

Progression of Knowledge and Skills in Maths

Statements **in blue** have been identified as 'ready to progress' objectives: key concepts which are essential building blocks for the next steps in learning.

These objectives must be embedded across the year so that children are fluent.

Progression of Knowledge and skills in Number and Place Value				
Strand	Year 3	Year 4	Year 5	Year 6
Counting	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	count in multiples of 6, 7, 9, 25 and 1 000 find 1000 more or less than a given number	count backwards through zero to include negative numbers* Moved from Y4 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	use negative numbers in context, and calculate intervals across zero
Comparing Numbers	compare and order numbers up to 1000 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 three-digit multiples of 10.	order and compare numbers beyond 1000 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	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) 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.	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) 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).
Identifying, Representing And Estimating Numbers	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		

<p>Reading And Writing Numbers</p>	<p>read and write numbers up to 1000 in numerals and in words 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.</p>	<p>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.</p>	<p>read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) 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 non-standard partitioning.</p>	<p>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value) 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 non-standard partitioning</p>
<p>Roman Numerals</p>	<p><i>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</i> (copied from Measurement)</p>	<p>Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.</p>	<p>Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p>	
<p>Rounding</p>	<p>3NPV-3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.</p>	<p>round any number to the nearest 10, 100 or 1 000 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.</p>	<p>round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 5NPV-3 Reason about the location of any number with up to 2 decimals 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.</p>	<p>round any whole number to a required degree of accuracy NPV-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.</p>
<p>Problem Solving</p>	<p>solve number problems and practical problems involving these ideas.</p>	<p>solve number and practical problems that involve all of the above and with increasingly large positive numbers</p>	<p>solve number problems and practical problems that involve all of the above</p>	<p>solve number and practical problems that involve all of the above</p>

Progression of Knowledge and skills in Addition and Subtraction

Strand	Year 3	Year 4	Year 5	Year 6
Mental Calculation	<p>3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.</p> <p>3NF–3 Apply place-value knowledge to known additive number facts</p> <p>3AS–1 Calculate complements to 100.</p> <p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds 	<p>4NF–3 Apply place-value knowledge to known additive number facts</p>	<p>add and subtract numbers mentally with increasingly large numbers</p>	<p>perform mental calculations, including with mixed operations and large numbers</p>
Order Of Operations				<p>use their knowledge of the order of operations to carry out calculations involving the four operations</p>
Written Methods	<p>3AS-2 add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p>	<p>add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p>	
Inverse Operations, Estimating And Checking Answers	<p>estimate the answer to a calculation and use inverse operations to check answers</p> <p>AS–3 Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure.</p> <p>Understand and use the commutative property of addition, and understand the related property for subtraction</p>	<p>estimate and use inverse operations to check answers to a calculation</p>	<p>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p>	<p>use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>6AS-2 Use a given calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</p>



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Problem Solving	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division 6AS/MD-4 Solve problems with 2 unknowns.
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Progression of Knowledge and skills in Multiplication and Division

Strand	Year 3	Year 4	Year 5	Year 6
Multiplication And Division Facts	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>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.</p>	<p>Recognise and use factor pairs and commutativity in mental calculations</p> <p>4NF–1 Recall multiplication and division facts up to 12x12, and recognise products in multiplication tables as multiples of the corresponding number.</p>	<p>5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</p> <p>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</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</p>	<p>Identify common factors, common multiples and prime numbers</p>
Mental Methods	<p>3NF–3 Apply place-value knowledge to known multiplicative number facts (scaling facts by 10).</p> <p>Write and calculate mathematical statements for multiplication and division using the multiplication</p>	<p>4NF–3 Apply place-value knowledge to known multiplicative number facts (scaling facts by 100).</p> <p>Use place value, known and derived facts to multiply and divide mentally, including:</p>	<p>3NF–3 Apply place-value knowledge to known multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)</p> <p>Multiply and divide numbers mentally drawing upon known facts</p>	<p>Perform mental calculations, including with mixed operations and large numbers</p> <p>6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts</p>

	<p>tables that they know, including for two-digit numbers times one-digit numbers, using mental methods</p>	<ul style="list-style-type: none"> - multiplying by 0 and 1 - dividing by 1 - multiplying together three numbers <p>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.</p> <p>4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.</p>	<p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p>	
<p>Written Methods</p>	<p>Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, progressing to formal written methods</p> <p>Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, progressing to formal written methods</p>	<p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p><i>Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</i></p>	<p>5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method, including long multiplication for two-digit numbers</p> <p>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.</p>	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>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</p>



Estimating and Checking	<i>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</i>	<i>Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</i>	<i>Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</i>	Use estimation <i>and inverse</i> to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy 6MD–2 Use a given multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
Problem Solving	Solve problems, including missing number problems, involving multiplication and division 3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit 4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Solve problems involving addition, subtraction, multiplication and division 6AS/MD–4 Solve problems with 2 unknowns.

Progression of Knowledge and skills in Fractions, Decimals and Percentages

Strand	Year 3	Year 4	Year 5	Year 6
Fractions and decimals: Counting	Count up and down in tenths 3F–3 Reason about the location of any fraction within 1 in the linear number system.	Count up and down in hundredths 4F–1 Reason about the location of mixed numbers in the linear number system		
Fractions: Recognise and write	3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten	Recognise mixed numbers and improper fractions and convert from one form to the other Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	6F–1 Recognise when fractions can be simplified, and use common factors to simplify fractions.
Fractions: Equivalence and comparing	Recognise and show equivalent fractions with small denominators Compare and order unit fractions and fractions with the same	Recognise and show families of common equivalent fractions Recognise and write decimal equivalents of any number of tenths or hundredths	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 $\frac{1}{10}$,	6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value. Use common factors to simplify fractions; use common multiples to

	denominators (including on a number line)	4F–2 Convert mixed numbers to improper fractions and vice versa.	and for multiples of these proper fractions. Identify, name and write equivalent fractions of a given fraction using tenths and hundredths Compare and order fractions whose denominators are all multiples of the same number (including on a number line)	express fractions in the same denomination 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.
Calculating With Fractions: Addition and subtraction	3F–4 Add and subtract fractions with the same denominator, within 1. (using diagrams) (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number (using diagrams) Write mathematical statements >1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
Calculating With Fractions: Multiplication and Division	3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency).		5F–1 Find non-unit fractions of quantities. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form (using diagrams) (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$)
Decimals: Recognise and write		Recognise and write decimal equivalents of any number of tenths and hundredths Recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$	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 non-standard partitioning.	

			<p>Read and write decimal numbers as fractions for example, $0.71 = \frac{71}{100}$</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p>	
Decimals: Comparing, equivalence and rounding		<p>Round decimals with one decimal place to the nearest whole number</p> <p>Compare numbers with the same number of decimal places up to two decimal places</p>	<p>Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place</p> <p>Read, write, order and compare numbers with up to 3 decimal places</p>	<p>Identify the value of each digit in numbers given to three decimal places</p>
Decimals: Multiplication and division		<p>Find the effect of dividing a one or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</p>		<p>Multiply and divide by 10, 100 and 1000 giving answers up to 3 d.p.</p> <p>Multiply one-digit numbers with up to two decimal places by whole numbers</p> <p>Use written division methods in cases where the answer has up to two decimal places</p>
Fractions, decimals and percentages			<p>Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal</p>	<p>Associate a fraction with division and calculate decimal fraction equivalents (0.375) for a simple fraction ($\frac{1}{8}$)</p> <p>Recall and use equivalence between simple fractions, decimals and percentages including in different contexts</p> <p>Find simple percentages of amounts</p>
Problem solving	Solve problems that involve all of the above	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide	<i>Solve problems involving fractions</i>	<i>Solve problems involving fractions</i>



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quantities, including non-unit fractions where the answer is a whole number

Solve simple measure and money problems involving fractions and decimals to two decimal places

Solve problems involving number up to three decimal places

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison



Progression of Knowledge and skills in Ratio and Proportion

Strand	Year 3	Year 4	Year 5	Year 6
Ratio and proportion				<p>6AS/MD-3 Solve problems involving ratio relationships.</p> <p>Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p>
Scaling			<p>Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates</p>	<p>Solve problems involving similar shapes where the scale factor is known or can be found</p>



Progression of Knowledge and skills in Algebra

Strand	Year 3	Year 4	Year 5	Year 6
Sequences				Generate and describe linear number sequences
Formulae				Use simple formulae Recognise when it is possible to use a formulae to calculate area, perimeter and volume of shapes
Equations	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction)	<i>Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit. (Copied from NSG measurement)</i>	Use the properties of rectangles to deduce related facts and find missing lengths and angles <i>(Copied from Geometry: Properties of shape)</i>	Express missing number problems algebraically Find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables

Progression of Knowledge and skills in Measures

Strand	Year 3	Year 4	Year 5	Year 6
Length	<p>Measure, add and subtract lengths (m/cm/mm)</p> <p>Compare lengths (m/cm/mm)</p>	<p>Estimate and calculate lengths</p> <p>Compare lengths</p>	<p><i>Use, read and write standard units of length to a suitable degree of accuracy</i></p> <p>Understand and use approximate equivalences between metric and common imperial units such as inches</p>	<p>Use, read and write standard units of length using decimal notation to three decimal places</p>
Perimeter	<p><i>Understand that perimeter is a measure of distance around the boundary of a shape</i></p> <p>Measure the perimeter of simple 2-D shapes</p>	<p>4G-2 Find the perimeter of regular and irregular polygons. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p>	<p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p>	<p>Recognise that shapes with the same areas can have different perimeters and vice versa</p>
Area		<p><i>Understand that area is a measure of surface within a given boundary</i></p> <p>Find the area of rectilinear shapes by counting squares</p>	<p>5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes</p>	<p>Calculate the area of parallelograms and triangles</p> <p>Recognise when it is possible to use the formulae for area and volume of shapes</p>
Mass	<p>Measure and begin to record mass/weight, <i>using non-standard and then standard units (kg and g) within children's range of counting competence</i></p> <p>Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than)</p>	<p>Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit using scales</p> <p>Compare and order mass and record the results using >, < and =</p>	<p>Measure, add and subtract mass (kg/g)</p> <p>Compare mass (kg/g)</p>	<p>Estimate and calculate mass</p> <p>Compare mass</p>



Capacity / Volume	Measure, add and subtract volume/capacity (l/ml) Compare volume/capacity (l/ml)	Estimate and calculate volume/capacity Compare volume/capacity	Estimate (<i>and calculate</i>) volume (for example, using 1 cm ³ blocks to build cuboids (including cubes)) and capacity (for example, using water) <i>Understand the difference between liquid volume, including capacity and solid volume</i> Understand and use approximate equivalences between metric and common imperial units such as pints	Use, read and write standard units of volume using decimal notation to three decimal places Calculate and estimate volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³) and extending to other units (for example, mm ³ and km ³) Compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³) and extending to other units (for example, mm ³ and km ³)
Temperature	<i>Continue to estimate and measure temperature to the nearest degree (°C) using thermometers</i>	<i>Order temperatures including those below 0°C</i>	<i>Continue to order temperatures including those below 0°C</i>	<i>Calculate differences in temperature, including those that involve a positive and negative temperature</i>
Conversion		Convert between different units of measure (e.g. kilometre to metre; hour to minute)	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) 5NPV–5 Convert between units of measure, including using common decimals and fractions.	Convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places Convert between miles and kilometres

<p>Time</p>	<p>Record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <p>Know the number of seconds in a minute, and the number of days in each month, year and leap year</p> <p>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>Estimate and read time with increasing accuracy to the nearest minute</p> <p>Compare durations of events (for example to calculate the time taken by particular events or tasks)</p>	<p>Convert between different units of time, e.g. hour to minute</p> <p>Read, write and convert time between analogue and digital 12 and 24-hour clocks</p>	<p><i>Convert between units of time in a problem solving context</i></p> <p><i>Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks</i></p>	<p>Use, read and write standard units of time</p>
<p>Money</p>	<p><i>Continue to recognise and use symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds and pence</i></p> <p><i>Recognise that ten 10p coins are equivalent to £1 and that each coin is $\frac{1}{10}$ of £1</i></p> <p>Add and subtract amounts of money to give change, using both £ and p in practical contexts</p>	<p><i>Write amounts of money using decimal notation</i></p> <p><i>Recognise that one hundred 1p coins are equivalent to £1 and that each coin is $\frac{1}{100}$ of £</i></p> <p>Estimate, compare and calculate money in pounds and pence</p>		



<p>Problem Solving (measures and money)</p>	<p><i>Solve problems involving money and measures and simple problems involving passage of time</i></p>	<p>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <i>and problems involving money and measures</i></p>	<p>Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation including scaling</p> <p>Solve problems involving converting between units of time</p>	<p>Solve problems involving the calculation and conversion of units of measure (<i>including money and time</i>), using decimal notation up to three decimal places where appropriate</p> <p>6NPV-4 read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p>
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Progression of Knowledge and skills in Geometry

Strand	Year 3	Year 4	Year 5	Year 6
Properties Of Shape – 2D	<p>3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.</p>	<p>4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal.</p> <p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>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</p> <p>Compare and classify geometric shapes based on their properties and sizes</p>	<p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles</p>	<p>Compare and classify geometric shapes based on their properties and sizes</p> <p>6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</p> <p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p>
Properties Of Shape – 3D	<p>Make 3-D shapes using modelling materials</p> <p>Recognise 3-D shapes in different orientations and describe them</p>		<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p>	<p>Recognise, describe and build simple 3-D shapes, including making nets</p>
Position and Direction - Coordinates	<p><i>Describe positions on a square grid labelled with letters and numbers</i></p>	<p>Describe positions on a 2-D grid as coordinates in the first quadrant</p>	<p><i>Describe positions on the first quadrant of a coordinate grid</i></p> <p><i>Plot specified points and complete shapes</i></p>	<p>Describe positions on the full coordinate grid (all four quadrants)</p>

<p>(including reflection and rotation)</p>		<p>4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</p> <p>Describe movements between positions as translations of a given unit to the left/right and up/down</p>	<p>Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</p>	<p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes</p>
<p>Angles and lines</p>	<p>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.</p> <p>Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn</p> <p>Identify whether angles are greater than or less than a right angle</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines</p>	<p>Identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <p><i>Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines</i></p>	<p>3G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.</p> <p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</p> <p>Draw given angles, and measure them in degrees (°)</p> <p>Identify:</p> <ul style="list-style-type: none"> - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90° 	<p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</p> <p>Find unknown angles in any triangles, quadrilaterals, and regular polygons</p>



Progression of Knowledge and skills in Statistics

Strand	Year 3	Year 4	Year 5	Year 6
Present and interpret data	Interpret and present data using bar charts, pictograms and tables <i>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.</i>	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <i>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.</i>	Complete, read and interpret information in tables, including timetables <i>5NPV-4 read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts</i>	Interpret and construct pie charts and line graphs and use these to solve problems <i>6NPV-4 read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</i>
Solve problems using data	Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Solve comparison, sum and difference problems using information presented in <i>all types of graph including</i> a line graph	<i>Solve comparison, sum and difference problems using information presented in all types of graph</i>
Averages				Calculate and interpret the mean as an average