

‘Thy word is a lamp unto my feet, and a light unto my path,’

Psalm 119:105



St. Mark's Primary School

Maths Curriculum Overview

Year 1

<p>Number - Place Value</p> <ul style="list-style-type: none"> 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 Given a number, identify one more and one less Use the language of: equal to, more than, less than (fewer), most, least Identify and represent numbers using objects and pictorial representations including the number line Read and write numbers from 1 to 20 in numerals and words 	<p>Geometry – Shape</p> <ul style="list-style-type: none"> Recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> 2-D shapes [e.g. rectangles (including squares), circles and triangles] 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. 	<p>Number - Addition & Subtraction</p> <ul style="list-style-type: none"> Represent and use number bonds and related subtraction facts within 20 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 Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = * - 9$ 	<p>Measurement - Length & Height</p> <ul style="list-style-type: none"> Measure and begin to record lengths and heights Compare, describe and solve practical problems for lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> Count in multiples of twos, fives and tens 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 	<p>Geometry - Position & Direction</p> <ul style="list-style-type: none"> Describe position, direction and movement, including half, quarter and three-quarter turns.
<p>Number - Addition & Subtraction</p> <ul style="list-style-type: none"> Represent and use number bonds and related subtraction facts within 20 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 Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = * - 9$ 	<p>Number - Place Value</p> <ul style="list-style-type: none"> 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 numeral Given a number, identify one more and one less Use the language of: equal to, more than, less than (fewer), most, least Identify and represent numbers using objects and pictorial representations including the number line Read and write numbers from 1 to 20 in numerals and words 	<p>Number – Place Value</p> <ul style="list-style-type: none"> 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 Given a number, identify one more and one less Use the language of: equal to, more than, less than (fewer), most, least Identify and represent numbers using objects and pictorial representations including the number line Read and write numbers from 1 to 20 in numerals and words 	<p>Measurement - Weight & Volume</p> <ul style="list-style-type: none"> Measure and begin to record mass/weight, capacity and volume Compare, describe and solve practical problems for: mass/weight [e.g. heavy/light, heavier than, lighter than] and capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] 	<p>Number – Fractions</p> <ul style="list-style-type: none"> 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 	<p>Number - Place Value</p> <ul style="list-style-type: none"> 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 Given a number, identify one more and one less Use the language of: equal to, more than, less than (fewer), most, least Identify and represent numbers using objects and pictorial representations including the number line Read and write numbers from 1 to 20 in numerals and words <p>Measurement- Money</p> <ul style="list-style-type: none"> Recognise and know the value of different denominations of coins and notes

Measurement – Time

- Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- Recognise and use language relating to dates, including days of the week, weeks, months and years
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
- Measure and begin to record time (hours, minutes, seconds)
- Compare, describe and solve practical problems for time [e.g. quicker, slower, earlier, later]

Year 2

<p>Number - Place Value</p> <ul style="list-style-type: none"> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Compare and order numbers from 0 up to 100; use and = signs Identify, represent and estimate numbers using different representations, including the number line Read and write numbers to at least 100 in numerals and in words Recognise the place value of each digit in a two-digit number (tens, ones) Use place value and number facts to solve problems 	<p>Measurement – Money</p> <ul style="list-style-type: none"> 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 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs 	<p>Geometry – Properties of Shapes</p> <ul style="list-style-type: none"> 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 radius surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and everyday objects 	<p>Measurement – Length & Height</p> <ul style="list-style-type: none"> Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit, using rulers. 	<p>Measurement – Time</p> <ul style="list-style-type: none"> Compare and sequence intervals of 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.
<p>Number - Addition & Subtraction</p> <ul style="list-style-type: none"> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 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 Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 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 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> Count in multiples of twos, fives and tens 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 	<p>Statistics</p> <ul style="list-style-type: none"> 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 	<p>Number – Fractions</p> <ul style="list-style-type: none"> Recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity Write simple fractions e.g. $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$. 	<p>Geometry – Position and Direction</p> <ul style="list-style-type: none"> 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) Order and arrange combinations of mathematical objects in patterns and sequences 	<p>Measurement – Mass, Capacity and Temperature</p> <ul style="list-style-type: none"> Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ Choose and use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using scales, thermometers and measuring vessels

Year 3

Number - Place Value

- Count from 0 in multiples of 4, 8, 50 and 100;
- Find 10 or 100 more or less than a given number
- Compare and order numbers up to 1000
- Identify, represent and estimate numbers using different representations
- Read and write numbers up to 1000 in numerals and in words
- Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- Solve number problems and practical problems involving these ideas.

Number - Addition & Subtraction

- Add and subtract numbers mentally, including:
 - * a three-digit number and ones
 - * a three-digit number and tens
 - * a three-digit number and hundreds
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse operations to check answers
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Number - Multiplication & Division

- Count from 0 in multiples of 4, 8, 50 and 100
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- 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
- 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
- Estimate the answer to a calculation and use inverse operations to check answers
- 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

Measurement - Length & Perimeter

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- Measure the perimeter of simple 2-D shapes

Number – Fractions

- Count up and down in tenths
- 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
- Compare and order unit fractions, and fractions with the same denominators
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$)
- Solve problems that involve all of the above

Geometry - Properties of Shape

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- 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

Number - Addition & Subtraction

- Add and subtract numbers mentally, including:
 - * a three-digit number and ones
 - * a three-digit number and tens
 - * a three-digit number and hundreds
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse operations to check answers
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Number - Multiplication & Division

- Count from 0 in multiples of 4, 8, 50 and 100
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- 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
- 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

Measurement – Money

- Add and subtract amounts of money to give change, using both £ and p in practical contexts

Statistics

- Interpret and present data using bar charts, pictograms and tables
- 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

Number – Fractions

- Count up and down in tenths
- 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
- Compare and order unit fractions, and fractions with the same denominators
- Recognise and show, using diagrams, equivalent fractions with small denominators

Measurement – 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
- 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
- Know the number of seconds in a minute and the number of days in each month, year and leap year

Measurement - Mass & Capacity

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

		<p>mental and progressing to formal written methods</p> <ul style="list-style-type: none">• Estimate the answer to a calculation and use inverse operations to check answers• 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		<ul style="list-style-type: none">• Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$)• Solve problems that involve all of the above		
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Year 4

<p>Number - Place Value</p> <ul style="list-style-type: none"> 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 order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations 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 recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) round any number to the nearest 10, 100 or 1 000 solve number and practical problems that involve all of the above and with increasingly large positive numbers 	<p>Measurement - Length & Perimeter</p> <ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1 000 recall multiplication and division facts for multiplication tables up to 12×12 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 multiply two-digit and three-digit numbers by a one-digit number using formal written layout recognise and use factor pairs and commutativity in mental calculations estimate and use inverse operations to check answers to a calculation 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 	<p>Number - Fractions</p> <ul style="list-style-type: none"> add and subtract fractions with the same denominator recognise and show, using diagrams, families of common equivalent fraction 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. 	<p>Number - Decimals</p> <ul style="list-style-type: none"> count up and down in hundredths recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten compare numbers with the same number of decimal places up to two decimal places round decimals with one decimal place to the nearest whole number recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $1/4$; $1/2$; $3/4$ 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 solve simple measure and money problems involving fractions and decimals to two decimal places. 	<p>Statistics</p> <ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
<p>Number - Addition & Subtraction</p> <ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1 000 (copied from Number and Place Value) recall multiplication and division facts for multiplication tables up to 12×12 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 	<p>Measurement - Area</p> <ul style="list-style-type: none"> find the area of rectilinear shapes by counting squares measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres 	<p>Number - Decimals</p> <ul style="list-style-type: none"> count up and down in hundredths recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten compare numbers with the same number of decimal places up to two decimal places round decimals with one decimal place to the nearest whole number recognise and write decimal equivalents of any number of tenths or hundredths 	<p>Measurement - Money</p> <ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence estimate, compare and calculate different measures, including money in pounds and pence 	<p>Geometry - Properties of Shape</p> <ul style="list-style-type: none"> identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size

		<ul style="list-style-type: none"> multiply two-digit and three-digit numbers by a one-digit number using formal written layout recognise and use factor pairs and commutativity in mental calculations estimate and use inverse operations to check answers to a calculation 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 		<ul style="list-style-type: none"> recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ 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 solve simple measure and money problems involving fractions and decimals to two decimal places. 	<p>Measurement- Time</p> <ul style="list-style-type: none"> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days read, write and convert time between analogue and digital 12 and 24-hour clocks convert between different units of measure (e.g. kilometre to metre; hour to minute) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days read, write and convert time between analogue and digital 12 and 24-hour clocks 	<p>Geometry- Position & Direction</p> <ul style="list-style-type: none"> 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
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Year 5

<p>Number - Place Value</p> <ul style="list-style-type: none"> 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 1000 000 read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1000 (M) and recognise years written in Roman numerals read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 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 solve number problems and practical problems that involve all of the above 	<p>Statistics</p> <ul style="list-style-type: none"> complete, read and interpret information in tables, including timetables solve comparison, sum and difference problems using information presented in a line graph 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 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 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 (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared (2^2) and cubed (3^3) 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 	<p>Number - Fractions</p> <ul style="list-style-type: none"> recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents compare and order fractions whose denominators are all multiples of the same number 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. $0.71 = 71 / 100$) add and subtract fractions with the same denominator and multiples of the same number recognise mixed numbers fractions and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2 / 5 + 4 / 5 = 6 / 5 = 1 \frac{1}{5}$) 	<p>Number - Decimals</p> <ul style="list-style-type: none"> read, write, order and compare numbers with up to three decimal places round decimals with two decimal places to the nearest whole number and to one decimal place recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents equivalents to $1 / 4$; $1 / 2$; $3 / 4$ 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 solve problems involving numbers up to three decimal places solve problems which require knowing percentage and decimal equivalents of $1 / 2$, $1 / 4$, $1 / 5$, $2 / 5$, $4 / 5$ and those with a denominator of a multiple of 10 or 25. 	<p>Geometry - Position & Direction</p> <ul style="list-style-type: none"> 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
<p>Number - Addition & Subtraction</p> <ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 	<p>Number - Multiplication & Division</p> <ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any number up to 1000 000 	<p>Number - Fractions</p> <ul style="list-style-type: none"> recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 	<p>Number - Decimals & Percentages</p> <ul style="list-style-type: none"> read, write, order and compare numbers with up to three decimal places 	<p>Geometry - Properties of Shape</p> <ul style="list-style-type: none"> use the properties of rectangles to deduce related facts and find missing lengths and angles 	<p>Measurement - Converting Units</p> <ul style="list-style-type: none"> use all four operations to solve problems involving measure (e.g. length, mass, volume, ...)

<p>add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <ul style="list-style-type: none"> 	<ul style="list-style-type: none"> multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 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 identify multiples and factors, including finding factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared and cubed 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 	<ul style="list-style-type: none"> compare and order fractions whose denominators are all multiples of the same number 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. $0.71 = \frac{71}{100}$) add and subtract fractions with the same denominator and multiples of the same number recognise mixed numbers fractions and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2 \frac{1}{5} + 4 \frac{1}{5} = 6 \frac{2}{5} = 1 \frac{2}{5}$) 	<ul style="list-style-type: none"> round decimals with two decimal places to the nearest whole number and to one decimal place recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ 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 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. 	<ul style="list-style-type: none"> draw given angles, and measure them in degrees identify 3-D shapes, including cubes and other cuboids, from 2-D representations 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 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 o) * angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180 o) * other multiples of 90 o 	<p>money) using decimal notation including scaling</p>
<p>Statistics</p> <ul style="list-style-type: none"> complete, read and interpret information in tables, including timetables solve comparison, sum and difference problems using information presented in a line graph 	<p>Measurement: Perimeter and Area</p> <ul style="list-style-type: none"> calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 				<p>Measurement: Volume</p> <ul style="list-style-type: none"> estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water) use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling

Year 6	Number – Place Value	Number – Fractions	Number – Decimals	Measurement – Area, Perimeter and Volume	Statistics	Consolidation and themed mathematical projects
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<ul style="list-style-type: none"> use negative numbers in context, and calculate intervals across zero read, write, order and compare numbers up to 10 000000 and determine the value of each digit round any whole number to a required degree of accuracy solve number and practical problems that involve all of the above 	<ul style="list-style-type: none"> compare and order fractions, including fractions >1 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. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent 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. $\frac{1}{3} \div 2 = \frac{1}{6}$) 	<ul style="list-style-type: none"> identify the value of each digit in numbers given to three decimal places solve problems which require answers to be rounded to specified degrees of accuracy 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 	<ul style="list-style-type: none"> 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. recognise that shapes with the same areas can have different perimeters and vice versa 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 	<ul style="list-style-type: none"> interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average
<p>Number – Addition, Subtraction, Multiplication and Division</p> <ul style="list-style-type: none"> 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 use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 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 	<p>Geometry – Position and Direction</p> <ul style="list-style-type: none"> 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. 	<p>Number – Percentages</p> <ul style="list-style-type: none"> recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. 	<p>Number – Ratio</p> <ul style="list-style-type: none"> 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 	<p>Geometry – Properties of Shape</p> <ul style="list-style-type: none"> 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 identify the radius draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
<p>Number – Algebra</p> <ul style="list-style-type: none"> express missing number problems algebraically find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two variables use simple formulae generate and describe linear number sequences 				
		<p>Measurement – Converting Units</p> <ul style="list-style-type: none"> 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 		

	<p>written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</p> <ul style="list-style-type: none">• identify common factors, common multiples and prime numbers• use their knowledge of the order of operations to carry out calculations involving the four operations		<ul style="list-style-type: none">• 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			
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