

Folly View and The Elms Primary Schools

Long Term Plan

SUBJECT: MATHS



Vision: For all children in our schools to have a positive attitude to maths, and for them to develop the mental and written maths skills needed for the problem-solving opportunities that they will encounter during their lives.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Pre-School	<ul style="list-style-type: none"> Number and counting songs, finger songs and rhymes, colours Sorting and Matching – Farm Animals and sorting activities on the maths table Size Language – Big and Little Counting Out, Sorting and Matching - Baby clothes Counting out and comparing amounts – More / Less with dinosaurs Circles and making arrangements with loose parts 	<ul style="list-style-type: none"> Shapes – Shapes and simple patterns, shapes around us, rocket collages Size, Mass and Capacity – comparing and ordering/language and 5 in a bed – Counting up and down Introducing Numicon – Colours of tiles, arranging tiles, counting to five Positional Language – Sorting/ Grouping/ Matching/ Ordering/ Comparing - Sets of objects including Christmas items 	<ul style="list-style-type: none"> Shapes in Toys All about Number One Representations of 1,2,3 Numicon – All tiles, colours of tiles, arranging on baseboards, counting to ten All about Number Two Weight Subitising 	<ul style="list-style-type: none"> Shapes – 2D shapes and patterns Representations of 1,2,3 All about Number Three Describing a route – Traditional tales Length and Height All about Number Four Sequence of events – Traditional Tales 	<ul style="list-style-type: none"> Subitising – Ladybird spots – up to five Counting forwards and backwards to five and changing quantity – 1 more / 1 less All about Number Five Shapes - Shapes in the environment, properties of shapes and patterns Positional Language 	<ul style="list-style-type: none"> Counting out and numbers beyond five Matching number to amount Working with 3D shapes – Building Calculating and problem solving Capacity My day – The order of events and exploring time Positional language Counting out and marks for numbers - shells
Key Vocabulary	One, two, three, four, five, six, seven, eight, nine, ten, big, little, small, more, less, circle, shape, triangle, rectangle, square, Numicon, tile, next to, above, below, heavy, light, up, down		One, two, three, four, five, six, seven, eight, nine, ten, big, little, small, more, less, circle, shape, triangle, rectangle, square, Numicon, tile, next to, above, below, heavy, light, up, down		One, two, three, four, five, six, seven, eight, nine, ten, big, little, small, more, less, circle, shape, triangle, rectangle, square, Numicon, tile, next to, above, below, heavy, light, up, down, forwards, backwards	
SMSC	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer discussion and group problem solving. 		<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer discussion and group problem solving. 		<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer discussion and group problem solving. 	



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<p>Reception/ EYFS</p>	<p>Develop a strong understanding of numbers 1 to 5, introduce shape, Talk about Time</p> <ul style="list-style-type: none"> Match and sort Compare amounts Compare size, mass and capacity Explore patterns Representing and comparing the numbers 1 to 3 Introducing numbers 4 and 5 Shapes – circles, triangles, four-sided shapes Talk about Time 	<p>Develop a strong understanding of numbers to 10, Introduce Measures, Introduce 3D Shapes</p> <ul style="list-style-type: none"> Introducing zero, 6, 7, 8, 9 and 10 Exploring and comparing mass Exploring and comparing capacity Comparing numbers to 5 Combining two amounts Making pairs Explore and compare length Explore and compare height Talk about Time Counting to 10, number bonds to 10 Find 1 more 3D shape names Find shapes in our environment 	<p>Introduce numbers to 20, looking for patterns, give reasoning</p> <ul style="list-style-type: none"> Introduce numbers beyond 10 up to 20 Verbally count numbers beyond 20 Rotate shapes Spatial reasoning Match Finding patterns Introducing adding more and taking away Sharing Grouping Doubling Even and odd Describe position
<p>solving opportunities that they will encounter during their lives.</p>			
		<ul style="list-style-type: none"> Copy and continue shape patterns 	
<p>Key Vocabulary</p>	<p>Number, numbers 1 to 5, count, forwards, backwards, how many, more, fewer, equal, groups, order, compare, digit, largest, smallest, less, shape, circle, triangle, rectangle, square, side, straight, curved, same, different, pattern, now, before, soon, later, after, next, fastest, time, yesterday, today, tomorrow, day, week, weekend, month, year, Day of the week – eg Monday, Tuesday etc, season – spring, summer, autumn, winter, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinner/lunch time, playtime</p>	<p>Number, zero, numbers to 10, count, forwards, backwards, how many, more, fewer, equal, groups, order, largest, smallest, less, shape, circle, triangle, rectangle, square, side, straight, same, different, pattern, now, before, soon, later, after, next, fastest, time, yesterday, today, tomorrow, day, week, weekend, moth, year, Day of the week – eg Monday, Tuesday etc, season – spring, summer, autumn, winter, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinner/lunch time, playtime, one more, one less, altogether, how many are left? number bond, part-whole, add, take-away, curved, cylinder, cube, cuboid, cone, sphere, pyramid, face, flat, curved, straight, measure, length, height, breadth, tall, short, long, tallest, shortest, longest, longer, shorter, taller, wider, narrower, weigh, weight, heavy, heavier, light, lighter, lightest, balance</p>	<p>Number, zero, numbers to 20, count, forwards, backwards, how many, more, fewer, equal, groups, order, largest, smallest, less, even, odd, one more, one less, altogether, how many are left? same, different, number bond, part-whole, add, take-away, double, half, halve, halving, pairs, twice as many, share, equal, unequal, group, left over, on, next to, on top of, behind, beneath, over, under, around, through, pattern</p>
<p>SMSC</p>	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving.

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<p>Year 1</p>	<p><u>To consolidate place value to 20, Addition and Subtraction, Shape</u></p> <ul style="list-style-type: none"> Sort, count and represent objects to 10 and then to 20 Count, read and write forwards and backwards from any number up to 10 and then to 20 Recognise numbers as words Count one more and one less; introduce symbols Compare more or less; introduce symbols Order objects and numbers Number lines Use a part whole model Number bonds within 10 Write number sentences Fact families – addition facts Adding 1 more Subtracting – find a part Subtracting – cross out, how many left? Add and subtract on a number line 	<p><u>To introduce numbers to 50, Addition and Subtraction, Measures</u></p> <ul style="list-style-type: none"> Consolidate numbers to 20 (read, write, sort, count, represent) Use number lines (to 20, then 50) Add by counting on Find and make number bonds Find doubles and near doubles Subtraction – counting back, number bonds, find the difference Subtraction not crossing 10 Subtraction crossing 10 Missing number problems Compare number sentences Introducing numbers to 50 Groups of ten – counting in 10s Partition into tens and ones Comparing and ordering to 50 	<p><u>To introduce multiplication and division, introduce fractions, use language of position, introduce place value to 100, Money, Time</u></p> <ul style="list-style-type: none"> Count in 2s, 10s and 5s Recognise equal groups Make arrays and doubles Make equal groups - grouping Make equal groups - sharing Recognise half of shape and quantity Recognise quarter of shape and quantity Describe position – left, right, forwards, backwards, above, below) Describe turns Ordinal numbers 1st, 2nd, 3rd etc Counting from 50 to 100 Partitioning into tens and 1s Use a number line to 100 1 more and 1 less
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	<ul style="list-style-type: none"> Add or subtract 1 or 2 Recognise, name and sort 2D and 3D shapes Patterns with shape 	<ul style="list-style-type: none"> Start counting in 2s and 5s Compare lengths and heights Measure length and height using objects and cm Heavier and lighter Measure and compare mass Full and empty Compare and measure volume and capacity 	<ul style="list-style-type: none"> Compare numbers Recognise coins and notes Count in coins Before and after Days of the week Months of the year Hours, minutes, seconds O'clock times Half past times
<p>Key Vocabulary (as Reception plus...)</p>	<p>Part, Whole, Equal, More, Less, Represent, Forwards, Backwards, Number line, Add, Addition, Subtract, Subtraction, Number fact, Problem, Missing Number, 2 digit, Symbol, Polygon, Sort, 2D, 3D, sides, corners, properties, faces, pyramid</p>	<p>Number Bonds, Multiple, Compare, Thirty, Forty, Fifty, Inverse, Mass, Volume, Capacity</p>	<p>Equal Groups, Array, Double, Half, Whole, Quarter, Place value, Position, Direction, Turn, Partition, Multiply, Multiplication, Divide, Division, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, January, February, March, April, May, June, July, August, September, October, November, December, month, year, o'clock, half past, second, money, coin, note, pound, pence, position, direction, movement, whole turn, half turn,, three-quarter turn</p>
<p>SMSC</p>	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving.

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Year 2	<p><u>To consolidate numbers to 100, add and subtract, and shape</u></p> <ul style="list-style-type: none"> Count objects to 100 Groups of 10 Recognise 10s and 1s Place value charts Partition and write numbers to 100 Flexibly partition numbers Place and estimate numbers on a number line Compare and order objects, numbers and number sentences Count in 2s, 5s, 10s and 3s Number bonds to 10, 20 and 100 Add and subtract 1s, Add to the next 10 Add and subtract across 10 Subtract from 10 10 more or less Add two 2-digit numbers (not across and across a 10) Subtract two 2-digit numbers (not across and across a 10) Missing number problems Recognise 2d and 3d shapes and their properties • Lines of symmetry 	<p><u>To multiply and divide; fractions and money</u></p> <ul style="list-style-type: none"> Count money in pence and pounds Compare amounts of money Calculate with money and find change Two step problems Recognise, make, and add equal groups Multiplication symbol and multiplication sentences Use arrays Make equal groups - grouping Make equal groups - sharing 2, 5 and 10 times table Divide by 2, 5 and 10 Doubling and halving Odd and even numbers Introduce parts, whole, equal and unequal parts Recognise and find half, quarter and third Unit and non-unit fractions Equivalence of half and two-quarters Recognise and find three-quarters Count in fractions up to a whole 	<p><u>Measures, introduce time, statistics and position</u></p> <ul style="list-style-type: none"> Measure in cm and m Order and compare lengths and heights Four operations with lengths and heights Measure in g and kg, m and l Compare mass, volume, and capacity Temperature Four operations with volume, capacity, mass Introduce o'clock, half past, quarter past, quarter to Tell time to 5 minutes Minutes in an hour; hours in a day Tally charts, tables, block diagrams and pictograms Draw, and interpret pictograms where symbols represent 2, 5 or 10 Use the language of position Describe movement and turns Shape patterns with turns
	<p>solving opportunities that they will encounter during their lives.</p>		

	<ul style="list-style-type: none"> Sort 2d and 3d shapes Make patterns with 2d and 3d shapes 		
Key Vocabulary (As Year 1 plus...)	Count in steps, count in multiples, place value, estimate, compare, sum of, 3 digit number, commutative, pentagon, hexagon, lines of symmetry, properties, cylinder, edges, vertices, vertex, apex	times tables, multiplication tables, repeated addition, three quarters, third, equivalent fraction, unit fraction, non-unit fraction, numerator, denominator, one whole, value, change	Standard units, estimate, record results, cm – centimetre, m – metre, kg – kilogram, g – gram, quarter full, three quarters full, L – litres, ml – millilitres, temperature, Celsius, degrees, interval of time, quarter past, quarter to, duration, clockwise, anticlockwise, straight line, rotation, arrange, sequences, pictogram, tally chart, block diagram, table, category, sorting, totalling, comparing, horizontal, vertical
SMSC	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills Studying a variety of approaches to solving problems. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? <p>Sharing resources within the classroom. Peer support and problem solving.</p>

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<p>Year 3</p>	<p><u>ue to 1000, addition, subtraction, multiplication and</u></p> <p>Represent and partition numbers to 100 Represent and partition numbers to 1000 Find 1, 10, 100 more or less Numberline Estimate, order and compare to 1000 Count in 50s Consolidate number bonds to 10 and 100</p> <p><u>division</u></p> <ul style="list-style-type: none"> • • Add and subtract 1s, 10s, 100s • • • Add and subtracts 1s across a 10 and add 10s across a 100 • • • • Add and subtract two numbers (no exchange) • • • • Add and subtract two numbers across a 10 and across 100 • • Add and subtract 2-digit and 3-digit number (no exchange) • • Add and subtract 2-digit and 3-digit numbers (across 10 or 100) • Estimate answers and inverse operation • Use arrays for multiplication and division • Sharing • • Grouping • • • Multiples of 2, 5, 10, 3, 4, 8 • • Multiply and divide by 3, 4 and 8 • • Times tables 2, 4, and 8 	<p><u>Multiply and divide, fractions and measure</u></p> <ul style="list-style-type: none"> • Multiples of 10 • Reasoning and related calculation about multiplication • Multiply 2 digit 1 digit number (no exchange) • Multiply 2 digit 1 digit number (with exchange) • Multiplication and division • Divide 2 digit number by 1 digit numbers • Divide 2 digit number by 1 digit numbers (remainders) • Scaling • Measure in cm, m, mm • Equivalent lengths, compare lengths • Add and subtract lengths • Measure and calculate perimeter • Measure mass in kg and g using scales • Equivalent mass, compare mass • Add and subtract mass • Measure capacity and volume in l and ml • Equivalent capacity and volume and compare capacity and volume • Add and subtract capacity and volume • Understand denominators and numerators of fractions • Order and compare unit fractions • Understand a whole • Fractions and scales, fractions on a number line • Equivalent fractions on number lines and bar models. 	<p><u>Fractions, time, money, angles, statistics</u></p> <ul style="list-style-type: none"> • Add and subtract fractions • Partition a whole • Unit and non-unit fractions of set of objects • Reasoning with fractions of amount • Pounds and pence, converting pounds and pence • Adding and subtracting money • Finding change • Roman numerals to 12 • Tell time to 5 minutes, then 1 minute • Read time on a digital clock • Using am and pm • Years, months, days and hours, minutes and seconds • Calculate durations and start and end times using hours and minutes • Units of time and solving problems with time • Turns, angles, right angles • Compare angles • Measure and draw angles • Horizontal, vertical, parallel and perpendicular • Recognise and describe 2d and 3d shapes • Draw polygons, make 3 d shapes • Draw and interpret pictograms • Draw and interpret bar charts • Collect and represent data • Two way tables
<p>Key Vocabulary</p>	<p>Ascending, descending, 10 or 100 more, 10 or 100 less, hundreds, column addition, column subtraction, exchange, estimate,</p>	<p>mathematical statement, missing number problem, integer scaling problem, correspondence problem, tenth, mm – millimetre, perimeter</p>	<p>Analogue, digital, roman numeral, 12 hour clock, 24 hour clock, am, pm, noon, midnight, leap year, right angle triangle, heptagon, octagon, polygon, properties, prism, orientation, angles, acute, obtuse, right angle, turn, half turn, three quarters of a turn, greater</p>
<p style="text-align: center;">solving opportunities that they will encounter during their lives.</p>			
<p>(As Year 2 plus...)</p>			<p>than a right angle, less than a right angle, horizontal line, vertical line, perpendicular lines, parallel lines, table, bar chart, one step problem, two step problem</p>



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<p>SMSC</p>	<ul style="list-style-type: none"> • Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. • Talking about their mathematical learning with peers and adults. • Develop depth of pupils' thinking skills. • Studying a variety of approaches to solving problems. • Develop reasoning skills to both support own ideas and disprove others. • Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? • Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> • Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. • Talking about their mathematical learning with peers and adults. • Develop depth of pupils' thinking skills. • Studying a variety of approaches to solving problems. • Develop reasoning skills to both support own ideas and disprove others. • Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? • Sharing resources within the classroom. Peer support and problem solving. 	<ul style="list-style-type: none"> • Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. • Talking about their mathematical learning with peers and adults. • Develop depth of pupils' thinking skills. • Studying a variety of approaches to solving problems. • Develop reasoning skills to both support own ideas and disprove others. • Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? • Sharing resources within the classroom. Peer support and problem solving. • Discuss the impact of cultural differences including different currencies, historical changes such as the Roman Numerals
<p>Year 4</p>	<p><u>Place value to 5 digits, add, subtract, times tables and area</u></p> <ul style="list-style-type: none"> • Represent and partition numbers to 1,000 • Number lines to 1,000 • Represent and partition numbers to 10,000 • Flexibly partition numbers up to 10,000 • Find 1, 10, 100 or 1,000 more or less • Number lines, estimate on a number line to 10,000 • Compare and order numbers to 10,000 • Roman numerals • Round to nearest 10, 100 and 1,000 • Add and subtract 1s, 10s, 100s and 1,000s • Add and subtract two 4-digit numbers (no exchange, one exchange then more than one exchange) • Estimate answers and checking strategies eg inverse • Area – count squares, make shapes with given areas and compare areas • Multiples of 3, • Multiply and divide by 6, 9, 7, 11, 12 and learn times tables facts • Multiply by 1 and 0; divide by 1 and itself • Multiply three numbers 	<p><u>Multiplication, division, perimeters, lengths, fractions, tenths and hundredths</u></p> <ul style="list-style-type: none"> • Recognise and use factor pairs • Multiply and divide by 10 and 100 • Related facts for multiplication and division • Informal written methods for multiplication • Multiply and divide 2-digit or 3-digit number by 1 digit number • Correspondence problems; efficient multiplication • Measure in km and m; look at equivalent lengths • Perimeters on a grid, rectangles and rectilinear shapes • Find missing lengths • Calculate perimeters of rectilinear shapes and polygons • Understand the whole when studying fractions • Count in fractions beyond one whole • Partition a mixed number • Use number lines, order and compare mixed numbers of wholes and fractions • Understand improper fractions • Convert mixed numbers to improper fractions and vice versa • Equivalent fractions on a number line, families • Add and subtract two or more fractions including mixed numbers • Tenths as fractions and decimals • Tenths on a place value chart and numberline • Divide 1 or 2 digit number by 10 • Hundredths as fractions and decimals • Hundredths on a place value chart • Divide 1 or 2 digit number by 100 	<p><u>Tenths, hundredths, rounding, money, time, angles, symmetry, statistics and co-ordinates</u></p> <ul style="list-style-type: none"> • Make a whole with tenths or hundredths • Partition, compare and order decimals • Round to nearest whole number • Halves and quarters as decimals • Write money as decimals • Convert between pounds and pence • Compare, estimate, calculate with money • Solve problems with money • Years, months, weeks, days, hours, minutes and seconds • Convert between analogue and digital times • Convert to and from 24 hour clock • Understand angles as turns • Identify angles, compare and order angles • Recognise a variety of triangles, quadrilaterals and polygons (name, sort, properties) • Angles for triangles, quadrilaterals and polygons • Lines of symmetry and complete a symmetric figure • Interpret and draw charts and line graphs • Comparison, sum and difference using data • Describe and plot co-ordinates • Draw 2D shapes on a grid • Translate and describe translation of shapes on a grid

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<p>Key Vocabulary (As Year 3 plus...)</p>	<p>Negative numbers, roman numerals, 1000 more, 1000 less, thousands, round, rounding, 4 digit number, operations, methods, strategies, area</p>	<p>Factor pairs, formal written layout, distributive law, remainder, decimal, decimal point, decimal equivalence, hundredths, convert, proper fraction, improper fraction, mixed number, km – kilometre,</p>	<p>Rectilinear figure / shape, isosceles, equilateral, scalene, trapezium, rhombus, parallelogram, kite, geometric shapes, quadrilaterals, coordinates, first quadrant, grid, translation, plot, polygon, axis, time graph, discrete data, continuous data, line graph, comparison problem, interpret</p>
<p>SMSC</p>	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics
<p>Year 5</p>	<p><u>Place value to 1,000,000; add and subtract 4 digits, multiplication, division, fractions</u></p> <ul style="list-style-type: none"> Roman numerals to 1000 Numbers to 10,000 and 100,000, and 1,000,000 Read and write numbers to 1,000,000 Powers of 10 10, 100, 1,000, 10,000 and 100,000 more or less Partition numbers, number lines to 1,000,000 Compare and order numbers to 100,000 and 1,000,000 Round to nearest 10, 100, 1,000 Round within 10,000 and 100,000 Addition and subtraction mental strategies Add and subtract numbers with more than 4 digits Round to check answers, inverse operations Multi-step addition and subtraction problems Compare calculations, find missing numbers Multiples and common multiples Factors and common factors Prime numbers, square numbers and cubed numbers Multiply and divide by 10, 100 and 1,000 Multiples of 10, 100 and 1,000 Fractions equivalent to unit and non-unit fraction Recognise equivalent fractions Convert improper fractions to mixed number and vice versa Compare and order fractions less than 1, greater than 1 	<p><u>Multiplication, division, fractions, decimals, percentages, area, perimeter, line graphs and timetables</u></p> <ul style="list-style-type: none"> Multiply a 4 digit number by 1 digit number Multiply a 2 digit number by 2 digit number Multiply a 3 digit and 4 digit number by 2 digit number Solve multiplication problems Short division Divide a 4 digit by 1 digit number Divide with remainders Efficient division Solve problems with multiplication and division Multiply a unit, non-unit fraction or mixed number by an integer Calculate fraction of a quantity Fraction of amount; find the whole; use fractions as operators Decimals up to 2 decimal places Equivalent fractions and decimals for tenths and hundredths Thousandths as fractions and decimals, on a place value chart Order and compare decimals Round to nearest whole number, one decimal place Percentages; percentages as fractions and decimals Equivalent fractions, decimals and percentages Perimeter of rectangles, rectilinear shapes and polygons 	<p><u>Angles, co-ordinates, symmetry, decimals, multiply and divide, negative numbers, measurements</u></p> <ul style="list-style-type: none"> Understand and use degrees Classify angles, estimate and measure angles up to 180 degrees Draw lines and angles accurately Calculate angles around a point and on a straight line Lengths and angles in shapes Angles in regular and irregular polygons and 3d shapes Read and plot co-ordinates, problem solving with coordinates Translation with co-ordinates Lines of symmetry including reflection in vertical and horizontal lines Use known facts to add and subtract decimals within 1 Complements to 1; add and subtract decimals across 1; Add and subtract decimals with the same and different number of decimal places Efficient strategies for adding and subtracting decimals Decimal sequences Multiply and divide by 10, 100 and 1,000 Multiply and divide decimals and find missing values Negative numbers and compare and order negative numbers, find the difference between negative numbers Count through zero in 1s and multiples

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	<ul style="list-style-type: none"> Add and subtract fractions with the same denominator Add fractions within 1 and with a total greater than 1 Add fractions to a mixed number, add two mixed numbers Subtract fractions, including from a mixed number (breaking the whole) and two mixed numbers 	<ul style="list-style-type: none"> Area of rectangles and compound shapes, estimate area Draw, read and interpret line graphs, tables, 2 way tables <ul style="list-style-type: none"> Read and interpret timetables 	<ul style="list-style-type: none"> Kg, g and km and cm, m and mm and ml – convert different metric measurements Convert between metric and imperial units Convert units of time Calculate with timetables Cubic cm Compare and estimate volume and capacity
Key Vocabulary (As Year 4 plus...)	Ten thousand, one hundred thousand, powers of..., integer, factor, multiple, prime number, square number, cube number, product, dividend, divisor, quotient, operations, fifth, mixed number, percent % , complement,	Thousandth, short division, decimal notation, scaling, metric unit, imperial unit, inches, compound shape, irregular shape, square cm, square m	Cubic cm, pounds, pints, regular polygon, irregular polygon, reflex angle, one whole turn, angles on a straight line, angles around a point, vertically opposite, missing angles, reflection, timetable, twoway timetable
SMSC	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics

Folly View and The Elms Primary Schools

Long Term Plan

SUBJECT: MATHS



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<p>Year 6</p>	<p>Place Value, Addition and Subtraction, Multiplication and Division, Fractions and Percentages (Arithmetic focus)</p> <ul style="list-style-type: none"> • Read & write numbers to 10,000,000 • Count up and down in any interval from any given starting point (inc negative numbers and decimals) • Know place value of all digits from thousandths to ten millions (inc decimals) • Ordering numbers (inc negative numbers and decimals) • Comparing numbers < and > (inc negative numbers and decimals) • Multiply and divide numbers (inc decimals) by 10, 100, 1000 • Calculations with negative numbers • Accurately complete ascending and descending number sequences (inc negative numbers and decimals) • ADDITION & SUBTRACTION: 	<p>Measures, Ratio, Algebra, Fractions, Decimals, Percentages, Area, Perimeter, Volume, Statistics</p> <ul style="list-style-type: none"> • Measures and conversion • Add or multiply? • Use ratio language • Introduction to the ratio symbol • Ratio and fractions • Scale drawing Use scale factors • Similar shapes • Ratio problems • Proportion problems • Recipes • 1-step function machines • 2-step function machines • Form expressions • Substitution 	<p>Shape, Position and Direction, Review</p> <ul style="list-style-type: none"> • Measure and classify angles • Calculate angles • Vertically opposite angles • Angles in a triangle • Angles in a triangle – special cases • Angles in a triangle – missing angles • Angles in a quadrilateral • Angles in polygons • Circles • Draw shapes accurately • Nets of 3-D shapes • The first quadrant • Read and plot points in four quadrants • Solve problems with coordinates • Translations
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	<ul style="list-style-type: none"> Add 2 or more numbers together accurately up to 10,000,000 (inc decimals) using column addition (practice daily until no mistakes) Accurate column subtraction (inc decimals) – practice daily with addition, until no mistakes MULTIPLICATION: Short multiplication with whole numbers and decimals (practice daily with addition & subtraction, until no mistakes) Long multiplication with whole numbers and decimals (practice daily with addition, subtraction & short multiplication, until no mistakes) DIVISION: Short division with whole numbers (practice daily with addition, subtraction, short multiplication & long multiplication, until no mistakes) Short division, dividing by 2-digit numbers OR long division (practice daily with addition, subtraction, short multiplication & long multiplication, short division until no mistakes) CALCULATIONS WITH FRACTIONS: (practice daily, adding each new objective, along with all arithmetic learnt so far) Adding and subtracting fractions with same denominator Adding and subtracting fractions with different denominator Multiplying fractions Dividing fraction by whole number Multiplying fraction by whole number Converting improper fraction to mixed number and vice versa Calculations with mixed numbers and improper fractions Percentages of amounts 50%, 10%, 25%, 75% 20%, 30%, 40%, 60% etc 5%, 15%, 35% etc 1%, 2%, 3% etc 23%, 18%, 77% etc 99%, 98% Percentage increase 	<ul style="list-style-type: none"> Formulae Form equations Solve 1-step equations Solve 2-step equations Find pairs of values Solve problems with two unknowns Place value within 1 Place value – integers and decimals Decimals and percentages consolidation Add and subtract decimals Multiply and divide by 10, 100 and 1000 Multiply and divide decimals by integers Multiply and divide decimals in context Shapes – same area Area and perimeter Area of a triangle – counting squares Area of a right-angled triangle Area of any triangle Area of a parallelogram Volume – counting cubes Volume of a cuboid Line graphs Dual bar charts Read and interpret pie charts Pie charts with percentages Draw pie charts The mean 	<ul style="list-style-type: none"> Reflections
Key Vocabulary (As Year 5 plus...)	Millions, ten millions, multidigit numbers, long division	Ratio, relative size, proportion, integer multiplication, scale factor, unequal sharing, unequal grouping, algebra, formula, formulae, linear number sequence, algebraically, equation, unknowns, combinations, variables, miles, conversion, parallelogram, feet, cubic m, cubic mm, cubic km, gallons, stones, ounces, pie chart, mean	radius, diameter, circumference, dimensions, four quadrants, coordinate plane
SMSC	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world. 	<ul style="list-style-type: none"> Making connections between numeracy skills and real life. Including pattern finding in the human made and natural world.



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	<ul style="list-style-type: none"> Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 	<ul style="list-style-type: none"> Analysing social data e.g. information on health, population, poverty, bullying, etc (links to History, Geography, PSHCE) Talking about their mathematical learning with peers and adults. Develop depth of pupils' thinking skills. Studying a variety of approaches to solving problems. Develop reasoning skills to both support own ideas and disprove others. Engaging pupils playfully; for example, in unequal shares of resources, why might someone be upset if they received less than other people? Sharing resources within the classroom. Peer support and problem solving. Discuss the impact of cultural differences including different currencies, historical changes such as Roman Numerals and symbols used within Mathematics 			
Year 7	<p><u>Analysing & displaying data</u></p> <p><u>Number skills</u></p> <p>Interpret and construct tables, charts & diagrams. Analyse and compare the distribution of data sets. Order positive & negative integers, decimals, fractions & mixed numbers. Factorisation of numbers, including HCF & LCM. BIDMAS including powers, roots, reciprocals & inverse operations.</p>	<p><u>Algebra – expressions, functions & formulae</u></p> <p><u>Decimals & measures</u></p> <p>Use and interpret algebraic manipulation. Substitution of numbers into algebraic functions. Simplify and manipulate algebraic expressions. Use standard units of measure and related concepts. Work with coordinates in all four quadrants. Use scale factors and measures.</p>	<p><u>Fractions</u></p> <p><u>Probability</u></p> <p>Interpret fractions and percentages as operators. Identify and work with fractions in ratio problems. Express one quantity as a fraction of another, less than and greater than 1. Relate relative expected frequencies to theoretical probability, use appropriate language and the numerical probability scale.</p>	<p><u>Ratio</u></p> <p><u>Proportion</u></p> <p>Use ratio notation, including reduction into simplest form. Divide a given quantity into two parts in a given ratio. Express the division of a given quantity into two parts as a ratio. Apply ratio to real contexts and problems.</p>	<p><u>Lines & angles</u></p> <p><u>Sequences & graphs</u></p> <p>Use conventional terms and notations for lines and angles. Apply the properties of angle laws. Understand and use corresponding and alternate angles on parallel lines. Derive and apply the properties and definitions of triangles and special quadrilaterals. Generate terms of a sequence from term to term and position to term. Understand equations of lines.</p>	<p><u>Transformations</u></p> <p>Use congruence criteria for triangles. Identify, describe and construct congruent and similar shapes. Understand transformation of shapes, including rotation, reflection, translation and enlargement. In regard to enlargement, centre of enlargement and positive scale factors are to be understood.</p>