

Maths Skills Coverage (Whole School)

EYFS Maths Skills

Autumn Term

Number	Numerical Patterns
<u>Development Matters</u> - Fast recognition of up to 3 objects, without having to count them individually ('subitising'). - Recite numbers past 5. - Say one number for each item in order: 1,2,3,4,5. - Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). - Show 'finger numbers' up to 5. - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. - Experiment with their own symbols and marks as well as numerals. - Solve real world mathematical problems with numbers up to 5. - Compare quantities using language: 'more than', 'fewer than'. <u>Mastering Number</u> Pupils will: -Identify when a set can be subitised and when counting is needed. -Subitise different arrangements (including using the Hungarian Number Frame) -Make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills. -Spot smaller numbers 'hiding' inside larger numbers -Connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers. -Hear and join in with the counting sequence and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number. -Develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds -Compare sets of objects by matching -Begin to develop the language of 'whole' when talking about objects which have parts	<u>Development Matters</u> - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. - Understand position through words alone – for example, "The bag is under the table," – with no pointing. - Describe a familiar route. - Discuss routes and locations, using words like 'in front of' and 'behind'. - Make comparisons between objects relating to size, length, weight and capacity. - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. - Combine shapes to make new ones – an arch, a bigger triangle etc. - Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. - Extend and create ABAB patterns – stick, leaf, stick, leaf. - Notice and correct an error in a repeating pattern. - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

EYFS Maths Skills

Spring Term

Number	Numerical Patterns
<u>Development Matters</u> - Count objects, actions and sounds. - Subitise. - Link the number symbol (numeral) with its cardinal number value. - Count beyond ten - Compare numbers. - Understand the 'one more than/one less than' relationship between consecutive numbers. - Explore the composition of numbers to 10. - Automatically recall number bonds for numbers 0–5 and some to 10. - Correctly form numbers to 10. <u>Mastering Number</u> -Continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals -Begin to identify missing parts for numbers within 5 -Explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame -Focus on equal and unequal groups when comparing numbers -Understand that two equal groups can be called a 'double' and connect this to finger patterns -Sort odd and even numbers according to their 'shape' -Continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern -Order numbers and play track games -Join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers	<u>Development Matters</u> - Select, rotate and manipulate shapes in order to develop spatial reasoning skills. - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. - Continue, copy and create repeating patterns. - Notice and correct an error in a repeating pattern - Compare length, weight and capacity. - Begin to describe a series of events, real or fictional, using words such as 'first', 'then'

EYFS Maths Skills

Summer Term

Number	Numerical Patterns
<u>ELG</u> • Have a deep understanding of number to 10, including the composition of each number; • Subitise (recognise quantities without counting) up to 5; • Automatically recall (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.	<u>ELG</u> • Verbally count beyond 20, recognising the pattern of the counting system; • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
<u>Mastering Number</u> -Continue to develop their counting skills, counting larger sets as well as counting actions and sounds -Explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame -Compare quantities and numbers, including sets of objects which have different attributes -Continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 -Begin to generalise about 'one more than' and 'one less than' numbers within 10 -Continue to identify when sets can be subitised and when counting is necessary -Develop conceptual subitising skills including when using a rekenrek	

Year 1 Maths Skills

Autumn Term

Number and Place Value	Number – Addition and Subtraction	Geometry
- Count to 100, forwards and backwards beginning with 0 or 1 or any given number. - Count, read and write numbers to 100 in numerals. - Given a number identify one more and one less. - Identify and represent numbers using different representations including the number line. - Read and write numbers from 1 – 20 in words. - Use the language of equal to, more than, less than (fewer) most and least. <u>Ready to progress objectives</u> 1NPV-1 Count within 100, forwards and backwards, starting with any number. 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using $>$ and $=$ <u>Mastering Number</u> -Subitise within 5, including when using a rekenrek, and re-cap the composition of 5 -Develop their understanding of the numbers 6 to 9 using the '5 and a bit' structure -Compare numbers within 10 and use precise mathematical language when doing so -Re-cap the order of numbers within 10 and connect this to '1 more' and '1 less' than a given number -Explore the structure of even numbers (including that even numbers can be composed by doubling any number, and can be composed of 2s) -Explore the structure of the odd numbers as being composed of 2s and 1 more -Explore the composition of each of the numbers 6, 8, and 10 -Explore number tracks and number lines and identify the differences between them	- Represent and use number bonds and related subtraction facts within 20. - Solve 1 step problems that involve addition and subtraction using concrete objects and pictorial representations including those involving numbers, quantities and measures. - Use the addition, subtraction and equals sign. <u>Ready to progress objectives</u> 1NF-1 Develop fluency in addition and subtraction facts within 10. 1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1AS-2 Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts.	Recognise and name common 2D and 3D shapes. <u>Ready to progress objectives</u> 1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Year 1 Maths Skills

Spring Term

Number and Place Value	Number – Addition and Subtraction	Measurement
- Count to 100, forwards and backwards beginning with 0 or 1 or any given number. - Count, read and write numbers to 100 in numerals. - Count in multiples of 2's, 5's and 10's. - Given a number identify one more and one less. - Identify and represent numbers using different representations including the number line. - Read and write numbers from 1 – 20 in words. - Use the language of equal to, more than, less than (fewer) most and least. <u>Ready to progress objectives</u> 1NPV-1 Count within 100, forwards and backwards, starting with any number. 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = 1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. <u>Mastering Number</u> -Explore the composition of each of the numbers 7 and 9 -Explore the composition of odd and even numbers, seeing that even numbers can be made of two odd or two even parts, and that odd numbers can be composed of one odd part and one even part - Identify the number that is two more or two less than a given odd or even number, identifying that two more/ less than an odd number is the next/ previous odd number, and two more/ less than an even number is the next/ previous even number	- Represent and use number bonds and related subtraction facts within 20. - Solve 1 step problems that involve addition and subtraction using concrete objects and pictorial representations including those involving numbers, quantities and measures. - Use the addition, subtraction and equals sign. - Add and subtract numbers using concrete objects, pictorial representations and mentally including 1-digit and 2-digit numbers to 20 including 0. <u>Ready to progress objectives</u> 1AS-2 Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts. <u>Mastering Number</u> -Explore the aggregation and partitioning structures of addition and subtraction through systematically partitioning and re-combining numbers within 10 and connecting this to the part-part-whole diagram, including using the language of parts and wholes -Explore the augmentation and reduction structures of addition and reduction using number stories, including introducing the 'first, then, now' language structure	- Measure and begin to record lengths, height, mass, weight, capacity and volume. - Compare, describe and solve practical problems for lengths and heights, mass and weight, capacity and volume.

Year 1 Maths Skills Summer Term

Number and Place Value	Multiplication and Division	Fractions	Geometry	Measurement
- Count to 100, forwards and backwards beginning with 0 or 1 or any given number. - Count, read and write numbers to 100 in numerals. - Given a number, identify one more and one less. - Identify and represent numbers using different representations including the number line. - Read and write numbers from 1 – 20 in words. - Use the language of equal to, more than, less than (fewer) most and least. <u>Ready to progress objectives</u> 1NPV-1 Count within 100, forwards and backwards, starting with any number. 1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. <u>Mastering Number</u> -Explore the composition of the numbers 11 to 19 as '10 and a bit' and compare numbers within 20 -Connect the composition of the numbers 11 to 19 to their position in the linear number system, including identifying the midpoints of 5, 10 and 15 -Compare numbers within 20	- Count in multiples of 2's, 5's and 10's. - Solving 1 step problems using multiplication and division. <u>Ready to progress objectives</u> 1AS-2 Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts. <u>Mastering Number</u> -Understand how addition and subtraction equations can represent previously explored structures of addition and subtraction (aggregation/ partitioning/ augmentation/ reduction) -Practise retrieving previously taught facts and reason about these	- 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 two equal parts of an object, shape or quantity. - Compare, solve and describe practical problems for length and height. - Compare, solve and describe practical problems for mass and weight.	Describe position, direction and movement including whole, half, quarter and three quarter turns.	<u>Money</u> - Recognise and know the value of different denominations of coins and notes. <u>Time</u> - Sequence events in chronological order using language. - 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. - Compare, describe and solve practical problems for time. - Measure and begin to record time. (Hours, minutes, seconds)

Year 2 Maths Skills

Autumn Term

Number – Place Value	Number – Addition and Subtraction	Multiplication and Division	Measurement
- Read and write numbers to at least 100 in numerals and in words. - Recognise the place value of each digit in a 2-digit number. - Identify, represent and estimate numbers using different representations including number line. - Compare and order numbers from 0-100; use <, > and = signs. - Use place value and number facts to solve problems. - Count in steps of 2, 3, 5 and 10 from 0 and in 10's from any number forwards and backwards. <u>Ready to progress objectives</u> 2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. 2NPV-2 Reason about the location of any two digit number in the linear number system, including identifying the previous and next multiple of 10. <u>Mastering Number</u> -Review the composition of the numbers 6 to 9 as '5 and a bit' -Compare numbers using the language of comparison and use the symbols < > = -Review the structure of even numbers (including exploring how even numbers can be composed of two odd parts or two even parts) and the composition of each of 6, 8 and 10 -Review the structure of odd numbers (including exploring how odd numbers can be composed of one odd part and one even part) and the composition of each of 7 and 9 -Consolidate their understanding of the numbers 10 and 20 as '10 and a bit' -Consolidate their understanding of the linear number system to 20 and reason about midpoints	- 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 2-digit number and 1's, and a 2-digit number and 10's and two 2-digit numbers and three 1-digit numbers. - Show that addition of two numbers, can be done in any order (commutative) and subtraction of one number from another cannot. - Solve 1 step 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 addition and subtraction problems involving missing numbers. - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. <u>Ready to progress objectives</u> 2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice. 2AS-1 Add and subtract across 10. 2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?". 2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two digit number. 2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	- Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication and equal signs. - Solve problems involving multiplication using mental methods. - Show that multiplication of two numbers can be done in any order. <u>Ready to progress objectives</u> 2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	<u>Money</u> - Recognise and use symbols for £ and 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.

Year 2 Maths Skills

Spring Term

Number – Multiplication and Division	Fractions	Geometry	Measurement	Statistics
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication/division and equal signs. - Solve problems involving multiplication and division using mental methods. - Show that multiplication of two numbers can be done in any order and division of 1 number by another cannot. - Use known multiplication facts to check the accuracy of calculations. - Recall and use multiplication and division facts for the 2, 5 and 10 times tables. <u>Ready to progress objectives</u> 2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	- Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity. - Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ - Write simple fractions for example $\frac{1}{2}$ of 6 is 3.	- Identify and describe the properties of 2D shapes including the number of sides and line symmetry in a vertical line. - Identify and describe the properties of 3D shapes including the number of edges, vertices and faces. - Identify 2D shapes on the surface of 3D shapes. - Compare and sort common 2D and 3D shapes and everyday objects. <u>Ready to progress objectives</u> 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	- Use standard units to estimate and measure length and height (m/cm) to the nearest appropriate unit using rulers. - Compare and order lengths and record the results using $<$, $>$ and $=$.	- 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.
<u>Mastering Number</u> -Explore how the numbers 6 to 9 can be doubled using the '5 and a bit' and '10 and a bit' structure -Use doubles to calculate near doubles -Use bonds of 10 to reason about bonds of 20, in which the given addend is greater than 10 -Use known number bonds within 10 to calculate within 20, working within the 10-boundary -Use their knowledge of bonds of 10 to find three addends that sum to 10 -Use their knowledge of the composition of numbers within 20 to add and subtract across the 10-boundary -Use their understanding of the linear number system to 10 to position multiples of 10 on a 0 - 100 number line and reason about midpoints				

Year 2 Maths Skills

Summer Term

Measurement	Position and Direction
<u>Time</u> - Tell and write the time to 5 minutes including quarter past and to the hour and draw the hands on the clock face to show these times. - Know the numbers of minutes in an hour and the numbers of hours in a day. - Compare and sequence intervals of time. <u>Mass, capacity and temperature</u> - Use standard units to estimate and measure mass, temperature and capacity to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels. - Compare and order mass, volume and capacity and record the results using $<$, $>$ and $=$.	- Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in turns 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.
<u>Mastering Number</u> -Continue to explore a range of strategies to subtract across the 10-boundary -Review bonds of 20 in which the given addend is greater than 10, and reason about bonds of 20, in which the given addend is less than 10 -Practise previously explored strategies to support their reasoning about inequalities and equations -Review doubles and near doubles and transform additions in which two addends are adjacent odd/ even numbers into doubles -Consolidate previously taught facts and strategies through continued, varied practice	

Year 3 Maths Skills

Autumn Term

Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division
- Identify represent and estimate numbers using different representations. - Recognise the place value of each digit in a three-digit number. - Compare and order numbers up to 1000. - Solve number problems and practical problems with increasing larger numbers. - Count in multiples of 2-9, 50 and 100. <u>Ready to progress objectives</u> 3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other threedigit multiples of 10. 3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. 3NPV-3 Reason about the location of any threedigit number in the linear number system, including identifying the previous and next multiple of 100 and 10. 3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	- Add and subtract numbers mentally including a 3-digit number and ones, a 3-digit number and tens, and a 3-digit number and hundreds. - Add and subtract numbers up to three digits using the formal written methods of column addition and subtraction where appropriate. - Estimate and use inverse operations to check answers to a calculation. - Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction. <u>Ready to progress objectives</u> 3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 3AS-1 Calculate complements to 100. 3AS-2 Add and subtract up to three-digit numbers using columnar methods. 3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	- Count in multiples of 2-9, 50 and 100. - Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables. - Multiply 2-digit numbers by a 1 digit number using the formal written layout. - Solve problems involving multiplying and dividing including positive integer scaling problems and correspondence problems in which N objects are connected to M objects. <u>Ready to progress objectives</u> 3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number 3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.

Year 3 Maths Skills
Spring Term

Number – Multiplication and Division	Fractions	Measurement	Statistics
- Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables. - Multiply 2-digit numbers by a 1-digit number using the formal written layout. - Solve problems involving multiplying and dividing including positive integer scaling problems and correspondence problems in which N objects are connected to M objects. <u>Ready to progress objectives</u> 3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	- Count up and down in tenths; recognising that tenths arise from dividing an object into ten equal parts and dividing 1-digit numbers or quantities by 10. - Recognise and use fractions as numbers: unit fractions and non-unit fractions, with small denominators. - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-fractions with small denominators. - Solve problems involving increasingly harder fractions. <u>Ready to progress objectives</u> 3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency). 3F–3 Reason about the location of any fraction within 1 in the linear number system. 3F–4 Add and subtract fractions with the same denominator, within 1.	- Measure, compare, add and subtract lengths, (m, cm, mm); mass (kg/g); volume/capacity (l/m) - Measure the perimeter of simple 2D shapes.	- Interpret and present data using bar charts, pictograms and tables. - Solve 1 step and 2 step questions (for example how many more and how many fewer using information presented in scaled bar charts, pictograms and tables.

Year 3 Maths Skills

Summer Term

Fractions	Measurement	Geometry
• Add and subtract fractions with the same denominator within 1 whole. • Recognise and show, using diagrams equivalent fraction with small denominators. • Compare and order unit fractions and fractions with the same denominator. • Solve problems involving increasingly harder fractions.	<u>Time</u> • Tell and write the time from an analogue clock including using Roman numerals from 1-12 and 12 and 24 hour clocks. • Estimate and read time with increasing accuracy to the nearest minute. • Record and compare time in terms of seconds, minutes and hours and in that use appropriate vocabulary. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare duration of events <u>Mass and capacity</u> • Measure, compare, add and subtract lengths, (m, cm, mm); mass (kg/g); volume/capacity (l/m)	• 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 perpendicular and parallel lines. • Draw 2D shapes and make 3D shapes using modelling materials. • Recognise 3D shapes in different orientations and describe them. <u>Ready to progress objectives</u> 3G–1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.

Year 4 Maths Skills

Autumn Term

Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division	Measurement
- Count in multiples of 25. - Find 1000 more or less than a given number. - Count backwards through zero to include negative numbers. - Identify, represent and estimate numbers using different representations. - Read Roman Numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value. - Order and compare numbers beyond 1000. - Recognise the place value of each digit in a four-digit number. - Round any number to the nearest 10, 100 or 1000. - Solve number and practical problems with increasingly larger positive numbers. <u>Ready to progress objectives</u> 4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. 4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning. 4NPV-3 Reason about the location of any fourdigit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. 4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	- 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 two-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.	- Count in multiples of 25 and 1000. - 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. - Recall and use multiplication and division facts up to 12x12. - Multiply 2 and 3-digit numbers by a 1-digit number using the formal written layout. - Solve problems involving multiplying and dividing including positive integer scaling problems and correspondence problems in which N objects are connected to M objects. <u>Ready to progress objectives</u> 4NF-1 Recall multiplication and division facts up to, and recognise products in multiplication tables as multiples of the corresponding number. 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors that involve remainders, and interpret remainders appropriately according to the context. 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD-3 Understand and apply the distributive property of multiplication.	- Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m. - Convert between different units of measure for example km to m.

Year 4 Maths Skills

Spring Term

Number – Multiplication and Division	Fractions	Decimals	Measurement
- 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. - Recall and use multiplication and division facts up to 12x12. - Multiply 2 and 3-digit numbers by a 1-digit number using the formal written layout. - Recognise and use factor pairs and commutativity in mental calculations. - Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems. - Solve problems involving multiplying and dividing including positive integer scaling problems and correspondence problems in which N objects are connected to M objects. <u>Ready to progress objectives</u> 4NF-1 Recall multiplication and division facts up to, and recognise products in multiplication tables as multiples of the corresponding number. 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors that involve remainders, and interpret remainders appropriately according to the context. 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD-3 Understand and apply the distributive property of multiplication.	- Recognise and show using diagrams families of common equivalent fractions. - Count up and down in hundredths, recognise that hundredths arise when dividing an object by 100 and dividing tenths by ten. - Add and subtract fractions with the same denominator. - Solve problems including increasingly harder fractions <u>Ready to progress objectives</u> 4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	- Recognise and write decimal equivalent of any number of tenths or hundredths. - Find the effect of dividing a 1 or 2-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. - Convert between different units of measure.	Find the area of rectilinear shapes by counting squares.

Year 4 Maths Skills

Summer Term

Decimals	Measurement	Geometry	Statistics
- Compare numbers with the same number of decimal places up to two decimal places. - Round decimals with 1 decimal place to the nearest whole number. - Recognise and write decimal equivalence to a quarter, a half and 3 quarters. - Find the effect of dividing a 1- or 2-digit number by ten or 100, identifying the value of the digits in the answer as ones, tenths or hundredths.	<u>Money</u> - Estimate, compare and calculate different measures including money in £ and p. - Solve simple money problems involving fractions and decimals to 2 decimal places. <u>Time</u> - Convert between different units of measure e.g. hour to minute. - 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.	<u>Properties of shape</u> - Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. - Compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes. - Identify lines of symmetry in 2D shapes presented in different orientations. - Complete a simple symmetric figure with respect to a specific line of symmetry. <u>Position and direction</u> - Describe positions on a 2D grid as coordinates in the first quadrant. Plots specified points and draw sides to complete a given polygon. - Describe movement between positions and translations of a given unit to the left/right and up/down. <u>Ready to progress objectives</u> 4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. 4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry	- 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.

Year 5 Maths Skills

Autumn Term

Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division
- Read Roman Numerals up to 10 000 and recognise years written in Roman numerals - Solve number and practical problems. <u>Ready to progress objectives</u> 5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. 5NPV–3 Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts	- Add and subtract whole numbers with more than 4 digits, including using formal written methods. - Add and subtract mentally with increasingly large numbers. - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. - Solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why. - Solve problems using addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals signs.	- Solve problems using addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals sign. - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. - Establish whether a number up to 100 is a prime and recall prime numbers up to 19. - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. - Recognise and use square numbers and cube numbers, and the notation for squared and cubed. <u>Ready to progress objectives</u> 5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). 5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. 5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.

Year 5 Maths Skills

Spring Term

Fractions	Number – Multiplication and Division	Measurement
• Compare and order fractions whose denominators are all 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 • Round decimals with two decimal places to the nearest whole number and to one decimal place • Read, write, order and compare numbers with up to three decimal place • Recognise the percentage symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100 and as a decimal • Add and subtract fractions with the same denominator and denominators that are multiples of the same number • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • 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 fractions with a denominator of a multiple of 10 or 25 <u>Ready to progress objectives</u> 5F-1 Find non-unit fractions of quantities. 5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. 5F-3 Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions.	• Solving problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes	• Convert between different units of metric measure • Understand and use approximate equivalences between metric units common imperial units such as inches, pounds and pints • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. • Estimate volume and capacity. • Solve problems involving converting between units of time. • Use all four operations to solve problems involving measure using decimal notation including scaling <u>Ready to progress objectives</u> 5NPV-5 Convert between units of measure, including using common decimals and fractions

Year 5 Maths Skills

Summer Term

Fractions and Decimals	Statistics	Shape
Solve problems involving number up to three decimal places	- Interpret and construct pie charts and line graphs and use these to solve problems. - Calculate and interpret the mean as an average.	- Identify 3D shapes, including cubes and other cuboids, from 2D representations - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - Draw given angles, and measure them in degrees - Identify: Angles at a point and one whole turn (total 360), Angles at a point on a straight line and a turn (total 180) - Other multiples of 90 - Use the properties of rectangles to deduce related facts and find missing lengths and angles - 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 <u>Ready to progress objectives</u> 5G–1 Compare angles, estimate and measure angles in degrees ($^{\circ}$) and draw angles of a given size. 5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units

Year 6 Maths Skills
Autumn Term

Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division	Fractions	Shape
- Read, write, order and compare numbers up to 10,000,000 - Use negative numbers in context and calculate intervals across zero. - Round any whole number to a required degree of accuracy - Solve number and practical problems <u>Ready to progress objectives</u> 6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV–2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. 6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. 6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	- Solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why - Add and subtract negative numbers - Use knowledge of the order of operations to carry out calculations involving the four operations - Perform mental calculations, including with mixed operations and large numbers - Estimate and use inverse operations and rounding to check answers to a 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 long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. - Divide numbers up to 4 digits by a two digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. - Identify common factors, common multiples and prime numbers <u>Ready to progress objectives</u> 6AS/MD–1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD–2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	- Compare and order fractions, including fractions >1 - Compare and order fractions whose denominators are all 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 mixed numbers - Multiply simple pairs of proper fractions, writing the answer in its simplest form - Divide proper fractions by whole numbers <u>Ready to progress objectives</u> 6F–1 Recognise when fractions can be simplified, and use common factors to simplify fractions. 6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value. 6F–3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.	- Solve problems involving similar shapes where the scale factor is known or can be found - Solve problems including unequal sharing and grouping using knowledge of fractions and multiples

Year 6 Maths Skills
Spring Term

Number – Multiplication and Division	Ratio and Proportion	Algebra	Measurement	Shape and Space
Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - Solving problems involving the calculation of percentages and the use of percentages for comparison <u>Ready to progress objectives</u> 6AS/MD–3 Solve problems involving ratio relationships.	- Use simple formulae - Generate and describe linear number sequences. - Express missing number problems algebraically. - Find pairs of numbers that satisfy an equation with two unknowns. - Enumerate possibilities of combinations of two variables. <u>Ready to progress objectives</u> 6AS/MD–4 Solve problems with 2 unknowns	- Solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places where appropriate - 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 up to three decimal places - Convert between miles and kilometres	- Recognise that shapes with areas can have different perimeters and vice versa - Recognise when it is possible to use formulae for area and volume of shapes. - Calculate the area of parallelograms and triangles. - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metre (m³), and extending to other units. <u>Ready to progress objectives</u> 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

Year 6 Maths Skills

Summer Term

Statistics	Shape
• Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate and interpret the mean as an average.	• 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 • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles • 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 <u>Ready to progress objectives</u> 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.