## BUDHA DAL PUBLIC SCHOOL, SAMANA

ANNUAL CURRICULUM PLAN SESSION 2023-24

CLASS: VII
SUBJECT: MATHS

| Month \& Workin g Days | $\begin{gathered} \text { Theme/ Sub- } \\ \text { theme } \end{gathered}$ | Learning Objectives |  | Activities \&Resources | Expected Learning Outcomes | Assessment |
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|  |  | Subject Specific (Content Based) | Behavioral (Application based) |  |  |  |
| April | Integers | Students will able to/ recall/ learn/apply/ find <br> - Concept and examples of Integers. (K) <br> - Representation of integers on number line. <br> - Reading of integers on number line. <br> - To find additive inverse of an integer. <br> - Learn to solve magic squares involving integers. <br> - DMAS rule for integers(U) <br> - Addition, subtraction as well as properties of integers (AP) <br> - Multiplication, Division and properties of integers (AP) <br> - Application of integers in daily life situations. | Students will develop understanding about use of integers such as in banks (credit and debit),Measuring temperatures, marking scheme (when there is minus marking) etc. | 1. Create patterns of integers. <br> 2. Framing Real life situations of Integers. | Students would be able to <br> - Understand concepts and examples of Integers. <br> - Representation of integers on number line. <br> - Reading of integers on number line. <br> - To find additive inverse of an integer. <br> - Learn to solve magic squares involving integers. <br> - DMAS rule for integers <br> - Addition, subtraction as well as properties of integers <br> - Multiplication, Division and properties of integers <br> - Application of integers in daily life situations. <br> - To develop Application skill, Higher order thinking and Numeracy skill, Ability of reasoning and team spirit <br> - They would be able to relate the content with practical life like every number has its negative number e.g. every coin has two faces <br> - +ve and -ve integers are used in measuring temperature. | Assessment will be done on the basis of decided Rubrics. |


|  |  |  |  |  | - Realization of -ve marking in competitive exams. <br> - Altitude that below sea level is represented with negative integers Banks and credit unions represent debit and credit through integers |  |
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| April | Fractions and Decimals | The students will be able to: <br> - Define fraction as a part of whole (U) <br> - Understand the concept of different types of fraction and decimals. (K) <br> - Learn how to convert any one type of fraction or decimal to other (A) <br> - Recognize the difference between different types of fractions and decimals. (Ay) <br> - Compute addition, subtraction, multiplication and division of fraction and decimals. (A) <br> - Solve word problem involving fractions and decimals. (A) <br> - Applications on fractions and decimals.(A) | Following behavioral objectives will be achieved- <br> - A part of a whole is important to make up the whole, for example, students are a part of their class, but they are important to form the whole class because even if one student is missing, the class wouldn't be complete. <br> - In event managements like parties. <br> - the operations on fractions in dealing with money. <br> - They can check their progress by calculating the fractions of the work they've done and whole work they've to do. <br> - A record can be broken by a difference of a few decimal places. <br> - A life can be saved or lost by a difference of a few decimal places in | 1. Making Fraction flower. <br> 2. Framing questions of multiplication and division of decimals. | Students would be able to: <br> - Apply the concept of different types of fraction and decimals. <br> - Recognize the different types of fractions and decimals. <br> - Learn how to convert any one type of fraction or decimals. to other. <br> - Compute addition, subtraction, multiplication and division of fractions and decimals. <br> - Solve word problems involving fractions and decimals <br> - Learn to value the smallest part or unit regardless of how insignificant it might seem. <br> - Learn to manage events like parties. <br> - learn to calculate their progress by using fractions <br> - Manage time and value each and every second. <br> - Learn the use of decimals in various daily life aspects like calculations relating to money. <br> - Applications on fractions and decimals <br> - develop observatory skills. | Assessment will be done on the basis of decided Rubrics. |


|  |  |  | seconds. <br> - Seemingly insignificant things can make a huge difference, so we must never underestimate small things. <br> - Proper and accurate concentration of chemicals is very important in drugs and medicines. Even a difference by 0.001 or smaller can cause severe health issues. |  | - Develop analytical skills. <br> - Develop problem solving skills. |  |
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| Septemb er | Rational Numbers | Students will be able to understand / learn /define /apply/ find <br> - Concept and examples of Rational numbers. (K) <br> - Positive and negative Rational numbers. <br> (K) <br> - Equivalent Rational numbers. (U) <br> - Representation of rational numbers in standard form. (U) <br> - Additive inverse and multiplicative inverse of a rational number. (K) <br> - Representation of Rational numbers on the number line. (U) <br> - Comparison of Rational numbers. (AY) <br> - Rational numbers between two rational numbers. (U) <br> - Addition, Subtraction, Multiplication | Students will be able to <br> - Develop comparative skills by arranging rational number in ascending or descending order. <br> - Develop problem solving ability in real life situations. | 1. Arranging rational numbers written on coloured strips in ascending or descending order. <br> 2. Representation of rational number on the number line. | Students would be able to learn/define /apply/ find <br> - Concept and examples of Rational numbers. <br> - Positive and negative Rational numbers. <br> - Equivalent Rational numbers. <br> - Representation of rational numbers in standard form. <br> - Additive inverse and multiplicative inverse of a rational number. <br> - Representation of Rational numbers on the number line. <br> - Comparison of Rational numbers. | Assessment will be done on the basis of decided Rubrics. |


|  |  | and Division of Rational numbers.(U) |  |  |  |  |
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| Augus | Symmetry | Student will be able to: <br> - Recall line symmetry and reflection symmetry(U) <br> - Identify the axis of symmetry. (K) Lines of symmetry for regular polygons <br> - Identify and apply the concept of rotational symmetry of 2 -D figures. U) <br> - Find the centre, order and angle of rotation for a simple figure. (AN) <br> - Identify the figures having both reflection and rotational symmetry. | - Students would learn to visualize the things <br> - Students would learn to find symmetrical figure. | 1. To identify symmetrical designs from the surroundings. <br> 2.To find axis of symmetry and order of rotational symmetry. | Students would be able to: <br> - Identify the axis of symmetry. <br> - Draw Lines of symmetry for regular polygons <br> - Identify and apply the concept of rotational symmetry of $2-\mathrm{D}$ figures. <br> - Find the centre, order and angle of rotation for a simple figure. <br> - Identify the figures having both reflection and rotational symmetry | Assessment will be done on the basis of decided Rubrics. |
| Octob er | Data Handling <br> Perimete $r$ and Area | The students will be able to understand: <br> - organization of data (U) <br> - preparation of frequency distribution table (Ap) <br> - Measures of central tendencies: Mean, Mode, Median and Range | Following behavioral objectives will be achieved- <br> - It's important to keep things and information organized to work | 1. Collection of situations where mean, mode and median can be used. <br> 2. To Prepare | Students would be able to <br> - Organize data <br> - prepare frequency distribution table <br> - Measure of central tendencies: Mean, Mode, Median and Range | Assessment will be done on the basis of decided Rubrics. |


|  |  | (Ev) <br> - Construction and interpretation of different types of bar graphs (Sy) <br> - Chance and Probability. (AN) | properly. <br> - In our life, there will be both, ups and downs, we should be always grateful while the ups and should have enough courage to make it through the downs. <br> - Every unit is important in a group. <br> - Learning can be fun if you take it in a positive way. <br> - While comparing any two things or situations, or people, the parameters and scales must be same <br> - Students will also be able to develop observation and calculation skill. | double bar graphs. | - Construct and interpret different types of bar graphs <br> - Construction and interpretation of different types of bar graphs <br> - Learn Chance and Probability <br> - Solve problems and situation-based questions. <br> - Learn that studying can be enjoyable. <br> - Realize importance of keeping things and information organized to work properly. <br> - develop observation and calculation skill. |  |
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| Janu ary | Algebraic Expressions | The students will be able to understand: <br> - About like terms and unlike terms. (U, AN) <br> - About, terms factors and coefficient. (U) <br> - About Monomial, Binomial, Trinomial and Polynomial. (U) <br> - Addition and subtraction of Algebraic Expression (A) <br> - Applications of Algebraic Expressions. (A) | Following behavioural objectives will be achieved <br> - Not all people are alike; however, each and every one of us is a human and holds his own importance. <br> - Every unit is important in a group. <br> - Learning can be fun if you take it in a positive | 1. Addition and Subtraction of algebraic expression. <br> 2. To frame algebraic expressions | The students would be able to understand: <br> - About like terms and unlike terms. <br> - About Terms Factors and coefficient. <br> - About Monomial, Binomial, Trinomial and Polynomial. <br> - Addition and subtraction of Algebraic Expression <br> - Applications of Algebraic Expressions. <br> - Not all people are alike; however each and every one of us is a human and holds his own importance. | Assessment will be done on the basis of decided Rubrics. |


|  |  |  | way. <br> - While comparing any two things or situations, or people, the parameters and scales must be same. <br> - A single wrong step can deviate us from the path. <br> - There is more than just one way to solve any problem. <br> - The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted. <br> - Situations can be handled in many ways |  | - Every unit is important in a group. <br> - Learning can be fun if you take it in a positive way. <br> - While comparing any two things or situations, or people, the parameters and scales must be same. <br> - A single wrong step can deviate you from the path. <br> - There is more than just one way to solve any problem. <br> - The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted. |  |
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| May | Simple <br> Equations | The students will be able to: <br> - Understand about Linear Equations. (U) <br> - Frame Linear Equation (K) <br> - Solve an Equation with different methods. (K) <br> - Solve story sum based on applications of simple equation. (A) | Following behavioural objectives will be achieved-. <br> - It's necessary to know all variables to solve an unsolved mystery. <br> - We need to keep trying to succeed. <br> - Errors and mistakes make us learn more and | 1. To frame algebraic expressions by using variable and constant. 2. To frame linear equation. | Students would be able to: <br> - Frame Linear Equations. <br> - Apply transposition method to solve equations. <br> - Solve word problems based on applications of simple equation <br> - Solve situation-based questions. <br> - Understand that knowing every argument correctly matters to reach a conclusion. | Assessment will be done on the basis of decided Rubrics. |


|  |  |  | teach us new ways to look at the problem. |  | - Realize that we need to keep trying to succeed. <br> - Learn that errors and mistakes make us learn more and teach us new ways to look at the problem. |  |
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| January | Visualizing Solid Shapes | Student will be able to: <br> - Identify and draw 2- dimensional and 3 dimensional figures.(U) <br> - State the number of vertices, edges and faces of 3 dimensional figures. <br> .(K) <br> - Draw nets for cubes, cuboids, cylinders, pyramid, prism and cones. ( AP) <br> - Identify the solid formed by a given net. (U) <br> - Draw oblique and isometric sketches. (K) <br> - Verify Euler's formula. (A) <br> - Draw different views. (U) <br> - Visualize different cross sections (horizontal and vertical) of solid objects. .(AP) | Following behavioral objectives will be achieved1; <br> - Students will be able to visualize all the faces of the images of 3D shapes. <br> - Students will be able to develop drawing skills by using isometric dotted paper for representing various 3 D shapes. <br> - Team spirit will be developed while working in group to prepare nets of 3D shapes. | 1. To draw front, side and top view of Rubik's cubes. <br> 2.To solve questions based on Net of Dice. | Students would be able to: <br> - Identify and count vertices, edges and faces of 3D figures. <br> - Recognize 2D and 3D figures from the surroundings <br> - Understand the nets for various solid shapes <br> - Identify the solid obtained by a given net. <br> - Verify Euler's formula. <br> - Draw solids on a flat surface. <br> - Draw different views. <br> - Visualize cross sections (horizontal and vertical) of solid objects. <br> - Get knowledge and will develop observation skill by identifying number of faces, edges and vertices of the solid. <br> - Learn application part by using Euler's formula for verification and | Assessment will be done on the basis of decided Rubrics. |
| August | Exponents and Powers | The students will be able to : <br> - Write number in its expanded form and will be able to compare any two numbers. U <br> - Express a given number in its | Following behavior objectives will be achieved: <br> - The students will be able to understand that | 1. To prove laws of exponent by paper folding and pasting. Ex $3^{n}$ and $2^{n}$ | The students would be able to: <br> - Write number in its expanded form and will be able to compare any two numbers. <br> - Express a given number in its prime | Assessment will be done on the basis of decided Rubrics. |


|  |  | prime factorization in their powers. K <br> - Define exponents for natural numbers. A <br> - Know various laws of exponents. A <br> - Apply the laws of exponents to solve the problems with different operations. A <br> - Know standard form / scientific notation for numbers. K | some common characteristics/qualities are required to be a part of a group. <br> - The students will be to follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier). <br> - The students will be able to elaborate / brief their views as per requirement. <br> - The students will be able to connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc. |  | factorization in their powers. <br> - Define exponents for natural numbers. <br> - Know various laws of exponents. <br> - Apply the laws of exponents to solve the problems with different operations. <br> - Know standard form / scientific notation for numbers. <br> - Follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier). <br> - Elaborate / brief their views as per requirement. <br> - Connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc. |  |
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| August | Comparing Quantities | The students will be able to <br> - Recall the concept of ratio as an extension of fraction. <br> - Find the equivalent ratios as an extension of equivalent fraction. (U) <br> - Recall the concept of proportion as an equality of two ratios. <br> (K) <br> - To recall unitary method and apply it in word problems. <br> (A) <br> - Understand the term percentage as a fraction with denominator 100.(K) | The students will be able to <br> - Develop comparative skills by finding percentage. <br> - Develop understanding related to profit and loss while dealing with prices of different commodities. <br> - Develop Problem solving skills by | 1.Find Increase or decrease \% <br> 2. Calculate the Interest as well as Amount (of SBI) for given Principal | The students would be able to: <br> - Recall the concept of ratio as an extension of fraction. <br> - Find the equivalent ratios as an extension of equivalent fraction. <br> - Recall the concept of proportion as an equality of two ratios. <br> - To recall unitary method and apply it in word problems. <br> - Understand the term percentage as a fraction with denominator 100 . | Assessment will be done on the basis of decided Rubrics. |



| July | Lines and Angles | Students will be able to: <br> - Define Parallel lines, intersecting lines, Interior angles, Exterior angles, Transversal lines, Corresponding angles, Alternate angles, adjacent angles, vertically opposite angles and linear pair. (K) <br> - Understand linear pair, complementary angles and supplementary angles. (U) <br> - Understand when a transversal intersects a pair of parallel lines(U) The alternate angles are equal. The corresponding angles are equal. Co-interior angles are supplementary. <br> - Check whether lines are parallel or not. | Students will be able to: <br> - Recognize parallel and intersecting lines from their surroundings. <br> - Develop drawing skills by using isometric dotted paper for representing various 3 D shapes. | 1. Drawing pairs of angles and checkingwhethe $r$ given pair of angles are supplementary or complementary. 2. Verification of co interior angles are supplementary by cutting and pasting method. | Students would be able to: <br> - Understand linear pair, complementary angles and supplementary angles. (U) <br> - Define Parallel lines, intersecting lines, Interior angles, Exterior angles, and Transversal, Corresponding angles, Alternate angles and Linear pair. (K) <br> - Understand Vertically opposite angles (K) <br> - Understand when a transversal intersects a pair of parallel lines( U ) <br> - The alternate angles are equal. <br> - The corresponding angles are equal. <br> - Co-interior angles are supplementary. <br> - Develop Imagination skill <br> - Visualize things with geometrical approach. Strengthen their designing skills | Assessment will be done on the basis of decided Rubrics. |
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| Novem ber | The Triangle and its Properties | The students will be able to: <br> - Understand Medians and Altitudes of a Triangle. (U) <br> - Understand Angle Sum Property of a triangle. (U) <br> - Understand Exterior angle of a triangle and its properties (U) <br> - Understand Pythagoras Property of Right-angled Triangle. (U) <br> - Solve application-based question. <br> (A) <br> - Inequality properties of triangle. <br> - Specific Properties of types of triangle | Following behavioural objectives can be achieved- <br> - All shapes are beautiful in their own way. <br> - Learning can be fun if you take it in a positive way. <br> - Some common characteristic is required to be a part of a group (properties of triangles). | 1. Verification of Exterior angle property. <br> 2. Verification of Pythagoras Property. | Student would be able to: • Understand Medians and Altitudes of a riangle. (U) - Understand Angle Sum Property of a iangle. (U) Understand Exterior angle of a triangle nd its properties (U) Understand Pythagoras Property of Right- ngled Triangle. (U) $\bullet \quad$ Solve application-based question. (A) $\bullet \quad$ Inequality properties of triangle. $\bullet \quad$ Specific Properties of types of triangle. All shapes are beautiful in their own way. - Learning can be fun if you take it in a ositive way. - Some common characteristic is required be a part of a group (properties of triangles). | Assessment will be done on the basis of decided Rubrics. |
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Students will be able to

- Understand formula for area of Parallelogram, Triangle, Rhombus and Circle.
- Generate formula for perimeter of Parallelogram, Triangle, Rhombus as


## Following behavioural $\quad$ 1. To find

 objectives will be achieved: Perimeter and- Students will apply concept of perimeter while preparing track to conduct sports; in

Students would be able to:

- Generate formula for area of Parallelogram, Triangle, Rhombus and Circle.
- Find formula for perimeter of Parallelogram, Triangle, Rhombus as

Assessment will be done on the basis of decided Rubrics.


