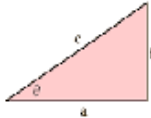
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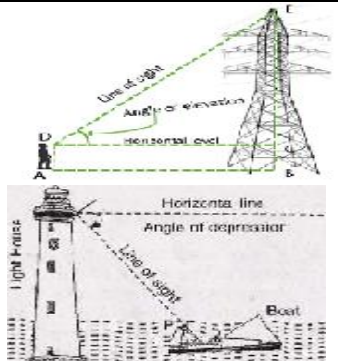
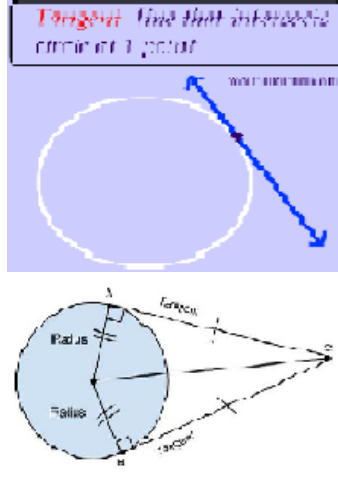
Month/ W.Days	Theme & Sub-Theme	Objectives Content based	Objectives Application Based	Activities/Resources	Learning Outcomes	Assess ment
March	<p>Chapter-1 Real Numbers</p> <p>Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of $\sqrt{2}, \sqrt{3}, \sqrt{5} \dots$</p>	<p>To find the LCM & HCF of given numbers</p> <p>Using fundamental Theorem of arithmetic. relation between LCM and HCF. (Evaluation)</p> <p>Draw the factors tree of given numbers (Remembering.</p> <p>Explain the proof of Irrational numbers & its conversion.</p>		<p>HCF and LCM Find the HCF and LCM of 24 and 36</p> <p>HCF: $2 \times 2 \times 3 = 12$</p> <p>LCM: $2 \times 2 \times 2 \times 3 \times 3 = 72$</p>	<p>Fundamental Theorem of Arithmetic and applies them to solve problems related to real life contexts</p>	<p>LA SA T/F</p>
APRIL	<p>Chapter-2 Algebra Polynomials</p> <p>Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials.</p>	<p>Tell the possible number of Zeroes for a given polynomial.</p> <p>*verify the relation Between zeroes and coefficients.</p> <p>*Explain the geometrical zeroes to read zeroes of polynomial from the given graph.</p> <p>*Find the polynomial when the zeroes are known.</p>		<p>Consider a polynomial and write terms of polynomial</p>	<p>Able to finding zeroes of polynomial using graph and factorization</p>	<p>LA SA T/F</p>

<p>JUNE</p>	<p>Chapter-3 (Algebra) Pair of Linear Equations in two Variables. Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems.</p>	<p>*Generate linear equations in two variables from word problems. *Verify that given system of linear equations in two variables consistent or Inconsistent. *Explain the concept of pair of linear equations in two variables in reduce form. *Form Equations and solve graphically and algebraically. *Plots the line representation linear equations of given system on the same plain.</p>	<p>We must know that there is more than one way to solve a problem. Two unknown quantities are to be evaluate them. They necessarily need to have two conditions/criteria related to them. *They can formulate the pair of equations in two variables and consequently solve them. Ex.Situations based on Measurement, Angle of polygon, cost of article, Profit and loss, discount ,speed and distance, Time and financial budget. While comparing two things, people or situations, the parameters must be the same.</p>	<p>To obtain the conditions for number of solutions of pair of linear equations in two variables by graphical method.</p> 	<p>finds solutions of pairs of linear equations in two variables using graphical and different algebraic methods.</p>	<p>VSA SA LA</p>
<p>JUNE</p>	<p>Chapter-13 Statistics Mean, median and mode of grouped data (bimodal situation to be avoided). Measure the Central Tendency of the given data. Find the mean by</p>	<p>Median and Mode of ungrouped Data. *Calculate the Mean of grouped data using Direct method, Assume Mean Method and Step deviation Method. *Find the Median of ungrouped data with odd number</p>	<p>It is important to keep information organized to work properly. In our life there will be ups and downs. We should be honest and should learn to face the downs with courage. We must never under estimate even the small things. Calculate the average</p>			<p>LA SA VSA CASE STUDY</p>

	<p>direct method Assumed Mean method and stepdeviation method. Find the Median and Mode by formulae method</p>	<p>of observations and even number of observations. *Find the median of grouped data.</p>	<p>performance of class on the places of CGPA for last year. (Application Mode) *They think logical things and decision making. *They predict the behaviour of the numbers</p>			
<p>JULY</p>	<p>Chapter-4 Quadratic Equations Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). Solutions of quadratic equations (only real roots) by factorization, and by using quadratic formula. Relationship between discriminant and nature of roots. Situational problems based on quadratic equations related to day to day activities to be incorporated.</p>	<p>*Real life situations are given to make quadratic equation (comprehending)</p>	<p>Use quadratic equations to solve real life problems through different strategies, such as, making a perfect square, factorization, quadratic formula, etc.</p>		<p>demonstrate strategies of finding roots and determining the nature of roots of a quadratic equation.</p>	<p>LA SA T/F</p>

<p style="text-align: center;">JULY</p>	<p>Chapter-5 Arithmetic Progressions Motivation for studying Arithmetic Progression Derivation of the nth term and sum of the first n terms of A.P. and their application in solving daily life problems.</p>	<p>Recall types of patterns. *Arithmetic progressions Learn the concepts given pattern or sequence. *Identify the given series of numbers form an AP or not. Find the first term and common difference of given AP. *Learn the general term of an AP. *Write the specified term of an AP when n term and common difference is given. *Derive the formula S_n. *Apply the formulas to find nth term and sum of n terms. Solve word Problems</p>	<p>*Visualize and create various patterns. *Calculate the amount we will repeat on practically sum of n years. *They derive of n terms and sum of n terms.</p>		<p>develops strategies to apply the concept of A.P. to daily life situations Able to find nth term & sum of terms of given AP</p>	<p>LA SA VSA CASE STUDY</p>
<p style="text-align: center;">AUGUST</p>	<p>Chapter-6 (Geometry) Triangles Definitions, examples, counter examples of similar triangles. 1. (Prove) BPT theorem. 2. (Motivate) Converse of BPT 3. (Motivate). SSS Similarity criteria 4. (Motivate) AAA Similarity criteria 5. (Motivate) SAS Similarity criteria</p>	<p>*Define the Similarity Criteria. *Difference between Similarity and congruence. *State and prove Basic Proportional Theorem and its converse.</p>	<p>Use of shapes in architecture and in the field of production. Know the importance of triangles in the construction of bridges. *Visualize and apply reasoning, decision making and different approaches for</p>	<p>Prove experimentally BASIC PROPORTIONALITY THEOREM</p>  	<p>works out ways to differentiate between congruent and similar figures. establishes properties for similarity of two triangles logically using</p>	<p>LA SA T/F</p>

<p style="text-align: center;">AUGUST</p>	<p>Chapter-7 Coordinate Geometry : Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division).</p>	<p>*Using Distance Formula, find the distance between two points in Cartesian Plain. Using Section Formula, find the point divide in ratio m:n of line segment. Using Co-ordinate Geometry.</p>	<p>Apply in route maps and Google maps for locate the places. Rational thinking Logical thinking Appreciate approaches the plane geometry</p>	<p>Draw polygon in Cartesian plan using co-ordinate geometry ,find its area</p> 	<p>derives formulae to establish relations for geometrical shapes in the context of a coordinate plane, such as, finding the distance between two given points, to determine the coordinates of a point between any two given points.</p>	<p>S/A L/A</p>
<p style="text-align: center;">SEPTEMBER</p>	<p>Chapter-8 Introduction to Trigonometry Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios whichever are defined at 0° and 90° Values of the trigonometric ratios of 30° , 45° and 60° . Relationships between the ratios. Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given.</p>	<p>Recall the definition of right angled Triangle Identify the hypotenuse and perpendicular containing sides Geometrically prove trigonometric identities and apply in sums. Write 6 Trigonometric Ratios using right angled triangle (Creating *Explain T-Ratios using right angled triangle. *Evaluate specific angles.</p>	<p>Learns to achieve desired goal by systematic approach</p>	<p>Using Clinometer how to measure height of building & tree</p>  <p> $\sin \theta = \frac{\text{opp}}{\text{hyp}} = \frac{b}{c}$ $\cos \theta = \frac{\text{adj}}{\text{hyp}} = \frac{a}{c}$ $\tan \theta = \frac{\text{opp}}{\text{adj}} = \frac{b}{a}$ $\csc \theta = \frac{1}{\sin \theta}$ $\sec \theta = \frac{1}{\cos \theta}$ $\cot \theta = \frac{1}{\tan \theta}$ </p> <p>Trigonometric Identities</p> <p>(1) $\cos^2 \theta + \sin^2 \theta = 1$</p> <p>(2) $1 + \tan^2 \theta = \sec^2 \theta$</p> <p>(3) $1 + \cot^2 \theta = \text{cosec}^2 \theta$</p>	<p>determines all trigonometric ratios with respect to a given acute angle (of a right triangle) and uses them in solving problems in daily life contexts like finding heights of different structures or distance from them</p>	<p>SA LA CASE STUDY</p>

<p>SEPTEMBER</p>	<p>Chapter-9 Applications of Trigonometry Line of the sight. Angle of elevation. Angle of depression (Trigonometry)</p>	<p>Learn the line of sight, Angle of elevation and Angle of depression * Learn the meaning of angle of elevation and angle of depression.</p>	<p>Students will know the importance of trigonometry</p>		<p>Find the height of tree, light house, buildings and width of river etc</p>	
<p>OCTOBER</p>	<p>Chapter 10 circles Tangent to a circle at, point of contact 1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact. 2. (Prove) The lengths of tangents drawn from an external point to a circle are equal</p>	<p>To define the terms tangent and secant to prove that the tangent at any point of circle is perpendicular to the radius through the point of contact External point to tangents lengths are equal</p>	<p>Students will be able to define the tangent and secant apply the theorems in sums Able to prove the theorems</p>			

OCTOBER

Chapter-11 Areas Related to circles
 Area of sectors and segments of a circle. Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60°, 90° and 120° only)

Recall the meaning of perimeter (Remembering)
 Learn the definition of perimeter and area. (Comprehending)
 Identify plane figures and find its area and perimeter.
 Convert higher units to lower units
 Apply all four basic operations on measurement *L

determine areas of various materials, objects, and designs around them for example design on a handkerchief, design of tiles on the floor, geometry box, etc. Not all people are alike. Everyone of us is unique and have our own importance just like formula for calculating area and perimeter of different geometrical figures in different ways.

Lab activity

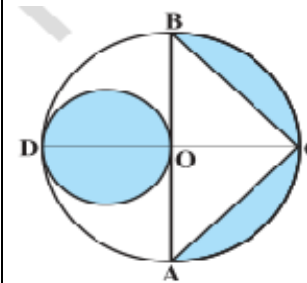


Fig. 12.27

find area and Using formulae, to perimeter of plain figures.

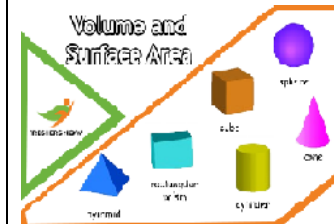
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NOVEMBER

Chapter-12 Surface Areas & Volumes
 Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones.

Learn the concepts of Surface Area and Volume of solid figures.
 *Identify the situation where there is need of find surface area and where there is need finding volume of solid figures.
 *Find the Surface Area of cube, cuboid, cylinder, cone, sphere, hemisphere and frustum of cone using respective formula. * Explain that when the solid convert into different shapes the surface area changes but volume remain constant.

Find the surface area and volume of combination of solids.



Summary of Surface Area and Volume Formulas – 3D Shapes

Shape	Figure	Surface Area	Volume
Sphere		$SA = 4\pi r^2$ (r = radius)	$V = \frac{4}{3}\pi r^3$ (r = radius)
Right Circular Cylinder		$SA = 2\pi r h + 2\pi r^2$ (r = radius of base, h = height of base)	$V = \pi r^2 h$ (r = radius of base, h = height of base)
Cone		$SA = \pi r l + \pi r^2$ (r = radius of base, l = slant height, h = height of base)	$V = \frac{1}{3}\pi r^2 h$ (r = radius of base, h = height of base)
Square Pyramid		$SA = 2s^2 + s l$ (s = side length of base, l = slant height)	$V = \frac{1}{3}s^2 h$ (s = side length of base, h = height of base)
Rectangular Prism		$SA = 2(lb + bh + lh)$ (l = length, b = breadth, h = height)	$V = lbh$ (l = length, b = breadth, h = height)
Cube		$SA = 6s^2$ (s = side length of face)	$V = s^3$ (s = side length of face)
Spherical Cap		$SA = \pi R h + \pi R^2$ (R = radius of sphere, h = height of cap)	$V = \frac{\pi h}{6}(3R^2 + h^2)$ (R = radius of sphere, h = height of cap)

finds surface areas and volumes of objects in the surroundings by visualising them as a combination of different solids like cylinder and a cone, cylinder and a hemisphere, combination of different cubes, etc.

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CASE STUDY

NOVEMBER

**Chapter-14
Probability**

Classical definition of probability. Simple problems on finding the probability of an event.

*Probability is used in various occupation such as health care Insurance, Insurance Company uses this to decide an financial policy.

*It is widely used in study of statistics, physical science, Biological science, advertising, forming ,costing and Gambling.

*Role of Probability in cricket the tossing of coin between Captain to decide which team hold bat or ball first.

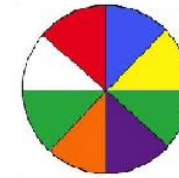
*In physics to measurement acceleration or to express energy and to understand position of Motion.

*To understand where the curve will change it direction.

* Enable the students to do smart work



Probability



On find the probability off playing cards NCERT

EVENT-Tossing a Coin

LA
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