



St John Fisher RC Primary School

Maths Skills and Knowledge Progression

	NUMBER & PLACE VALUE	ADDITION & SUBTRACTION	MULTIPLICATION & DIVISION	FRACTIONS	MEASUREMENT	SHAPE	POSITION & DIRECTION	ALGEBRA
REC	Counting - Counts objects, actions and sounds - Is able to subitise (recognise how many objects there are in a small group without counting) - Is able to link the number symbol (numeral) with its cardinal number value - Can count beyond ten Comparing Numbers - Is able to compare numbers - Understands the 'one more than/one less than' relationship between consecutive numbers - Is able to explore the composition of numbers to 10 - Is able to subitise (recognise quantities without counting) up to 5	Number Bonds - Automatically recalls number bonds for numbers 0–5 and some to 10 - Automatically recalls (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts - Has a deep understanding of number to 10, including the composition of each number			Comparing & Estimating - Can compare length, weight and capacity - Can compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity - Can make comparisons between objects relating to size, length, weight and capacity	Identifying Shapes & Their Properties - Selects shapes appropriately; flat surfaces for building, a triangular prism for a roof etc. - Can talk about and explore 2D and 3D shapes (e.g. circles, rectangles, triangles and cuboids) using informal and mathematical language; 'sides', 'corners', 'straight', 'flat', 'round' - Can select, rotate and manipulate shapes in order to develop spatial reasoning skills - Investigates composing and decomposing shapes and recognises a shape can have other shapes within it, just as numbers can	Position, Direction & Movement - Understands position through words alone, e.g. "The bag is under the table," - with no pointing - Can describe a familiar route - Is able to discuss routes and locations, using words like 'in front of' and 'behind'	Sequences - Is able to explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally - Is able to continue, copy and create repeating patterns Verbally counts beyond 20, recognising the pattern of the counting system



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Y1	Counting - Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens - Given a number, identify one more and one less Comparing Numbers - Use the language of: equal to, more than, less than (fewer), most, least Identifying, Representing & Estimating Numbers - Identify and represent numbers using objects and pictorial representations including the number line Reading & Writing Numbers Read and write numbers from 1 to 20 in numerals and words	Number Bonds - Represent and use number bonds and related subtraction facts within 20 Mental Calculation - Add and subtract one-digit and two-digit numbers to 20, including zero - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods) Written Methods - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation) Problem Solving Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	Multiplication & Division Facts Count in multiples of twos, fives and tens (copied from Number and Place Value) Problem Solving Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Recognising Fractions - Recognise, find and name a half as one of two equal parts of an object, shape or quantity - Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Comparing & Estimating - Compare, describe and solve practical problems for: - lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] - mass/weight [e.g. heavy/light, heavier than, lighter than] - capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] - time [e.g. quicker, slower, earlier, later] - sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] Measuring & Calculating - Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds) Measuring & Counting Money - Recognise and know the value of different denominations of coins and notes Telling The Time - Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times - Recognise and use language relating to dates, including days of the week, weeks, months and years	Identifying Shapes & Their Properties - Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [e.g. rectangles (including squares), circles and triangles] 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	Position, Direction & Movement Describe position, direction and movement, including half, quarter and three-quarter turns		- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ (copied from Addition and Subtraction) - Represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction) Sequences Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied from Measurement)



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Y2	Counting - Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Comparing Numbers - Compare and order numbers from 0 up to 100; use <, > and = signs Identifying, Representing & Estimating Numbers - Identify, represent and estimate numbers using different representations, including the number line Reading & Writing Numbers - Read and write numbers to at least 100 in numerals and in words Understanding Place Value - Recognise the place value of each digit in a two-digit number (tens, ones) Problem Solving - Use place value and number facts to solve problems	Number Bonds - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Mental Calculation - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one-digit numbers - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Inverse Operations, Estimating & Checking Answers - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Problem Solving - Solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from Measurement)	Multiplication & Division Facts - Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (copied from Number and Place Value) - Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Mental Calculation - Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Written Calculation - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Problem Solving - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Counting In Fractional Steps - Pupils should count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance) Recognising Fractions - Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity Equivalence (Including Fractions, Decimals & Percentages) - Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Comparing & Estimating - Compare and order lengths, mass, volume/capacity and record the results using >, < and = - Compare and sequence intervals of time Measuring & Calculating - Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Measuring & Counting Money - Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value - Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change Telling The Time - Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times - Know the number of minutes in an hour and the number of hours in a day. (appears also in Converting) Converting - Know the number of minutes in an hour and the number of hours in a day	Identifying Shapes & Their Properties - Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces - Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Drawing & Construction - Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them Comparing & Classifying - Compare and sort common 2-D and 3-D shapes and everyday objects	Position, Direction & Movement - Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) Pattern - Order and arrange combinations of mathematical objects in patterns and sequences	Interpreting, Constructing & Presenting Data - Interpret and construct simple pictograms, tally charts, block diagrams and simple tables - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity - Ask and answer questions about totalling and comparing categorical data	Equations - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. (copied from Addition and Subtraction) - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction) Sequences - Compare and sequence intervals of time (copied from Measurement) - Order and arrange combinations of mathematical objects in patterns (copied from Geometry: position and direction)



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Y3	Counting - Count from 0 in multiples of 4, 8, 50 and 100; - find 10 or 100 more or less than a given number Comparing Numbers - compare and order numbers up to 1000 Identifying, Representing & Estimating Numbers - Identify, represent and estimate numbers using different representations Reading & Writing Numbers - Read and write numbers up to 1000 in numerals and in words - Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement) Understanding Place Value - Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) Problem Solving - Solve number problems and practical problems involving these ideas	Mental Calculation - Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds Written Methods - Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Inverse Operations, Estimating & Checking Answers - Estimate the answer to a calculation and use inverse operations to check answers Problem Solving - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Multiplication & Division Facts - Count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value) - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Mental Calculation - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Written Methods) Written Calculation - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Mental Methods) Inverse Operations, Estimating & Checking Answers - Estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction) Problem Solving - Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	Counting In Fractional Steps - Count up and down in tenths Recognising Fractions - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators - Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10 - Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Comparing Fractions - Compare and order unit fractions, and fractions with the same denominators Equivalence (Including Fractions, Decimals & Percentages) - Recognise and show, using diagrams, equivalent fractions with small denominators Addition & Subtraction Of Fractions - Add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) Problem Solving - Solve problems that involve all of the above	Comparing & Estimating - Compare durations of events, for example to calculate the time taken by particular events or tasks - Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time) Measuring & Calculating - Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) - Measure the perimeter of simple 2-D shapes Measuring & Counting Money - Add and subtract amounts of money to give change, using both £ and p in practical contexts Telling The Time - Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks - Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight Converting - Know the number of seconds in a minute and the number of days in each month, year and leap year	Angles - Recognise angles as a property of shape or a description of a turn - Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Interpreting, Constructing & Predicting Data - Interpret and present data using bar charts, pictograms and tables Solving Problems - Solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	Equations - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction) - Solve problems, including missing number problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)



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Y4	Counting - Count backwards through zero to include negative numbers - Count in multiples of 6, 7, 9, 25 and 1000 - Find 1000 more or less than a given number Comparing Numbers - Order and compare numbers beyond 1000 - Compare numbers with the same number of decimal places up to two decimal places (copied from Fractions) Identifying, Representing & Estimating Numbers - Identify, represent and estimate numbers using different representations Reading & Writing Numbers - Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value Understanding Place Value - Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths (copied from Fractions) Rounding - Round any number to the nearest 10, 100 or 1000 - Round decimals with one decimal place to the nearest whole number (copied from Fractions) Problem Solving - Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Written Methods - Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Inverse Operations, Estimating & Checking Answers - Estimate and use inverse operations to check answers to a calculation Problem Solving - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Multiplication & Division Facts - Count in multiples of 6, 7, 9, 25 and 1000 (copied from Number and Place Value) - Recall multiplication and division facts for multiplication tables up to 12×12 Mental Calculation - Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers - Recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) Written Calculation - Multiply two-digit and three-digit numbers by a one-digit number using formal written layout Properties of Numbers: Multiples, Factors, Square & Cube Numbers - recognise and use factor pairs and commutativity in mental calculations (repeated) Inverse Operations, Estimating & Checking Answers - Estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction) Problem Solving - Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Counting in Fractional Steps - Count up and down in hundredths Recognising Fractions - Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Comparing Decimals - Compare numbers with the same number of decimal places up to two decimal places Rounding Including Decimals - Round decimals with one decimal place to the nearest whole number Equivalence (Including Fractions, Decimals & Percentages) - Recognise and show, using diagrams, families of common equivalent fractions - Recognise and write decimal equivalents of any number of tenths or hundredths - Recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ Addition & Subtraction of Fractions - Add and subtract fractions with the same denominator Multiplication & Division of Decimals - Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Problem Solving - Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number - Solve simple measure and money problems involving fractions and decimals to two decimal places	Comparing & Estimating - Estimate, compare and calculate different measures, including money in pounds and pence Measuring & Calculating - Estimate, compare and calculate different measures, including money in pounds and pence - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Measuring & Counting Money - Find the area of rectilinear shapes by counting squares Telling The Time - Read, write and convert time between analogue and digital 12 and 24-hour clocks - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days Converting - Convert between different units of measure (e.g. kilometre to metre; hour to minute) - Read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	Identifying Shapes & Their Properties - Identify lines of symmetry in 2-D shapes presented in different orientations Drawing & Construction - Complete a simple symmetric figure with respect to a specific line of symmetry Comparing & Classifying - Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Angles - Identify acute and obtuse angles and compare and order angles up to two right angles by size	Position, Direction & Movement - Describe positions on a 2-D grid as coordinates in the first quadrant - Describe movements between positions as translations of a given unit to the left/right and up/down - Plot specified points and draw sides to complete a given polygon	Interpreting, Constructing & Presenting Data - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Solving Problems - Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Formulae Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit. (Copied from measurement)



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Y5	Counting - Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero - Count forwards or backwards in steps of powers of 10 for any given number up to 1000000 Comparing Numbers - Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) Reading & Writing Numbers - Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) - Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Understanding Place Value - Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions) Rounding - Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 - Round decimals with two decimal places to the nearest whole number and to one decimal place (copied from Fractions) Problem Solving - Solve number problems and practical problems that involve all of the above	Mental Calculation - Add and subtract numbers mentally with increasingly large numbers Written Methods - Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Inverse Operations, Estimating & Checking Answers - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Problem Solving - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Multiplication & Division Facts - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (copied from Number and Place Value) Mental Calculation - Multiply and divide numbers mentally drawing upon known facts - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Written Calculation - Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers - Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Properties of Numbers: Multiples, Factors, Square & Cube Numbers - Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. - Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - Establish whether a number up to 100 is prime and recall prime numbers up to 19 - Recognise and use square numbers & cube numbers, and the notation for squared (2) and cubed (3) Problem Solving - Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes - Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Recognising Fractions - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) Comparing Fractions - Compare and order fractions whose denominators are all multiples of the same number Comparing Decimals - Read, write, order and compare numbers with up to three decimal places Rounding Including Decimals - Round decimals with two decimal places to the nearest whole number and to one decimal place Equivalence (Including Fractions, Decimals & Percentages) - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - Read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - Recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100 as a decimal fraction Addition & Subtraction of Fractions - Add and subtract fractions with the same denominator and multiples of the same number - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) Multiplication & Division Of Fractions - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Problem Solving - Solve problems involving numbers up to three decimal places - Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25	Comparing & Estimating - Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes (also included in measuring) - Estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water) Measuring & Calculating - Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Measuring & Counting Money - Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes - Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) (copied from Multiplication and Division) Telling The Time - Solve problems involving converting between units of time Converting - Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) - Solve problems involving converting between units of time - Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	Identifying Shapes & Their Properties - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Drawing & Construction - Draw given angles, and measure them in degrees ($^\circ$) Comparing & Classifying - Use the properties of rectangles to deduce related facts and find missing lengths and angles - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Angles - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90°	Position, Direction & Movement Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Interpreting, Constructing & Presenting Data - Complete, read and interpret information in tables, including timetables Solving Problems - Solve comparison, sum and difference problems using information presented in a line graph	Equations Use the properties of rectangles to deduce related facts and find missing lengths and angles (copied from Geometry: Properties of Shapes)



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Y6	Counting - Use negative numbers in context, and calculate intervals across zero Comparing Numbers - Read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers) Reading & Writing Numbers - Read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Understanding Place Value) Understanding Place Value - Read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers) - Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (copied from Fractions) Rounding - Round any whole number to a required degree of accuracy <i>Solve problems which require answers to be rounded to specified degrees of accuracy</i> (copied from Fractions) Problem Solving - Solve number and practical problems that involve all of the above	Mental Calculation - Perform mental calculations, including with mixed operations and large numbers - Use their knowledge of the order of operations to carry out calculations involving the four operations Written Methods - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation) Inverse Operations, Estimating & Checking Answers - Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Problem Solving - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Solve problems involving addition, subtraction, multiplication and division	Mental Calculation - Perform mental calculations, including with mixed operations and large numbers - Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) Written Calculation - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Properties of Numbers: Multiples, Factors, Square & Cube Numbers - Identify common factors, common multiples and prime numbers - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3 & m^3, and extending to other units such as mm^3 and km^3 Order of Operations - Use their knowledge of the order of operations to carry out calculations involving the four operations Inverse Operations, Estimating & Checking Answers - Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy Problem Solving - Solve problems involving addition, subtraction, multiplication and division - Solve problems involving similar shapes where the scale factor is known or can be found	Comparing Fractions - Compare and order fractions, including fractions >1 Comparing Decimals - Identify the value of each digit in numbers given to three decimal places Rounding Including Decimals - Solve problems which require answers to be rounded to specified degrees of accuracy Equivalence (Including Fractions, Decimals & Percentages) - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Associate a fraction with division and calculate decimal fraction equivalents (e.g. $\frac{3}{8}$) for a simple fraction (e.g. $\frac{3}{8}$) - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Addition & Subtraction Of Fractions - Add and subtract fractions with different denominators and mixed numbers, using the - concept of equivalent fractions Multiplication & Division Of Fractions - Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) - Multiply one-digit numbers with up to two decimal places by whole numbers - Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$) Multiplication & Division Of Decimals - Multiply one-digit numbers with up to two decimal places by whole numbers - Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places - Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places - Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) - Use written division methods in cases where the answer has up to two decimal places	Comparing & Estimating - Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3. Measuring & Calculating - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - Recognise that shapes with the same areas can have different perimeters and vice versa Measuring & Counting Money - Calculate the area of parallelograms and triangles - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [e.g. mm^3 and km^3]. - Recognise when it is possible to use formulae for area and volume of shapes Converting - Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - Convert between miles and kilometres	Identifying Shapes & Their Properties - Recognise, describe and build simple 3-D shapes, including making nets - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Drawing & Construction - Draw 2-D shapes using given dimensions and angles - Recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties) Comparing & Classifying - Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Angles - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	Position, Direction & Movement - Describe positions on the full coordinate grid (all four quadrants) - Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Interpreting, Constructing & Presenting Data - interpret and construct pie charts and line graphs and use these to solve problems Solving Problems - Calculate and interpret the mean as an average	- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison - Solve problems involving similar shapes where the scale factor is known or can be found - Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	Equations - Express missing number problems algebraically - Find pairs of numbers that satisfy number sentences involving two unknowns - Enumerate all possibilities of combinations of two variables Formulae - Use simple formulae - Recognise when it is possible to use formulae for area and volume of shapes (copied from Measurement) Sequences - Generate and describe linear number sequences