

Year 5 Maths		highlighted objectives → DfE Ready-to-Progress Criteria	
Place Value	Key Vocabulary		
	<div style="display: flex; flex-wrap: wrap; justify-content: space-around; gap: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">place value</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">partition</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">estimate</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">hundred thousands (100,000s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">million (1,000,000)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">ones (1s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">tens (10s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">hundreds (100s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">round</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">order</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">ascending</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">descending</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">thousands (1,000s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">ten thousands (10,000s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">less than (<)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">greater than (>)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">positive</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">negative</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">increase</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">decrease</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">temperature</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 2px;">interval</div> </div>		
End of Year Objective	‘I know’ statements	‘I can’ statements	Suggested manipulatives
To read and write numbers to 1,000,000, determining the value of each digit	<ul style="list-style-type: none"> I know the value of each digit in a given number I know to use a comma to separate the thousands and hundreds in larger numbers I know that zero is sometimes used as a placeholder 	<ul style="list-style-type: none"> I can represent numbers to 1,000,000 in different ways I can write numbers to 1,000,000 using both numerals and words I can partition numbers to 1,000,000 using standard partitioning (based on place value) I can partition numbers to 1,000,000 using non-standard partitioning 	Place Value Grids/Place Value Counters Part-whole models/bar models Word mats
To order and compare numbers to 1,000,000	<ul style="list-style-type: none"> I know that ascending means going from smallest to greatest I know that descending means going from greatest to smallest I know what the symbols <, > and = mean 	<ul style="list-style-type: none"> I can compare two numbers by looking at the place value columns from left to right I can order three or more three-digit numbers I can suggest a missing number that fulfils < or > statements (e.g. 34,530 < _____?) 	Place Value Grids/Place Value Counters Digit cards
To identify the position of a number on a various number lines (different start and end points, different intervals)	<ul style="list-style-type: none"> I know that the gaps on a number line are called intervals I know that not all number lines use the same intervals I know that estimating means having a sensible guess, and that my estimate may not be exactly the same as someone else’s. 	<ul style="list-style-type: none"> I can work out what intervals a number line is counting up in I can identify values on a numberline and mark given values I can identify the midpoint between two intervals I can estimate the position of numbers on a number line 	Blank number lines Cuisenaire rods
To count forwards and backwards in powers of 10 from any given number (up to 1,000,000)	<ul style="list-style-type: none"> I know that adjacent place value columns are ten times greater/smaller than each other I know that 10, 100, 1000, 10,000 and 100,000 can be described as ‘powers of 10’ 	<ul style="list-style-type: none"> I can say how many tens, hundreds, thousands or ten thousands a number is composed of. I can find 10/100/1000/10,000 more or less than a given number I can count forwards and backwards in powers of 10 	Place value Grids Gattegno charts

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To interpret negative numbers and count forwards and backwards through zero	<ul style="list-style-type: none"> I know that numbers less than zero can be described as 'negative' I know that positive numbers are greater than negative numbers I know that, for example, -3 is greater than -10 	<ul style="list-style-type: none"> I can count forwards and backwards through zero, including in different multiples I can place negative numbers on a number line I can order and compare sets of numbers which include negative integers I can use negative numbers in context (e.g. temperature, elevators, bank balances) 	Vertical number lines (with negative numbers on)
To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 or 100,000	<ul style="list-style-type: none"> I know that rounding means saying which multiple of a given power of 10 a number is closest to I know that rounding is useful for estimating and simplifying calculations I know that when the digit to the right is 4 or less, we round down I know that when the digit to the right is 5 or higher, we round up 	<ul style="list-style-type: none"> I can identify the multiple of 10, 100, 1000, 10,000 or 100,000 before and after a given number I can round any number to the nearest 10 I can round any number to the nearest 100 I can round any number to the nearest 1000 I can round any number to the nearest 10,000 I can round any number to the nearest 100,000 I can suggest possible numbers that would round to a given number (e.g. numbers that would round to 230 when rounding to the nearest 10) 	Blank number lines Place value charts
To read and write Roman numerals up to 1000	<ul style="list-style-type: none"> I know what the symbols I, V, X, L, C, D and M represent in Roman numerals I know that Roman numerals cannot include more than three of the same symbol I know that if a numeral with a smaller value is written before a numeral with a greater value, we must subtract it. 	<ul style="list-style-type: none"> I can read Roman numerals up to 1000 I can write Roman numerals up to 1000 I can use Roman numerals in context (e.g. on a clock, kings and queens, years) 	Lolly pop sticks/match sticks
Addition and Subtraction	Key Vocabulary		
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">add</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">subtract</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">ones (1s)</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">tens (10s)</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">inverse</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">round</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">estimate</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">hundreds (100s)</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">thousands (1,000s)</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">ten thousands (10,000s)</div> <div style="border: 1px solid purple; border-radius: 10px; padding: 5px 15px; margin: 5px;">mentally</div> </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To add whole numbers with more than four digits using formal written methods	<ul style="list-style-type: none"> I know that the digits must be lined up correctly when using column methods I know that addition is commutative, meaning I can add numbers in any order to get the same answer I know when a calculation will require an exchange 	<ul style="list-style-type: none"> I can set out calculations correctly when using column method I can add increasingly larger numbers using column method I can use column method to add two numbers with differing amounts of digits I can exchange into the next column when appropriate I can solve calculations which require more than one exchange 	Place value grids/counters

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<p>To subtract whole numbers with more than four digits using formal written methods</p>	<ul style="list-style-type: none"> • I know that the digits must be lined up correctly when using column methods • I know that the greatest number must be written at the top when using column subtraction • I know that the bottom number must be subtracted from the top number when using column subtraction • I know when a calculation will require an exchange 	<ul style="list-style-type: none"> • I can set out calculations correctly when using column method • I can subtract increasingly larger numbers using column method • I can exchange from the next column when appropriate • I can solve calculations which require more than one exchange 	<p>Place value grids/counters</p>
<p>To add and subtract mentally with increasingly larger numbers</p>	<ul style="list-style-type: none"> • I know which digits will change when adding 1, 10, 100 or 1000 to a number • I know when a calculation will require an exchange • I know which method is appropriate for different calculations, and can begin to explain this 	<ul style="list-style-type: none"> • I can use partitioning to support addition and subtraction • I can use 'make 10/100/1000 and then then' strategies to add and subtract • I can use adjustment strategies to add and subtract • I can use a number line to represent/support my calculations 	
<p>To use checking strategies such as rounding, using the inverse and adjusting to determine levels of accuracy</p>	<ul style="list-style-type: none"> • I know that estimating helps to get a quick idea of what the answer to a calculation is near to • I know whether the actual answer would be greater or less than my estimate • I know that addition and subtraction can be described as 'inverse operations' • I know that fact families contain related addition and subtraction facts (e.g. $2+3=5$, $3+2=5$, $5-3=2$, $5-2=3$) 	<ul style="list-style-type: none"> • I can round numbers to the nearest 10, 100 or 1000 • I can use estimation to decide if an answer is likely to be correct • I can represent addition and subtraction calculations using part whole or bar models • I can use inverse calculations to ensure my calculations are accurate • I can use inverse calculations to solve missing number problems 	<p>Part whole models/bar models</p>
<p>To solve problems involving addition and subtraction, including those with more than one step</p>	<ul style="list-style-type: none"> • I know that there are different methods that can be used for addition and subtraction (mental and written strategies) • I know that some problems require more than one calculation 	<ul style="list-style-type: none"> • I can identify whether I need to add or subtract to solve a problem • I can identify the calculations needed to solve a problem • I can choose the appropriate method to carry out a calculation • I can use addition and subtraction in different contexts 	<p>Various (depending on problem and skills/knowledge required)</p>

Multiplication and division	Key Vocabulary		
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>prime number composite number</p> <p>square number cube number square (x^2)</p> <p>cube (x^3) lowest common multiple multiply</p> <p>divide multiple factor</p> </div> <div style="text-align: center;"> <p>multiply divide add subtract</p> <p>place value partition equal</p> <p>multiple remainder sum total</p> </div> </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To identify multiples of a number, including deriving multiples beyond 12 x _	<ul style="list-style-type: none"> I know that a multiple is a number that can be divided by a given number without any remainders I know that, more simply, a multiple is any number that is in the times-table of a given number I know that there are patterns and links in multiples which help me identify them (e.g. all multiples of 5 end in 0 or 5; all multiples of 9 have a digit sum of 9) 	<ul style="list-style-type: none"> I can use arrays to demonstrate and derive multiples of a given number I can identify multiples of a given number I can identify common multiples of two or more numbers 	Counters (for arrays) Numicon 100 squares
To identify factors of a number, and recognise common factors of two or more numbers	<ul style="list-style-type: none"> I know that a number is a factor of another number if it divides the number without a remainder (e.g. 5 is a factor of 35) I know that two numbers that multiply together to make a given number are known as a factor pair (e.g. 5 and 7 are a factor pair of 35) I know that all numbers have a factor pair of 'one and itself' I know that a common factor is a factor that is shared by two or more numbers 	<ul style="list-style-type: none"> I can create arrays to derive and identify factors/factor pairs of a given number I can find all the factors of a given number by working systematically I can find common factors of two or more numbers, including when a common factor is one of the numbers itself 	Counters (for arrays)
To recall the prime numbers up to 19, and be able to establish whether numbers up to 100 are prime or composite	<ul style="list-style-type: none"> I know that a prime number has exactly two factors, one and itself I know that numbers with more than two factors are known as composite numbers I know that one is a special case, and is neither a prime nor a composite number, as it has one factor 	<ul style="list-style-type: none"> I can recall prime numbers up to 19 I can determine if a given number up to 100 is prime, using my knowledge of multiplication 	Counters (for arrays)
To recognise, calculate and use square numbers, using correct notation (x^2), and cube numbers, using correct notation (x^3)	<ul style="list-style-type: none"> I know that square numbers are the result of multiplying a number by itself I know that square numbers have an odd number of factors, and can explain why this is I know that cube numbers are the result of multiplying a number by itself and then by itself again 	<ul style="list-style-type: none"> I can recognise square numbers up to 12 x 12 I can complete calculations which include square or cube numbers 	Counters/multi-link cubes

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<p>To multiply a 4-digit number by a 1-digit number using formal written methods</p>	<ul style="list-style-type: none"> I know that the digits must be lined up correctly when using column methods I know to first multiply the ones, then tens, then hundreds, then thousands 	<ul style="list-style-type: none"> I can set out calculations correctly when using column method I can multiply a 4-digit number by 1-digit I can exchange when appropriate 	<p>Base 10/dienes</p> <p>Place value grid/counters</p>
<p>To multiply a 4-digit number by a 2-digit number using formal written methods</p>	<ul style="list-style-type: none"> I know that the digits must be lined up correctly when using column methods I know to multiply the larger number by the ones first, then by the tens 	<ul style="list-style-type: none"> I can set out calculations correctly when using column method I can multiply by 2-digit numbers I can use zero as a placeholder 	<p>Base 10/dienes</p> <p>Place value grid/counters</p>
<p>To divide numbers up to 4-digits by a 1-digit number using formal written methods, including calculations with remainders</p>	<ul style="list-style-type: none"> I know that short division, also known as the bus stop method, can be used to divide larger numbers I know that remainders are the amount left over after a division I know that the remainder cannot be greater than or equal to the number I am dividing by 	<ul style="list-style-type: none"> I can set out calculations correctly when using short division I can exchange when appropriate I can calculate divisions, including those with remainders I can interpret problems correctly, knowing when to give the whole answer or just the remainder 	<p>Part whole models</p> <p>Place value grid/counters</p>
<p>To multiply and divide larger numbers mentally, drawing on known facts and times tables up to 12x12</p>	<ul style="list-style-type: none"> I know times tables up to 12 x 12 I know that multiplication follows the 'distributive law', meaning that multiplying the sum of two numbers is the same as multiplying the numbers separately 	<ul style="list-style-type: none"> I can derive multiplication and division statements from known facts (e.g. $3 \times 4 = 12$, so $30 \times 4 = 120$) I can partition two-digit numbers in order to multiply them (e.g. $34 \times 5 = (30 \times 5) + (4 \times 5)$) I can multiply by larger numbers by using my knowledge of doubling and halving (e.g. $24 \times 5 = \text{double } 12 \times 5$) 	<p>Base 10/dienes</p> <p>Place value counters</p>
<p>To multiply and divide whole numbers by 10, 100 and 1000</p>	<ul style="list-style-type: none"> I know that multiplying by 10 makes a number '10 times the size', while dividing by 10 makes a number '10 times smaller' I know that multiplying a number by 100 makes a number '100 times the size', while dividing by 100 makes a number '100 times smaller' I know that multiplying by 100 is the same as multiplying by 10 and 10 again I know that multiplying and dividing by 10 is not as simple as adding or removing zeros I know that zero can be used as a placeholder 	<ul style="list-style-type: none"> I can multiply and divide by 10 I can multiply and divide by 100 I can multiply and divide by 1000 I can explain mistakes when multiplying and dividing by 10, 100 and 1000 	<p>Base 10/dienes</p> <p>Place value grid/place value counters</p>
<p>To solve problems involving multiplication and division, including those with more than one step</p>	<ul style="list-style-type: none"> I know that some problems include more than one step I know the importance of working systematically 	<ul style="list-style-type: none"> I can represent worded problems as bar models I can identify the appropriate calculation for solving a problem I can work systematically to find all possible answers 	<p>Various (depending on problem and skills/knowledge required)</p>

Fractions	Key Vocabulary		
	<div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">add</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">subtract</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">proper fraction</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">denominator</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">numerator</div> </div> <div style="display: flex; justify-content: space-around; text-align: center; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">improper fraction</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">convert</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">multiply</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">common denominator</div> </div> <div style="display: flex; justify-content: space-around; text-align: center; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">equivalent fraction</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">mixed number</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">whole(s)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">equal parts</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">divide</div> </div> <div style="display: flex; justify-content: space-around; text-align: center; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">greater than (>)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">less than (<)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">is equal to (=)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">fraction of an amount</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 2px;">operator</div> </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To identify, calculate and use fractions which are equivalent to a given fraction	<ul style="list-style-type: none"> I know that equivalent fractions have the same value/are the same size I know that fractions are parts of a whole, and can be represented in many different ways 	<ul style="list-style-type: none"> I can use bar models and numberlines to find equivalent fractions I can find fractions equivalent to a unit fraction I can find fractions equivalent to a non-unit fraction I can recognise whether two or more fractions are equivalent, using resources to prove it I can use my times-table knowledge to find missing numerators and denominators 	<p>Folded paper strips</p> <p>Cuisenaire rods</p>
To compare and order fractions where the numerators are the same	<ul style="list-style-type: none"> I know that the top digit in a fraction is the numerator, and this tells us the number of equal parts that are shaded/represented I know that, when numerators are the same, the greater the denominator the smaller the fraction 	<ul style="list-style-type: none"> I can compare fractions using inequality symbols (<, > and =) I can order three or more fractions 	Numicon
To compare and order fractions where the denominators are the same or one denominator is a multiple of the other	<ul style="list-style-type: none"> I know that the bottom digit in a fraction is the denominator, and this tells us how many equal parts make up the whole I know that, if the denominator is the same, the greater the numerator the greater the fraction I know that, if the denominators are multiples of each other, we can find equivalent fractions to compare 	<ul style="list-style-type: none"> I can compare fractions with the same denominator using inequality symbols (<, > and =) I can compare fractions with denominators that are multiples using inequality symbols (<, > and =) I can order three or more fractions 	<p>Numicon (same denominators)</p> <p>Folded paper strips/bar models (different denominators)</p>
To add and subtract fractions where the denominators are the same or one denominator is a multiple of the other	<ul style="list-style-type: none"> I know that, when the denominators are the same, only the numerator changes I know that, if the denominators are not the same, we need to find equivalent fractions before we calculate 	<ul style="list-style-type: none"> I can add and subtract fractions with the same denominator I can add and subtract fractions with denominators that are multiples I can add three or more fractions I can, where appropriate, answer as mixed numbers 	<p>Numicon (same denominators)</p> <p>Folded paper strips/bar models (different denominators)</p>
To add and subtract mixed numbers where the denominators are the same or one denominator is a multiple of the other	<ul style="list-style-type: none"> I know that wholes and fractions can be combined to form mixed numbers I know that, if the denominators are not the same, we need to find equivalent fractions before we calculate 	<ul style="list-style-type: none"> I can add and subtract mixed numbers by looking first at the wholes, then at the fractions I can add and subtract mixed numbers by first converting to improper fractions I can break the whole in order to support subtraction I can consider when each method is most efficient 	Bar models/fraction strips

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To convert between mixed numbers and improper fractions	<ul style="list-style-type: none"> I know that fractions with a numerator greater than the denominator are greater than one, and are known as improper fractions I know that wholes and fractions can be combined to form mixed numbers 	<ul style="list-style-type: none"> I can count on in fractions beyond one I can partition a mixed number into wholes and parts I can convert improper fractions to mixed numbers I can convert mixed numbers to improper fractions 	Multi-link cubes Numicon Bar models
To find fractions of an amount, including calculating the whole when given	<ul style="list-style-type: none"> I know that fractions represent part of a whole 	<ul style="list-style-type: none"> I can find unit fractions of an amount by dividing by the denominator I can find non-unit fractions of an amount by adding/multiplying unit fractions I can use a fraction of an amount to calculate the whole 	Counters Bar models
To multiply proper fractions and mixed numbers by whole numbers, understanding that fractions can be used as operators	<ul style="list-style-type: none"> I know that multiplication can be seen as repeated addition I know that, when multiplying a fraction by an integer, the numerator changes but the denominator does not 	<ul style="list-style-type: none"> I can multiply unit fractions by an integer I can multiply non-unit fractions by an integer I can write my answer as a mixed number where appropriate I can use fractions as operators 	Cubes Bar models
Decimals and Percentages	Key Vocabulary		
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">add</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">subtract</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">decimal</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">tenths</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">divide</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">decimal point</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">whole</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">multiply</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">hundredths</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">thousandths</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">complement</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">column</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">exchange</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">place value</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">per cent (%)</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">percentage</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">decimal place</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px;">digit</div> </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To read and write numbers up to three decimal places, determining the value of each digit	<ul style="list-style-type: none"> I know that 0.1 = one tenth I know that 0.01 = one hundredth I know that 0.001 = one thousandth I know that there are ten thousandths in one hundredth, and ten hundredths in one tenth 	<ul style="list-style-type: none"> I can represent decimal numbers I can state the value of each digit in a number with decimals I can partition numbers using standard and non-standard partitioning 	Base 10/dienes Place value grids/place value counters Part whole models
To order and compare numbers up to three decimal places	<ul style="list-style-type: none"> I know the value of each digit in numbers with up to three decimal places I know to first compare the digits with the greatest place value I know that ascending means lowest to highest, while descending means highest to lowest 	<ul style="list-style-type: none"> I can compare decimals using inequality symbols (<, > and =), including those with different numbers of decimal places I can place decimals in ascending or descending order, including those with different numbers of decimal places 	Place value grids/place value counters

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<p>To add and subtract decimal numbers, including when there are a different number of digits after the decimal point</p>	<ul style="list-style-type: none"> • I know that there are one hundred hundredths in a whole • I know that we can add and subtract using column methods • I know that zero can be used as a placeholder 	<ul style="list-style-type: none"> • I can use number bonds to 10 and 100 to derive calculations involving decimals (e.g. $35+65=100$, so $0.35+0.65=1$) • I can add and subtract numbers with the same amount of decimal places • I can add and subtract numbers with different amounts of decimal places • I can set out my calculations correctly • I can use efficient strategies to add and subtract decimals 	<p>Place value grids/place value counters</p>
<p>To multiply and divide decimal numbers by 10, 100 and 1000</p>	<ul style="list-style-type: none"> • I know that, when multiplying and dividing by ten, all the digits move one place • I know that, when multiplying and dividing by one hundred, all the digits move two places • I know that, when multiplying and dividing by one thousand, all digits move three places • I know that zero can sometimes act as a placeholder 	<ul style="list-style-type: none"> • I can multiply and divide by 10 • I can multiply and divide by 100 • I can multiply and divide by 1000 • I can recognise mistakes when multiplying and dividing by powers of ten 	<p>Place value grids/place value counters</p>
<p>To round decimals to the nearest whole number or to the nearest tenth/one decimal place</p>	<ul style="list-style-type: none"> • I know that, to round to the nearest whole, we need to look at the tenths column • I know that, to round to the nearest tenth, we need to look at the hundredths column • I know that decimal numbers can round to zero 	<ul style="list-style-type: none"> • I can identify which integers or tenths a decimal lies between • I can round decimals to the nearest whole • I can round decimals to the nearest tenth 	<p>Blank number lines</p>
<p>To recognise the % symbol and know that 'per cent' means 'out of one hundred'</p>	<ul style="list-style-type: none"> • I know that 'per cent' means 'out of 100' • I know that 100% is equal to one whole • I know that 10% is equal to one tenth 	<ul style="list-style-type: none"> • I can represent percentages • I can write percentages as fractions with a denominator of 10 or 100, and vice versa • I can write percentages as decimals, and vice versa 	<p>Numicon boards and pegs/shapes</p>
<p>To convert between decimals, percentages and fractions</p>	<ul style="list-style-type: none"> • I know that $\frac{1}{4} = 0.25 = 25\%$ • I know that $\frac{1}{2} = 0.5 = 50\%$ • I know that $\frac{3}{4} = 0.75 = 75\%$ • I know that $\frac{1}{5} = 0.2 = 20\%$ 	<ul style="list-style-type: none"> • I can recall conversions for common fractions • I can use known facts to convert other fractions (e.g. if $\frac{1}{5} = 20\%$, what is $\frac{3}{5}$?) 	<p>Numicon boards and pegs/shapes</p>

Measurement	Key Vocabulary			
	perimeter distance area length width polygon centimetres (cm) square centimetres (cm ²) brackets metres square metres (m ²)	convert metric units imperial units kilo kilogram gram milli millimetre centimetre metre kilometre litre millilitre pound (lb) ounce (oz) inch (in) foot (ft) yard (yd) pint gallon	volume cube cuboid 3D shape solid capacity cm ³ cube estimate least greatest stone (st) approximately timetable formula compare estimate 2D shape	
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives	
To convert between different metric units of measurement (e.g. km/m/cm/mm or kg/g/mg)	<ul style="list-style-type: none"> I know that 1kg = 1000g, and 1g = 1000mg I know that 1km = 1000m, and 1m = 1000mm I know that 1m = 100cm, and 1cm = 10mm 	<ul style="list-style-type: none"> I can convert between metric units of length I can convert between metric units of mass I can convert between metric units of capacity 	Place value grids (to support multiplying and dividing by 10/100/1000)	Examples of different measuring tools
To convert between common metric and imperial units of measurement	<ul style="list-style-type: none"> I know that the imperial system was used historically in the UK, and is still used in some contexts I know the names of some imperial units such as inches, pounds and pints I know that some conversions between metric and imperial units are only approximate, and what this means 	<ul style="list-style-type: none"> I can convert between centimetres and inches I can convert between kilograms and pounds I can convert between pints and millilitres I can convert between different imperial units (e.g. yards and inches, pounds and ounces) 	Examples of different measuring tools (e.g. rulers, jugs)	
To convert between different units of time	<ul style="list-style-type: none"> I know that there are 60 seconds in a minute, 60 minutes in an hour and 24 hours in a day and 7 days in a week I know that there are roughly 4 weeks in a month I know that there are 12 months, or 365 days in a year (except leap years which have 366 days) 	<ul style="list-style-type: none"> I can use multiplication and division to convert between different units of time I can state how many days are in a given month I can solve problems by converting units of time 	Bar models	
To calculate, compare and estimate the volume of different shapes using cm ³ cubes	<ul style="list-style-type: none"> I know that volume is the amount of space taken up by a 3D shape or object, and is measured in cm³ I know that an estimate is a 'sensible guess', and can be more or less than the actual total 	<ul style="list-style-type: none"> I can calculate the volume of a shape by counting the number of cubes I can calculate the volume of a cuboid by multiplying the number of cubes in each layer by the height I can make different shapes with a given volume I can use inequality symbols (<, > or =) to compare the volume of different shapes I can estimate the volume of 3D shapes and objects 	Centicubes	3D shapes
To measure and calculate the perimeter of regular polygons, rectangles and other rectilinear shapes	<ul style="list-style-type: none"> I know that perimeter is the total distance around the outside of a closed 2D shape I know that a shape is 'rectilinear' if all the sides are straight and meet at right angles (e.g squares, rectangles) 	<ul style="list-style-type: none"> I can use a ruler accurately to measure the perimeter of different shapes I can mark sides of a shape I have counted in my total and work systematically I can use the properties of shapes to calculate perimeter and find missing lengths 	Match sticks	

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	<ul style="list-style-type: none"> I know that a compound/composite shape looks like two or more shapes (usually rectangles) joined together I know that a regular polygon has sides of equal length 	<ul style="list-style-type: none"> I can find the perimeter of regular polygons by multiplying the length of one side by the number of sides 	
To calculate and compare the area of squares, rectangles and other rectilinear shapes	<ul style="list-style-type: none"> I know that area is the amount of space taken up by a 2D shape, and is measured in cm^2/m^2 I know that a shape is 'rectilinear' if all the sides are straight and meet at right angles (e.g squares, rectangles) I know that a compound/composite shape looks like two or more shapes (usually rectangles) joined together I know that the area of a rectangle can be found by calculating length x width 	<ul style="list-style-type: none"> I can calculate the area of squares and rectangles using the formula length x width I can calculate the area of compound shapes by dividing them into rectangles I can compare the area of different shapes 	Centicubes
To estimate the area of irregular shapes	<ul style="list-style-type: none"> I know that area is the amount of space taken up by a 2D shape I know that I can find the area of a shape by counting squares 	<ul style="list-style-type: none"> I can estimate the area of a shape by counting the squares that are completely covered or more than half covered by it I can mark squares I have counted in my total and work systematically I can explain why my answer is only an estimate, and whether it is likely to be an over or under estimate 	
To solve problems that involve measurement and converting between units of measure, including those with more than one step	<ul style="list-style-type: none"> I know there are different units used to measure length, mass and capacity 	<ul style="list-style-type: none"> I can identify the calculations needed to solve a problem I can solve problems with more than one step 	
Geometry: Shapes and angles	Key Vocabulary		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To name and recognise 3D shapes from different viewpoints and when shown as a 2D representation	<ul style="list-style-type: none"> I know that 3D shapes are not flat but solid, and occupy space I know the names of different 3D shapes 	<ul style="list-style-type: none"> I can describe the properties of different 3D shapes (faces, edges, vertices) I can recognise 3D shapes in different orientations and from 2D representations 	3D shapes

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To distinguish between regular and irregular polygons	<ul style="list-style-type: none"> I know that polygons have three or more straight sides I know that not all shapes with the same number of sides/vertices look the same I know that regular polygons have sides equal in length and angles equal in size 	<ul style="list-style-type: none"> I can sort shapes to say if they are regular or irregular I can reason around regular and irregular polygons 	2D shapes (variety of regular and irregular polygons)
To identify and compare acute, obtuse and reflex angles, being able to estimate their size	<ul style="list-style-type: none"> I know that a quarter turn can be described as a right angle, or 90° I know that angles less than 90° are described as acute I know that angles more than 90° (but less than 180°) are described as obtuse I know that angles greater than 180° are described as reflex angles 	<ul style="list-style-type: none"> I can identify if an angle is a right angle, or acute or obtuse I can compare and order angles I can estimate the size of angles 	Right angle checkers
To draw and measure given angles accurately	<ul style="list-style-type: none"> I know that angles are measured in degrees ($^\circ$) I know that angles can be measured using a protractor 	<ul style="list-style-type: none"> I can line up and use a protractor accurately I can measure angles up to 180° I can draw given angles accurately 	Protractors
To be able to calculate missing angles around a point and on a straight line ($\frac{1}{2}$ turn)	<ul style="list-style-type: none"> I know that angles around a point (a full turn) add up to 360° I know that angles on a straight line (a half turn) add up to 180° 	<ul style="list-style-type: none"> I can calculate missing angles, using the inverse or finding the difference 	Angle makers Semi-circles (cut in different ways)
To recognise, draw and label parallel and perpendicular lines	<ul style="list-style-type: none"> I know that parallel lines stay the same distance apart and never meet (like train tracks) I know that perpendicular lines will meet at a right angle 	<ul style="list-style-type: none"> I can identify parallel and perpendicular lines in shapes and in the world around me I can mark parallel lines using arrow symbols $>$ I can mark perpendicular lines using right angle symbols I can draw examples of parallel and perpendicular lines 	

Geometry: Position and direction	Key Vocabulary		
	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">reflection</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">translation</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">vertex</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">vertices</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">coordinates</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">mirror line</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">horizontal</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; margin: 5px;">vertical</div> </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To read and plot co-ordinates on a grid	<ul style="list-style-type: none"> I know that the horizontal axis is known as the x-axis and the vertical axis is known as the y-axis I know that where the x and y axes meet (0,0) is known as the origin I know that co-ordinates state the x-axis value and then the y-axis value I know that points should be plotted where lines intersect, and not in middle of the squares 	<ul style="list-style-type: none"> I can use co-ordinates to describe where a point is on a grid I can plot points on a grid to match given co-ordinates I can use properties of shapes and my knowledge of co-ordinates to work out co-ordinates of other vertices in a shape, including when there are no gridlines 	Counters (to act as points which can be moved)
To identify, calculate and represent the position of a point or shape after a reflection	<ul style="list-style-type: none"> I know that shapes can be reflected in a line of symmetry/mirror line, and this is different to translation I know that reflected vertices should be the same distance from the mirror line as the originals. 	<ul style="list-style-type: none"> I can reflect a given point or shape in a horizontal or vertical line of symmetry 	Mirrors
To identify, calculate and represent the position of a point or shape after a translation	<ul style="list-style-type: none"> I know that, in geometry, 'translate' means 'move'. I know that points can be translated left, right, up, down, or a combination of these I know that a translated shape should look identical to the original, but be in a different position I know that when a point/vertex is translated left or right, the y-coordinate remains the same, and when it is translated up or down, the x-coordinate remains the same 	<ul style="list-style-type: none"> I can translate single points or full shapes by following given instructions I can describe a translation that has taken place I can use my knowledge of coordinates to work out the new coordinates of translated points, including when there are no gridlines 	Tracing paper Counters (to act as points which can be moved)

Statistics	Key Vocabulary		
	<div style="text-align: center;"> graph line graph table </div> <div style="text-align: center;"> horizontal axis data kilometres (km) kilograms (kg) </div> <div style="text-align: center;"> dual line graph horizontal vertical </div> <div style="text-align: center;"> plot/plotted tallies/tally timetable </div> <div style="text-align: center;"> two-way table scale axis/axes vertical axis </div>		
End of Year Objective	'I know' statements	'I can' statements	Suggested manipulatives
To draw simple line graphs accurately	<ul style="list-style-type: none"> I know that line graphs can be used to represent continuous data I know that the horizontal axis is known as the x-axis, and the vertical axis is known as the y-axis 	<ul style="list-style-type: none"> I can draw line graphs, labelling the axes and scales accurately 	
To solve comparison, sum and difference problems using information presented in a line graph	<ul style="list-style-type: none"> I know what the terms 'sum' and 'difference' mean I know that the data between plotted points on a line graph is only an estimate/trend, and not an exact value 	<ul style="list-style-type: none"> I can estimate values between two plotted points on a line graph I can make comparisons to say 'how many more...' or 'how many fewer...' using bar charts, tables or pictograms I can calculate the total number of data entries shown in bar charts, pictograms or tables 	
To read, interpret and present information in tables (including timetables and two-way tables)	<ul style="list-style-type: none"> I know what each row in a table or timetable tells me I know what each column in a row or timetable tells me I know real life contexts where timetables may be used (transport, school etc) 	<ul style="list-style-type: none"> I can interpret information represented in two-way tables I can interpret information represented in timetables I can calculate duration, start times and end times using timetables I can use tables (including time tables) to solve problems 	