



The Cornwall Independent School

Maths Topics – Whole School

Support
Strive
Succeed

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 Maths	<p>Number and place Value - counting and identifying numbers to 20, one more and one less counting forwards and backwards, ordinal numbers. Addition and Subtraction – using facts for 5 then 10, representing addition and subtraction in a formal written sum. Doubling, Linking patterns of calculations, problem solving Shape – Recognising 2D shapes and their properties. Measures – length and height using standard and nonstandard units. Learning to use a ruler.</p>	<p>Multiplication and division – counting in 2,5,10's making arrays and linking sums recognise division as sharing. Position and direction – use words relating to position and movement, whole half and quarter turns. Addition and Subtraction – Addition facts for 10 then 15 missing number sums and problem solving. Fractions Recognise half an object or shape, combine halves to make a whole. Money – Recognise coins, choose coins to pay an amount solve simple money word problems</p>	<p>Number and Place Value – comparing and ordering numbers one or two more or less, odd and even, Shape – creating repeating patterns, identifying common 3D shapes differentiate between 2D and 3D. Addition and Subtraction – complete sums to 20, one step problems with money create sums. - Multiplication and Division – count in 2,5,10's make connections between arrays and number patterns, multiply by grouping quantities, division by sharing out quantities.</p>	<p>Mass – comparing the mass of objects comparing using terms such as heavier and lighter, use a balance, weigh objects using nonstandard units, use weighing scales. Addition and Subtraction – addition and subtraction facts for 10 then 20. Linking calculations, identifying patterns of calculations. Time – days months and seasons. Understanding the hour and telling the time to o'clock and half past. Place Value – numbers to 20 and beyond. Counting forwards and back within 100 comparing numbers using mathematical terms. Fractions half and quarter of a shape and number, making a whole. Capacity – measure capacity using nonstandard units introducing the litre.</p>	<p>Place Value – numbers to 20 and beyond. Counting forwards and back within 100 comparing numbers using mathematical terms. Addition and subtraction – Doubling numbers to 10, identifying near doubles, Linking +/- sums. Position and direction – use words relating to position and movement, whole half and quarter turns. Multiplication and division – counting in 2,5,10's making arrays explore patterns of numbers. Multiplication as repeated addition of small quantities division as sharing small quantities. Length and Height – cm and m estimation and measuring problem solving</p>	<p>Addition and Subtraction – addition and subtraction facts to 20 patterns of similar calculations, number problems adding 1 digit to 2 digit numbers addition and subtraction within 20 and then beyond. Shape - recognise common 2D and 3D shapes and their properties. Multiplication and division. Doubling, halves and quarters of amounts finding simple fractions of numbers. Fractions – Half and quarter of a shape or number sharing out amounts equally. Time – O' clock and half past times, drawing hands on the clock problem solving relating to time.</p>

<p>Year 2 Maths</p>	<p>Number and place value – numbers to 50 recognising values of two-digit numbers, compare and order numbers to 50 Addition and subtraction addition and subtraction to 20, linking calculations and finding the difference. Applying different mental maths skills, patterns of calculations and working with +/- to 100. Geometry – naming and identifying the properties of 2D shape, identifying lines of symmetry. Length and Height estimate and measure length in cm and m and convert them compare using > and <</p>	<p>Number/multiplication – Counting in 2s and 5's linking multiplication and division, arrays, repeated addition, problem solving. Position and direction – patterns and sequences involving 2D shapes, compass points, coordinates giving directions around a map or grid. Multiplication and Division – counting in 10's linking multiplication and division, arrays, repeated addition, problem solving. Fractions – finding halves and quarters of a shape or quantity. Time – o'clock half past quarter past and quarter to. Drawing hands on the clock and telling the time identify time to the five-minute intervals.</p>	<p>Number and place Value – Counting in threes, read and write numbers to 100 compare and order numbers to 100, estimate numbers on the number line. Addition and Subtraction – Add two digit numbers and a single one doubles numbers to 20, subtract 2 digit numbers and ones. Gathering totals with money. Shape – 3D Shapes and their properties, comparing and sorting shapes. Number and Multiplication and division – count in 2,5,10's recall and use multiplication facts. Problems solving and using arrays. Mass – Estimate and measure mass in kg convert units, order and compare mass using > and < and =</p>	<p>Addition and subtraction – add and subtract two digit numbers and tens. Missing number sums, add three one digit numbers show addition can be done in any order, add a near multiple of 10 to a two digit number, identify different coins to pay a given amount, money problems including giving change. Statistics – sort objects into groups and compare totals, create tally charts and carroll diagrams, interpret and construct a frequency table sort data in a venn diagram. Multiplication and division – count in 2, 5 and 10's, recall facts, link patterns between multiplication and division, record sums. Fractions – Identify $\frac{1}{2}$ $\frac{1}{4}$ and $\frac{1}{3}$ of shapes and amounts. Capacity measure in litres and Millilitres order and compare capacity</p>	<p>Number and place value counting in three's place value of numbers up to 100, compare numbers to 100. Addition and Subtraction – add two two-digit numbers using a number line or number square. Position and Direction – describe turns as clockwise and anti-clockwise and as full half or quarter turns use right angles. Give directions to navigate a course. Multiplication and Division – count in 2,5,10's recall multiplication and division facts for 2,5,10 times tables. Problem solving Measures including temperature problem solving compare order and convert measures use standard units.</p>	<p>Addition and Subtraction Add and subtract two two-digit numbers by partitioning, Problem solving applying increasing knowledge of methods. Add and subtract using expanded written method, problem solving using written methods. Statistics – Make a block diagram and answer questions from data gathered compare pictograms and block diagrams present information about charts to the group. Multiplication and Division – Count forwards and backwards in 2, 5 and 10's calculate mathematical statements for times tables Problem solving. Fractions – Compare relative size of fractions, mark them on a number line find a fraction of objects. Time – Write and tell the time to a five-minute interval, compare and sequence intervals of time and identify durations</p>
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Year 3	<p>Number and place value- partitioning and ordering numbers to 1000. Addition and subtraction- 2 and 3 digit numbers. Properties of shape- 3D models and shapes. Multiplication and division- 2's, 3's, 5's and 10's. Fractions- recognising, finding and adding fractions. Measurement (mass)- kilograms and grams.</p>	<p>Addition -adding 1's. 10's and 100's. solving word problems. Subtraction-subtracting 1's. 10's and 100's. solving word problems. Geometry- right angles, turning patterns and following instructions. Multiplication- counting in 4's, 8's and doubling. Solving word problems. Measurement (time) – timelines, telling the time to the minute.</p>	<p>Number and place value- ordering numbers and money amounts. Addition and subtraction- Adding money and finding change. Shop word problems. Geometry- Naming, describing and making 2D shapes. Multiplication and division- 2's, 4's and 8's and solving word problems. Fractions- linking fractions and division, non-unit fractions, comparing fractions. Measurement – Using centimetres and millimetres. Adding and subtracting length.</p>	<p>Addition -Expanded method of column addition into formal column addition. Mental addition. Subtraction-Written methods and mental subtraction strategies. Money problem solving. Statistics- Tally charts, tables, pictograms and bar charts. Multiplication and Division-Multiples, revising known multiplication and division facts. Solving word problems. Fractions- Ordering, comparing, subtracting and equivalent fractions. Measurement – Perimeters of regular and 2D shapes.</p>	<p>Number and Place Value- ordering and partitioning 3 digit numbers. Addition and Subtraction- column method and solving word problems. Geometry- horizontal, vertical, perpendicular and parallel lines. Multiplication- Partitioning, grid method and expanded method for multiplying large numbers. Fractions- equivalent, tenths and real-life problems involving fractions. Measure- volume and capacity, adding and subtraction millilitres and litres.</p>	<p>Addition- estimating and checking column addition. Shopping scenarios. Subtraction- estimating and checking column subtraction. Measure- time, minutes and race times. Using a calendar. Multiplication- expanded and then formal written method. Solving word problems. Division- partitioning, expanded and then formal method. Solving word problems. Statistics- pictograms and bar charts. End of year assessment.</p>
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<p>Year 4</p>	<p>Number and place value- 4 digit numbers and ordering beyond 1000. Addition and subtraction-mental strategies, solving one and two step problems. Properties of shape- symmetry. Multiplication and division- 9 and 6 times tables. Fractions- equivalent and non-unit fractions. Geometry- Translating 2D shapes, coordinates map.</p>	<p>Addition and subtraction- addition chains, word problems, column method. Decimals- comparing and rounding. Decimals in everyday things. Measurement (mass) Estimating and rounding mass, using standard weights. Multiplication and division- square numbers, factors and multiples. Multiplication- partitioning, grid method and expanded method to multiply large numbers. Measurement (Time)- Units of time, 12 hour and 24 hr clock.</p>	<p>Number and place value- ordering, rounding and negative numbers. Subtraction-mental strategies, column subtraction and problem solving. Geometry-angles. Identify acute and obtuse angles. Regular and irregular 2D shapes. Multiplication and division- Multiples of 25,100 and 1000. Formal multiplication method. Word problems. Fractions- Finding hundredths and tenths, solving fraction problems. Measure-length. Converting between units and solving word problems.</p>	<p>Addition and subtraction- mental strategies, two step problems. Addition and subtraction- Written strategies, two step problems, ordering and adding money. Statistics- bar charts, time graphs and pictograms. Multiplication -Using different written strategies, solving word problems. Decimals- Hundredths, comparing decimals, dividing by 10 and 100 to get decimals. Measurement-Perimeter and area.</p>	<p>Number and place value- ordering, rounding, negative numbers and roman numerals. Addition and subtraction- Written addition and subtraction. Ordering and adding money. Properties of shape- Types of triangles and types of quadrilaterals. Multiplication- large numbers using formal method. Solving word problems. Fractions- equivalent fractions. Adding and subtracting fractions. Measure- Estimating and rounding capacity.</p>	<p>Addition and subtraction- ordering and subtracting money. Word problems involving money. Decimals- Tenths and hundredths. Comparing and rounding decimals. Geometry- Coordinates. Plotting points and making shapes. Division- Partitioning and then Formal written method, solving word problems. Statistics – Bar charts and time graphs. End of year assessments.</p>
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<p>Year 5</p>	<p>Number and place value- Ordering, counting on and back and rounding 5 digit numbers. Addition and subtraction-Mental strategies for adding and subtracting involving 5 digit numbers. Words problems. Properties of shape- Describing, naming, drawing and working with 3D shapes. Multiplication and division- Multiplying by adjusting. Halving numbers. Fractions- Finding, sequencing and ordering fractions. Equivalent fractions Geometry-Translating 2D shapes and with coordinates.</p>	<p>Addition and subtraction- mental and written addition challenges. Decimals- Sequencing, rounding and linking decimals with fractions. Measurement (mass) Converting mass, using metric and imperials unit, and problem solving. Multiplication and division- square and cube numbers. Multiples and factors. Multiplication and Division- Prime numbers, division strategies, solving problems. Measurement (Time)- Units of time, 12 hour and 24 hr clock. Time problems.</p>	<p>Number and place value- 6 Digit number- counting and rounding. Negative numbers. Subtraction-Mental and written subtraction including subtracting decimals. Geometry- Naming, measuring, drawing and identifying angles. Division- Division with a remainder, fraction remainder and decimal remainder. Fractions- Thousandths. Putting fractions un orders, adding and subtracting fractions. Measure-Converting lengths, using metric and imperial units. Lengths and distances.</p>	<p>Decimals-Ordering and rounding thousandths. Decimal problems. Addition and subtraction- Adding and subtracting decimals. Decimal problems. Statistics-Line graphs, data in tables and timetables. Multiplication –Partitioning, grid method and expanded methods. Solving word problems. Percentages- Hundredths, decimal hundredths, percentage problems. Measurement-Perimeter and area. Finding missing lengths and finding the area of regular and irregular shapes.</p>	<p>Number and place value- 6 digit ordering, counting and rounding. Roman numerals. Addition and subtraction- Written and mental addition and subtraction. Properties of shape-Rectangles, diagonal lines, regular and irregular polygons, missing angles. Multiplication- Written methods, using factors, solving word problems. Fractions-Improper fractions and mixed numbers, multiplying proper fractions and multiplying mixed numbers. Measure-Volume and capacity. Volume of cuboids. Converting.</p>	<p>Addition and subtraction- Addition and subtraction targets, word problems. Percentages- Linking percentages, fractions and decimals. Calculating percentages. Geometry- Position and direction. Reflecting shapes. Multiplication and Division- Looking at most efficient methods. Solving money problems. Statistics – Data in tables, time graphs. End of year assessments.</p>
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Year 6	<p>7 digit numbers, place value and rounding Addition and subtraction – mentally including decimals 3D shapes – nets of shapes Multiplication of 4 digit numbers by 2 digit numbers using formal written method Fractions – factors and multiples, ordering adding and subtracting Position and direction in four quadrants to translate and reflect shapes</p>	<p>Written addition and subtraction including decimals Decimals up to 3 decimal places – multiplying, dividing and rounding Measurement – length Multiples and factors and division of a 4-digit number by a 1-digit number Fractions and decimal equivalents and percentages Measurement - time</p>	<p>Negative numbers and BODMAS Algebra – simple formulae and number sequences 2D shapes – drawing and measuring angles Multiplication of a 3 digit by a 2-digit number– moving to the formal written method Multiplication of decimals Measurement - mass</p>	<p>Fractions- addition, subtraction, multiplication and division Ratio and proportion Statistics – pie charts and line graphs Division of 3 and 4 digit numbers by a 2-digit number moving to the formal written method Division of decimals moving to the formal written method Measurement – perimeter and area</p>	<p>Mental addition and subtraction and order of operations (BODMAS) Algebra – formulae and sequences Geometry – properties of circles Multiplication of decimals by a 2-digit number Fractions, factors and multiples Measurement – volume and capacity</p>	<p>Order of operations- BODMAS Ratio and proportion Geometry – position and direction in the four quadrants Divisibility tests Fractions including decimals and percentages Statistics – pie charts and carrying out a survey</p>
Year 7	<p>Getting comfortable with algebra: <i>Sequences. Understanding Algebraic lingo. Equality and equivalence.</i></p>	<p>Place value and proportion: <i>Place value, ordering integers and decimals. Fractions, decimals and percentages equivalence</i></p>	<p>Working with Numbers: <i>Solving problems with addition and subtraction Solving problems with multiplication and division Percentages and fractions of amounts</i></p>	<p>Working with Numbers: <i>Working with negative numbers Adding and subtracting fractions</i></p>	<p>Geometry: <i>Geometric lingo and notation Measuring and constructing Geometric reasoning and deduction</i></p>	<p>Reasoning with numbers: <i>Probability Primes, squares and beyond. End of year assessment and enrichment</i></p>

Year 8	Proportional reasoning: <i>Ratio and scale</i> <i>Conversions and change</i> <i>Multiplying and dividing fractions</i>	Representations: <i>Working with graphs and lines</i> <i>Representing data</i>	Algebraic techniques: Brackets, equations and inequalities Sequences Indices	Developing number skills: <i>Fractions and percentages</i> <i>Standard index form</i> <i>Number sense and logic</i>	Developing geometry: <i>Angles in parallel lines and polygons</i> <i>Working with circles</i> <i>Lines of symmetry and reflections</i>	Working with data: <i>Representing data visually</i> <i>The data handling cycle</i> End of year assessment and enrichment
Year 9	Reasoning with algebra: <i>Straight line graphs</i> <i>Forming and solving equations</i> <i>Proving through algebra</i>	Geometry and constructions: <i>3D shapes</i> <i>Constructing 2d and 3d shapes.</i> <i>Similarity and congruence</i>	Reasoning with numbers: <i>Percentages</i> <i>Financial maths</i>	Geometry: <i>Chains of reasoning with angle facts.</i> <i>Rotations and translations</i> <i>Pythagoras' theorem</i>	Reasoning with proportion: <ul style="list-style-type: none"> - <i>Enlargements and similarity</i> - <i>Ratio and proportion problems</i> <i>Rates of change</i>	Probability: <i>Tree diagrams</i> <i>Venn diagrams</i> End of year assessment and enrichment
Year 10	Proportion and similarity: <i>Enlargement, similarity and congruence</i> <i>Trigonometry</i>	Developing algebra: <i>Equations and inequalities</i> <i>Simultaneous equations</i>	Geometry: <i>Angles and bearings</i> <i>Working with circles</i> <i>Vectors</i>	Proportion: <i>Ratio and fractions</i> <i>percentages and interest</i> <i>Probability</i>	Working with numbers and data: <i>Collecting, representing and interpreting data</i> <i>Non calculator methods</i>	Working with numbers: <i>Sequences</i> <i>Indices and roots</i> Algebraic Manipulation End of year assessment and enrichment

Year 11	Graphs: Straight line graphs Non-linear graphs Using graphs	Algebra: Expanding and factorising Algebraic fractions Changing the subject Functions	Reasoning: Multiplicative reasoning Geometric reasoning Algebraic reasoning	Tying up loose ends: Probability Proof Consolidation of areas for development	Revision	Exams
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