AL AIN JUNIORS SCHOOL
INDIAN SYSTEM

SPLIT UP OF SYLLABUS (2017-18)

GRADE: 5

Subject: MATHEMATICS

Teacher Name: SMITHA MURALI

M	Unit/Chapter	Concepts/Sub topic	Learning Outcomes/ Skills acquired	Essential Questions
APRIL	1. Large Numbers (15)	▪ Building numbers beyond 9,99,999 ▪ Indian place value chart (up to crores period). ▪ Face value and face value of a digit in a number. ▪ Comparison and ordering of numbers. ▪ Successor and predecessor of a number. ▪ International place value chart. ▪ Number of numbers in between. ▪ Forming numbers. ▪ Rounding off numbers to the nearest 10s, 100s and 1000s. ▪ Roman numerals.	➢ **Numeracy** ▪ REPRESENT numerals up to 8 digits both in Indian and international system. ▪ INDICATE the place, place value and period of a digit in a numeral ▪ CONSTRUCT numerals with the given conditions. ▪ REPRESENT numerals up to 100 in Roman Numeral System. ➢ **Organising** ▪ COMPARE AND CONTRAST both systems. ➢ **Logical Reasoning** ▪ ESTIMATE numbers to the nearest 10/100/1000	• Why do digits in a number have different values? • How can we use place value to round numbers? • How accurate does the solution need to be?
MAY	2. Operations With Large Numbers (18)	▪ Properties of Addition and subtraction. ▪ Addition and subtraction of large numbers. ▪ Addition and subtraction in real life. ▪ Properties of multiplication and division. ▪ Multiplication and division by 10/ 100/ 1000. ▪ Multiplication by 2digit/ 3digit multiplier. ▪ Division by 1digit/ 2digit divisor. ▪ Multiplication and division in real life. ▪ Estimation in operations.	➢ **Numeracy/ Organizing/ Computation** ▪ CARRYING OUT addition of 2 to 4 numbers by arranging the digits properly. ▪ CARRYING OUT subtraction by arranging the digits. ▪ VERIFY subtraction by addition. ▪ DEVISING the properties of multiplication/ division. ▪ PUT INTO PRACTICE multiplication instead of repeated addition. ▪ PUT INTO PRACTICE division instead of repeated subtraction. ➢ **Problem Solving** ▪ DESIGNING real life problems involving addition and subtraction. ▪ APPLY the understanding of multiplication and division in daily life situations.	▪ How to arrange numbers having different digits? ▪ How to verify a subtraction? ▪ How to multiply numbers with different digits? ▪ How to differentiate subtraction and division in a problem

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	3. Factors and Multiples (15)	▪ Factors ▪ Tests of divisibility. ▪ Prime and composite numbers. ▪ Prime factorization of a number. ▪ H.C.F – by finding common factors and by prime factorization. ▪ Multiples. ▪ L.C.M. – by finding common multiples, by prime factorization, by common division method. ▪ Relationship between L.C.M & H.C.F.	➢ **Numeracy/ Reasoning skill** ▪ PUT INTO PRACTICE the rules of divisibility. ➢ **Analyse/ Compute/ Organise** ▪ BREAK DOWN the numeral into its prime factors. ▪ APPLY the understanding of factors to list prime & composite numbers to find H.C.F. ▪ APPLY the understanding of multiples in finding L.C.M.	• How accurate does the solution need to be? ▪ Identify composite numbers and prime numbers, and explain the relationship between them. • Can the method of prime factorization help to determine LCM and HCF?
JUNE	7. Geometry (6)	▪ Basic elements of Geometry – point, line, line segment and ray. ▪ Types of lines – concurrent, collinear, parallel, intersecting & perpendicular. ▪ Angles ▪ Measuring angles. ▪ Classification of angles. ▪ Constructing angles ▪ Polygons, triangle, circle.	➢ **Logical Analysis** ▪ UNDERSTAND the basic elements of Geometry. ▪ IDENTIFY the elements of an angle/ circle. ➢ **Classify/ Reasoning** ▪ CLASSIFY the types of lines. ▪ CLASSIFY the types of angles. ▪ CLASSIFY the types of triangles – on the basis of sides/ angles. ➢ **Analysis/ Drawing skill** ▪ MEASURING and constructing angles. ▪ CONSTRUCTING circles.	• How does Geometry help us to describe the objects all around us? • How accurate does the construction need to be? • Distinguish between the types of angles • Distinguish between the types of triangles on the basis of angles/ sides.

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SEPTMBER	10. Time (5)	• Relationship between hours, minutes and seconds. • Inter- conversion of 12-hour clock and 24-hour clock. • Calculating time duration. • Reading calendar. • Counting days.	➢ **Measuring skills** ▪ READ / RECORD time from clock face. ➢ **Computation** ▪ CONVERT 12 hour clock to 24 hour clock and vice versa. ➢ **Computation/ Problem Solving** ▪ COMPUTE start time/ end time/ duration of an activity.	• Where and how to inter-convert time from 12-hour clock to 24-hour clock.
	13. Data Handling (9)	• Organizing data using tally marks. • Reading bar graphs. • Drawing a bar graph. • Circle graphs or pie charts.	➢ **Graphic skill/ Data Analysis** • ORGANISE, DISPLAY AND INTERPRET data using Bar graph/ pictograph and pie chart.	• Construct a Specific Graph type for the given data
OCTOBER	4. Fractions (20)	• Types of fractions – proper, improper, mixed, like & unlike and equivalent fractions. • Converting one type of fractions to another. • Representing fractions on the number line. • Comparing and ordering fractions. • Reducing fraction to its lowest terms. • Addition and subtraction of fractions. • Multiplication of fraction. • Reciprocal of a fraction. • Division of fractions. • Application in real life.	➢ **Numeracy/Drawing skill** • DISTINGUISH the different types of fractions. • COMPARE AND ORDER like and unlike fractions. ➢ **Analyze/ Compute/ organize** • OPERATE like/ unlike fractions over +/-/ ×/ ÷ ➢ **Analyze/ Compute / Problem solving** • SOLVE problems related to situation arising in everyday life involving fractions	• Different types of fractions – relate examples from day to day life.

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NOVEMBER	5. Decimals (15)	▪ Concept of decimal. ▪ Place value of digits in a decimal number. ▪ Expanded notation of decimal numbers. ▪ Conversion decimals to fractions and vice versa. ▪ Like and unlike decimals. ▪ Ordering of decimals. ▪ Addition/ subtraction/ multiplication/ division of decimal numbers.	➢ **Numeracy** ▪ LABEL decimals on a number line appropriately. ▪ COMPARE AND ORDER decimals. ➢ **Analyze/ Compute/ organize** ▪ CONVERT decimals to fractions and vice versa. ▪ EXTEND the operations (+/ -) to decimals.	• How does place value help us to arrange decimals to add and subtract?
	11. Money (6)	▪ Checking a bill and calculating bill amount. ▪ Unitary method for finding the price of an article. ▪ Finding profit and loss. ▪ Finding the cost price and selling price.	➢ **Computation** ▪ APPLY basic operations on money. ➢ **Logical analysis/ Reasoning skill** ▪ DEDUSE formula to find cost price, selling price, profit and loss. ➢ **Problem Solving** ▪ DESIGN real life problems involving profit/ loss	• Bill making - What do you observe? How can you explain it?
DCEMBER	6. Percentage (10)	▪ The concept of percentage. ▪ Relationship between fractions, decimals & percentage. ▪ Applications of percentage in real life	➢ **Analyze/ Compute / Problem solving** ▪ CONVERT decimals & fractions to % and vice versa ▪ APPLY percentage in real life situations.	• How do fractions and decimals relate to percentage?

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JANUARY	9. Measurements (10)	▪ Metric system. ▪ Conversion of metric units. ▪ Operations on metric measures. ▪ Average.	➢ **Numeracy/ organizing/ Reasoning skill** ▪ LIST and identify the relation of various metric measures of Length/ weight/ capacity. ▪ CONVERT from one unit to another ➢ **Computation** ▪ Computation (+/ - / ×/ ÷) on decimals. ➢ **Problem Solving** ▪ SOLVE problems on length, weight and capacity. ▪ APPLICATION of average in real life.	• Conversion of units - What do you observe? How can you explain it?
	8. Perimeter, Area and Volume (15)	• Perimeter of a rectangle and square. • Standard units of area. • Area of rectangle and square. • Estimate area of irregular figures using graph paper. • Finding volume by counting unit cubes. • Volume of a cuboid and a cube.	➢ **Measuring skills** • Measure and record length/ mass/ capacity. ➢ **Computation/ Problem Solving** • EXPLORE perimeter/ area/ volume. • DEDUCE the formulas to find perimeter/ area of square and rectangles. • DEDUCE the formulas to find volume of cube and cuboid. • EVALUATE the perimeter, area and volume of a given geometric shape.	• When/ where/ how to find the perimeter and area of a figure.
FEBRUA				
MARCH				