# NISHAN-E-SIKHI INTERNATIONAL SCHOOL, KHADUR SAHIB

## CLASS: - 6th

## SUBJECT: - MATHEMATICS

## (PEDAGOGICAL PLAN)

| MONTH | WEEK | TOPIC | LEARNING OBJECTIVES | ACTIVITIES | ASSESSMENT USED |
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| APRIL | WEEK 1 | Knowing our Numbers | • To consolidate the sense of number up to 5 digits, size, estimation of numbers, identifying smaller, larger, etc.<br>• Place value ,connectives: use of symbols =,<,> and use of brackets, word problems on number operations involving large numbers up to a maximum of 5 digits in the answer after all operations. | Worksheet of subjective questions | Number of correct answers and use of methods. |
| | WEEK 2 | Knowing our Numbers | • Conversion of units of length and mass (from the larger to the smaller units), estimation of outcome of number operations.<br>• Introduction to a sense of the largeness of, and initial familiarity with, large numbers up to 8 digits and approximation of large numbers. | Recognise and fill question framing | Observation of understanding level. |
| | WEEK 3 | Playing with Numbers (Factors and Multiples) | • Simplification of brackets, multiples and factors, divisibility rule of 2, 3, 4, 5, 6, 8, 9, 10, 11.<br>• Even / odd and prime / composite numbers, co-prime numbers, prime factorisation, every number can be written as products of prime factors. | Find prime number between 1 to 100 by sieve's method. | Students can be evaluated on their enthusiasm, interest in discussion and participation. |
| | WEEK 4 | Playing with Numbers (Factors and Multiples) | • HCF and LCM, prime factorisation and division method of HCF and LCM.<br>• The property LCM × HCF = product of two numbers. | Find HCF of given numbers by paper cutting and pasting. | Observation of level of thinking and imagination. |
| MAY | WEEK 1 | Whole Numbers | • Natural number, whole numbers, properties of numbers (commutative, associative, distributive , additive identity, multiplicative identity), number line. | Property of addition is commutative for whole numbers by | Neatness and time taken. |

| Month | Week | Topic | Learning Content | Activity | Assessment |
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| | | | | paper cutting and pasting. | |
| | WEEK 2 | Whole Numbers | • Seeing patterns, identifying and formulating rules. | Property of multiplication is commutative for whole numbers by paper cutting and pasting. | Observation of understanding level. |
| | WEEK 3 | Revision of PT 1 | • Recall the concepts of estimation of numbers, identifying smaller, larger, etc. | Class test | Marks will be awarded for correct answer. |
| | WEEK 4 | Negative Numbers and Integers | • How negative numbers arise, models of negative numbers, connection to daily life. | Perform addition and subtraction of integers using different coloured buttons. | Accuracy in performing the activity. |
| | WEEK 5 | Negative Numbers and Integers | • Ordering of negative numbers, representation of negative numbers on number line.<br>• Students to see patterns identify and formulate rules. | Class worksheet | Time taken to solve worksheet and observe understanding. |
| JUNE | WEEK 1 | Summer Vacation | • Assignment work | worksheet | Marks for correct responses. |
| | WEEK 2 | | | | |
| | WEEK 3 | | | | |
| | WEEK 4 | | | | |
| | WEEK 5 | | | | |
| JULY | WEEK 1 | | | | |
| | WEEK 2 | Addition and subtraction of Integers | • What are integers, identification of integers on the number line, operation of addition and subtraction of integers. | Oral test of integers | Observation of understanding level |
| | WEEK 3 | Addition and subtraction of Integers | • Showing the operations on the number line comparison of integers, ordering of integers. | worksheet | Marks for correct responses. |
| | WEEK 4 | Fractions | • Revision of what is fraction is, fraction as a part of whole, representation of fractions. | Concept mapping | Observation of understanding level |
| | WEEK 5 | Fractions | • Fraction as a division, proper, improper and mixed fractions, equivalent fractions, comparison of fractions, addition and subtraction of fractions. | Practice worksheet-observe and answer | 1 mark for correct answer. |

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| AUGUST | WEEK 1 | Decimals | • Review of the idea of a decimal fraction, place value in the context of decimal fraction.<br>• Inter conversion of fractions and decimal fractions, word problems involving addition and subtraction of decimals. | To represent decimal numbers 0.25, 0.5, 0.75 , etc using 10 *10 grids. | Observation of understanding level |
| | WEEK 2 | Data Handling | • What is data- choosing data to examine a hypothesis.<br>• Collection and organization of data- examples of organizing it in tally bars and a table. | Preparation of table using tally marks | Observation of understanding level. |
| | WEEK 3 | Basic Geometrical Ideas | • Introduction on to geometry and its linkage with and reflection in every day experience.<br>• Line, line segment, ray.<br>• Open and closed figures.<br>• Curvilinear and linear boundaries.<br>• Angel – vertex, arm, interior and exterior. | Making cube using the given net and count the number of faces, vertices and edges. | Students can be evaluated on their enthusiasm, interest in discussion and participation |
| | WEEK 4 | Basic Geometrical Ideas | • Triangle- vertex, sides, angles, interior and exterior, altitude and median.<br>• Quadrilateral-sides, vertices, angles, diagonals, adjacent sides and opposite sides, interior and exterior of a quadrilateral.<br>• Circle-centre, radius, diameter, arc, sector, chord, segment, semicircle, circumference, interior and exterior. | To check which of the following given net can be folded to form a cube. | Level of understanding. |
| SEPTEMBER | WEEK 1 | Revision of Term 1 | Recall the concepts-knowing our numbers, playing with numbers, whole numbers. | Class test | Marks will be awarded for correct answer. |
| | WEEK 2 | Revision of Term 1 | Recall the concepts- negative numbers and integers, addition and subtraction of integers, fractions, basic geometrical ideas, data handling. | Class test | Marks will be awarded for correct answer. |
| | WEEK 3 | Exams of Term-1 | ---------------------- | ---------------------- | ---------------------- |
| | WEEK 4 | Exams of Term-1 | ---------------------- | ---------------------- | ---------------------- |
| OCTOBER | WEEK 1 | Introduction to Algebra | • Introduction to variable through patterns and through appropriate word problems and generalisations (example 5×1=5).<br>• Generate such patterns with more examples. | Class worksheet | Time taken to solve the worksheet and level of understanding. |
| | WEEK 2 | Introduction to | • Introduction to unknowns through examples with | Class test | Marks will be |

| | | Algebra | simple contexts (single operations). | | awarded for correct answers. |
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| | WEEK 3 | Ratio, Proportion and unitary Method | • Concept of ratio.<br>• Proportion as equality of two ratios. | Hands on activity | Observation of thinking skills, performance of activity. |
| | WEEK 4 | Ratio, Proportion and unitary Method | • Unitary method, word problems. | Class worksheet | Marks will be awarded for correct answers |
| | WEEK 5 | Understanding Elementary Shapes | • Measure of line segment.<br>• Measure of angles.<br>• Pair of lines- intersecting and perpendicular lines; parallel lines.<br>• Types of angles | Determine the number of lines of symmetry of the following shapes by paper folding<br>• Equilateral<br>• Isosceles<br>• Square<br>• Rectangle<br>• rhombus | Observation of level of thinking and imagination. Observation of understanding level. |
| NOVEMBER | WEEK 1 | Understanding Elementary Shapes | • Classification of triangles.<br>• Types of quadrilaterals, trapezium, parallelogram, rectangle, square, rhombus.<br>• Simple polygons<br>• Identification of 3-D shapes.<br>• Elements of 3-D figures.<br>• Nets of cube , cuboids, cylinders, cones and tetrahedrons. | • Classify triangles on the basis of sides and angles from the given set of triangles.<br>• Make a prism and a pyramid using their nets and to find their number of vertices , edges and faces. | Students can be evaluated on their enthusiasm, interest in discussion and participation |
| | WEEK 2 | Symmetry : (Reflection) | • Observation and identification of 2D symmetrical objects for reflection symmetry. | Class worksheet | Observation of understanding level |
| | WEEK 3 | Symmetry : | • Operation of reflection of simple 2-D objects. | Observe and answer | Marks will be |

| | | (Reflection) | • Recognizing reflection symmetry. | | awarded for correct answers. |
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| | WEEK 4 | Practical Geometry ( construction) | • Drawing a line segment.<br>• Construction of a circle.<br>• Perpendicular bisector. | Construction of geometry figures | Observation of accuracy in method chosen for construction. |
| DECEMBER | WEEK 1 | Revision of Term- 3 | Recall the concepts of decimals. | Class test | Marks will be awarded for correct answer. |
| | WEEK 2 | Practical Geometry ( construction) | • Construction of angels.<br>• Angle bisector- making angles of 30, 45, 90 degree , etc. | Construction of geometry figures | Observation of accuracy in method chosen for construction |
| | WEEK 3 | Practical Geometry ( construction) | • Angle equal to a given angle.<br>• Drawing a line perpendicular to a given line from a point a) on the line b) outside the line. | Practice questions | Neatness and accuracy in construction of figures. |
| | WEEK 4 | Perimeter and Area | • Introduction and general understanding of perimeter using many shapes.<br>• Shapes of different kinds with the same perimeter. | Quiz of formula | One mark for each correct answer. |
| JANUARY | WEEK 1 | Perimeter and Area | • Concept of area, area of a rectangle and a square.<br>• Counter examples to different misconcepts related to perimeter and area. | Difference between area and perimeter with suitable examples. | Observation of level of understanding. |
| | WEEK 2 | Revision of PT 4 | Recall the concepts of algebra. | Class test | Marks will be awarded for correct answer. |
| | WEEK 3 | Perimeter and Area | • Perimeter of a rectangle and its special case square.<br>• Deducting the formula of the perimeter for a rectangle and then a square through pattern and generalization. | Warm up | Observation of level of understanding. |
| | WEEK 4 | Data Handling | • Pictograph- need for scaling in pictographs interpretation and construction. | Observe and answer | Observation of level of understanding. |
| | WEEK 5 | Data Handling | • Making bar graphs for given data interpreting bar graphs. | Explore the graphs worksheet | Presentation of graphs |
| FEBRUARY | WEEK 1 | Revision of term 2 | Recall the concepts -decimals, algebra, understanding elementary shapes. | Class test | Marks will be awarded for correct answer. |

| | WEEK 2 | Revision of term 2 | Recall the concepts- symmetry, practical geometry, perimeter and area, data handling. | Class test | Marks will be awarded for correct answer. |
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| | WEEK 3 | Term 2 Exams | ------------------------------------------- | ------------------ | ------------------ |
| | WEEK 4 | Term 2 Exams | ------------------------------------------- | ------------------ | ------------------ |