Mowden
Infant & Junior Schools

Maths Assessment

Year 1	**Children must be able to problem solve, explaining their reasons fluently in each of the skills below.**	
	Number and Place Value (NPV)	**Addition and Subtraction (AS)**
	1. I can count, read and write numbers to 100 in numerals; forwards and backwards 2. I can count in multiples of 2, 5 and 10 3. I can use the language of: equal to, more than, less than (fewer), most, least 4. I can recognise and create repeating patterns	1. I can read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs 2. I can represent and use number bonds and related subtraction facts 3. I can add and subtract one and two digit numbers to 20 4. I can solve one-step problems
	Multiplication and Division (MD)	Fractions, Decimals, Percentage and Ratio and Proportion (FDP)
	1. I can solve one-step problems involving multiplication and division 2. I can understand multiplication as doubling and division as halving	1. I can recognise, find and name a half and a quarter 2. I can combine halves and quarters to make a whole
	Measure (M)	Geometry (G)
	1. I can compare, describe and solve practical problems for measure (length, mass, volume/capacity, time) 2. I can recognise and know the value of different denominations of coins and notes 3. I can sequence events in chronological order 4. I can recognise and use language relating to dates 5. I can tell the time to the hour and half past the hour	1. I can recognise and name common 2-D and 3-D shapes 2. I can describe position, direction and movement, including whole, half, quarter and three-quarter turns

<table>
<tr><td rowspan="6">Year 2</td><td colspan="3">Children must be able to problem solve, explaining their reasons fluently in each of the skills below.</td></tr>
<tr><td colspan="2">Number and Place Value (NPV)</td><td>Addition and Subtraction (AS)</td></tr>
<tr><td colspan="2">1. I can read, write, order and compare numbers from 0 up to 100; use <,> and = signs
2. I can count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
3. I can recognise the place value of each digit in any two-digit number
4. I can use place value and number facts to solve problems</td><td>1. I can solve problems with addition and subtraction, recalling facts to 20 fluently, and derive and use related facts up to 100
2. I can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
3. I can use inverse to check calculations and solve missing number problems</td></tr>
<tr><td colspan="2">Multiplication and Division (MD)</td><td>Fractions, Decimals, Percentage and Ratio and Proportion (FDP)</td></tr>
<tr><td colspan="2">1. I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
2. I can show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
3. I can solve problems involving multiplication and division
4. I can use x, ÷ and = signs</td><td>1. I can recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
2. I can write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
3. I can count in fractions up to 10 from any number using $\frac{1}{2}$ and $\frac{2}{4}$ equivalents</td></tr>
<tr><td>Statistics (S)</td><td>Measure (M)</td><td>Geometry (G)</td></tr>
</table>

	1. I can interpret and construct simple pictograms, tally charts, block diagrams and simple tables	1. I can compare, estimate, choose, use and order standard units of measure to solve problems: lengths, mass, volume/capacity and record the results using >, < and = 2. I can find different combinations of coins that equal the same amounts of money and can recognise and use symbols for pounds (£) and pence (p) 3. I can add and subtract money and give change 4. I can tell and write the time to five minutes, including quarter past/to the hour; and compare and sequence intervals of time 5. I know minutes in an hour and hours in a day	1. I can identify, describe, compare and sort the properties of 2-D and 3-D shapes, including the number of sides and line symmetry in a vertical line 2. I can order and arrange combinations of mathematical objects in patterns and sequences 3. I can use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

<table>
<tr><td rowspan="6">Year 3</td><td colspan="3">Children must be able to problem solve, explaining their reasons fluently in each of the skills below.</td></tr>
<tr><td colspan="2">Number and Place Value (NPV)</td><td>Addition and Subtraction (AS)</td></tr>
<tr><td colspan="2">1. I can recognise the place value of each digit in a three-digit number
2. I can count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
3. I can read, write, order, estimate and compare numbers up to 1000
4. I can round any number to 10 and 100</td><td>1. I can add and subtract numbers mentally to and from a 3 digit number
2. I can add and subtract numbers with up to three digits, using formal written methods of column addition to solve problems
3. I can estimate the answer to a calculation and use inverse operations to check answers and solve missing number problems</td></tr>
<tr><td colspan="2">Multiplication and Division (MD)</td><td>Fractions, Decimals, Percentage and Ratio and Proportion (FDP)</td></tr>
<tr><td colspan="2">1. I can recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
2. I can write and calculate mathematical statements for multiplication and division using mental methods to solve problems
3. I can write and calculate mathematical statements for multiplication and division using formal written methods to solve problems</td><td>1. I can count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
2. I can recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
3. I can add and subtract fractions with the same denominator within one whole
4. I can compare and order unit fractions, and fractions with the same denominators, recognising equivalence</td></tr>
<tr><td>Statistics (S)</td><td>Measure (M)</td><td>Geometry (G)</td></tr>
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	1. I can interpret and present data using bar charts, pictograms and tables	1. I can measure, compare, add and subtract: lengths (m/cm/mm), applying to perimeter; mass (kg/g); volume/capacity (l/ml) 2. I can add and subtract money (£/p), giving change 3. I can tell and write the time from an analogue clock (to the nearest minute), including using Roman numerals from I to XII, and 12-hour and 24-hour clocks 4. I know the relationships between seconds, minutes, days, months and years 5. I can compare durations of events [for example to calculate the time taken by particular events or tasks]	1. I can identify, describe, compare and make 2-D and 3-D shapes 2. I can recognise angles as a property of shape or a description of a turn 3. I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines 4. I can identify and recognise right angles in a turn 5. I can identify angles that are greater or less than a right angle

<table>
<tr><td rowspan="6">Year 4</td><td colspan="3">Children must be able to problem solve, explaining their reasons fluently in each of the skills below.</td></tr>
<tr><td colspan="2">Number and Place Value (NPV)</td><td>Addition and Subtraction (AS)</td></tr>
<tr><td colspan="2">1. I can count in multiples of 6, 7, 9, 25 and 1000
2. I can recognise the place value of each digit up to 10000
3. I can count backwards through zero to include negative numbers
4. I can identify, order, represent, compare and estimate four digit numbers
5. I can round any number to the nearest 1000
6. I can read Roman numerals to 100</td><td>1. I can add and subtract numbers with up to 4 digits using the formal written methods of column addition and subtraction, including solving problems in context
2. I can estimate and use inverse operations to check answers to a calculation
3. I can add and subtract numbers mentally to and from a 4 digit number</td></tr>
<tr><td colspan="2">Multiplication and Division (MD)</td><td>Fractions, Decimals, Percentage and Ratio and Proportion (FDP)</td></tr>
<tr><td colspan="2">1. I can recall multiplication and division facts for multiplication tables up to 12 × 12
2. I can recognise and use factor pairs and commutatively in mental calculations
3. I can multiply and divide two-digit and three-digit numbers by a one-digit
number using formal written layout to solve problems
4. I can multiply and divide a decimal by 10, 100 and 1000</td><td>1. I can recognise and show, common equivalent fractions
2. I can count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
3. I can solve problems involving increasingly harder fractions to calculate quantities
4. I can add and subtract fractions with the same denominator
5. I can recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ and of tenths or hundredths
6. I can round decimals with one decimal place to the nearest whole number
7. I can compare numbers with the same number of decimal places up to two decimal places</td></tr>
<tr><td>Statistics (S)</td><td>Measure (M)</td><td>Geometry (G)</td></tr>
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	1. I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs 2. I can use comparison (mean, median, mode and range), when interpreting information presented in bar charts, pictograms, tables and other graphs	1. I can convert between different units of measure in order to compare and calculate 2. I can measure and calculate the perimeter of a rectilinear figures and find their area (including counting squares) 3. I can read, write and convert time between analogue and digital 12- and 24-hour clocks 4. I can solve problems where I have to convert between seconds, minutes, hours, days, months and years	1. I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes 2. I can identify acute and obtuse angles and compare and order angles up to two right angles by size 3. I can identify lines of symmetry in 2-D shapes presented in different orientations 4. I can describe positions on a 2-D grid as coordinates in the first quadrant 5. I can describe movements between positions as translations of a given unit to the left/right and up/down.

<table>
<tr><td rowspan="3">Year 5</td><td colspan="3">Children must be able to problem solve, explaining their reasons fluently in each of the skills below.</td></tr>
<tr><td colspan="2">Number and Place Value (NPV)</td><td>Addition and Subtraction (AS)</td></tr>
<tr><td colspan="2">1. I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
2. I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
E.g. count from 67 000 in 10000’s
3. I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
4. I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
5. I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals</td><td>1. I can add and subtract whole numbers with more than 4 digits, including using formal written methods and apply these methods in different situations
2. I can add and subtract numbers mentally with increasingly large numbers</td></tr>
<tr><td>Multiplication and Division (MD)</td><td colspan="2">Fractions, Decimals, Percentage and Ratio and Proportion (FDP)</td></tr>
<tr><td>1. I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
2. I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
3. I can multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers to solve problems
4. I can divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</td><td colspan="2">1. I can compare and order fractions whose denominators are all multiples of the same number
2. I can identify, name and write equivalent fractions of any given fraction
3. I can recognise mixed numbers and improper fractions and convert from one form to the other
4. I can add and subtract fractions with the same denominator and denominators that are multiples of the same number
5. I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
6. I can read, write, order and compare decimal numbers as fractions including tenths, hundredths and thousandths and round to 1dp
7. I can round decimals with two places to whole numbers
8. I can recognise and understand the percent symbol and write percentages as a fraction with denominator 100 & decimals</td></tr>
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	5. I can multiply and divide whole numbers and decimals by 10, 100 and 1000 6. I can recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	9. I can solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	
	Statistics (S)	**Measure (M)**	**Geometry (G)**
	1. I can solve comparison (mean, median, mode and range), sum and difference problems using information presented in a line graph 2. I can complete, read and interpret information in tables, including timetables	1. I can choose when to convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) 2. I understand and use approximate equivalences between metric units and common imperial units such as inches, miles, pounds and pints 3. I can measure and calculate the perimeter of composite rectilinear shapes 4. I can calculate and compare the area of rectangles and irregular shapes 5. I can estimate volume and capacity 6. I can solve problems involving converting between units of time	1. I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations 2. I can identify, estimate, draw and compare acute, obtuse and reflex angles and use to solve problems of angles at a point and in a straight line 3. I can use the properties of rectangles to deduce related facts and find missing lengths and angles 4. I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles 5. I can identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape is the same

<table>
<tr><td rowspan="4">Year 6</td><td colspan="3">Children must be able to problem solve, explaining their reasons fluently in each of the skills below.</td></tr>
<tr><td>Number and Place Value (NPV)</td><td colspan="2">Addition, Subtraction, Multiplication and Division (ASMD)</td></tr>
<tr><td>1. I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
2. I can round any whole number to a required degree of accuracy
3. I can use negative numbers in context, and calculate intervals across zero
4. I can identify the value of each digit in numbers given to three decimal places
5. I can explore the order of operations using brackets; for example, 2 + 1 x 3 = 5 and (2 + 1) x 3 = 9</td><td colspan="2">1. I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
2. I can divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and short division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
3. I can multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
4. I can perform mental calculations, including with mixed operations and large numbers
5. I can identify common factors, common multiples and prime numbers
6. I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</td></tr>
<tr><td colspan="2">Fractions, Decimals, Percentage (FDP)</td><td>Ratio and Proportion (RP)</td></tr>
<tr><td colspan="2">1. I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination
2. I can compare and order fractions, including fractions > 1
3. I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
4. I can multiply simple pairs of proper fractions, writing the answer in its simplest form
5. I can divide proper fractions by whole numbers
6. I can associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]
7. I can multiply one-digit numbers with up to two decimal places by whole numbers
8. I can use written division methods in cases where the answer has up to two decimal places</td><td>1. I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
2. I can solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
3. I can solve problems involving similar shapes where the scale factor is known or can be found
4. I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</td></tr>
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	9. I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts			
	Algebra (A)	**Statistics (S)**	**Measure (M)**	**Geometry (G)**
	1. I can use simple formulae 2. I can generate and describe linear number sequences 3. I can find pairs of numbers that satisfy an equation with two unknowns 4. I can express missing number problems	1. I can interpret and construct pie charts and line graphs and use these to solve problems 2. I can calculate mean, mode, median, range	1. I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate 2. I can calculate using formulae for area, including parallelograms and triangles and volume of shapes, including cubes and cuboids	1. I can draw 2-D shapes using given dimensions and angles 2. I can recognise, describe and build simple 3-D shapes, including making nets 3. I can compare and classify geometric shapes based on their properties and sizes and find unknown angles *and lengths* in any triangles, quadrilaterals, and regular polygons 4. I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius 5. I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles 6. I can draw, translate, reflect and describe positions on the full coordinate grid (all four quadrants)