Federation of Mowden Schools: Maths Assessment

Year 1	**Children must be able to problem solve, explaining their reasons fluently in each of the skills below.**		**Autumn**			
	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	1E	1D	1S	1M
	Multiplication and Division (MD)	**Fractions, Decimals, Percentage and Ratio and Proportion (FDP)**	**Spring**			
	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	1E	1D	1S	1M
	Measure (M)	**Geometry (G)**	**Summer**			
	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	1E	1D	1S	1M

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Year 2	Children must be able to problem solve, explaining their reasons fluently in each of the skills below.				Autumn			
	Number and Place Value (NPV)		**Addition and Subtraction (AS)**					
	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		**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**		2E	2D	2S	2M
	Multiplication and Division (MD)		**Fractions, Decimals, Percentage and Ratio and Proportion (FDP)**		**Spring**			
	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		**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		2E	2D	2S	2M
	Statistics (S)	**Measure (M)**		**Geometry (G)**	**Summer**			
	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)	2E	2D	2S	2M

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Year 3	**Children must be able to problem solve, explaining their reasons fluently in each of the skills below.**			**Autumn**		
	Number and Place Value (NPV)	**Addition and Subtraction (AS)**	3E	3D	3S	3M
	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	**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**				
	Multiplication and Division (MD)	**Fractions, Decimals, Percentage and Ratio and Proportion (FDP)**	**Spring**			
	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	**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**	3E	3D	3S	3M
	Statistics (S)	**Measure (M)**	**Geometry (G)**	**Summer**		
	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	3E	3D	3S	3M

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Year 4	Children must be able to problem solve, explaining their reasons fluently in each of the skills below.				Autumn			
	Number and Place Value (NPV)		**Addition and Subtraction (AS)**					
	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**		**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		4E	4D	4S	4M
	Multiplication and Division (MD)		**Fractions, Decimals, Percentage and Ratio and Proportion (FDP)**		**Spring**			
	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		**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**		4E	4D	4S	4M
	Statistics (S)	**Measure (M)**		**Geometry (G)**	**Summer**			
	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.	4E	4D	4S	4M

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Year 5

Children must be able to problem solve, explaining their reasons fluently in each of the skills below.

Autumn

	5E	5D	5S	5M

Number and Place Value (NPV)

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**

Addition and Subtraction (AS)

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

Multiplication and Division (MD)

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**
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})

Fractions, Decimals, Percentage and Ratio and Proportion (FDP)

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
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

Spring

	5E	5D	5S	5M

Statistics (S)

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

Measure (M)

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**

Geometry (G)

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

Summer

	5E	5D	5S	5M

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Year 6

Children must be able to problem solve, explaining their reasons fluently in each of the skills below.

Autumn

Number and Place Value (NPV)

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

Addition, Subtraction, Multiplication and Division (ASMD)

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

6E	6D	6S	6M

Spring

Fractions, Decimals, Percentage (FDP)

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
9. I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Ratio and Proportion (RP)

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

6E	6D	6S	6M

Summer

Algebra (A)

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

Statistics (S)

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

Measure (M)

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

Geometry (G)

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)

6E	6D	6S	6M

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