



Year 5 Maths Small Steps Planning Framework:

The Buxton Maths small steps planning framework (adapted from the White Rose Resources) are a series of learning objectives that children need to master in order to progress onto more challenging lessons. There are small steps for each year group, which are sorted into blocks of weeks and linked to the Maths National Curriculum 2014 found at the end of this document, which can also be referred to. Ideally, you should follow the small steps in the order they are presented, as they have been carefully planned in this order to help children gradually develop their skills. While the small steps outline the learning objectives that children should work towards in lessons, how you plan and deliver these lessons is down to you. So here are some tips for planning lessons using the small steps.

- The small steps are a series of learning objectives and milestones, but that's not to say that one step equals one lesson. You may be able to cover several small steps in one lesson, or a single step might require a whole lesson or even several lessons. You'll need to judge how easily children will grasp these small steps and plan lessons to make sure you cover all steps within the blocks of time. If block 1 is weeks 1-3, you'll need to have covered all block 1 small steps by the end of week 3.
- Each small step assumes a certain level of understanding from the children — understanding that they should have gained while progressing through other steps. So before you progress onto more complex and challenging topics, assess children's progress to make sure they have a firm understanding of the small steps you've already covered; for example if children are unable to multiply and divide by 10,100, 1000 then do not progress to converting measurements as this skill will be needed to be able to do this.
- Some steps will be more challenging than others for children to master, so when planning lessons, think about how much support children will need when tackling each step. Consider encouraging independent learning where possible, such as during fluency tasks (use classroom secrets resources). For more challenging topics, think about guiding children through concepts with teaching slides or one-to-one support. You may need to put additional support measures in place for children with learning difficulties, SEND children or EAL children.
- Deep learning should be encouraged to ensure children develop a strong and lasting understanding of concepts that can be built upon in future lessons. So rather than flying through the small steps, schedule in time to allow children to revisit what they've learned so that they can consolidate their knowledge. In each block ensure children have mathematical fluency tasks, encourage them to explore different approaches to maths problems and apply their understanding to different contexts.
- As teaching is taught in blocks it is **important** that children are given opportunities to revisit and consolidate their learning. These have been highlighted as part of your oral mental starters (OMS) but could also be part of your early work learning during registration.

Autumn/ Week	1	2	3	4	5	6	7	8	9	10	11	12
Area of focus	Place value			Addition and subtraction		Number: Multiplication and Division		Fractions		Assessment	Data	Application and consolidation
Small steps	<ul style="list-style-type: none"> • Number to 10,000. • Roman numerals to 1,000. • Round to the nearest 10, 100 and 1000. • Number to 100,000. • Compare and order numbers to 100,000. • Round numbers within 100,000. • Numbers to a million. • Counting in 10s, 100s, 1,000s, 10,000s and 100,000s. • Compare and order numbers to a million. • Round numbers to a million. • Negative numbers. OMS ; <ul style="list-style-type: none"> • Recall times tables facts. • Mental maths (doubling/halving) • Number bonds • Recall shape 3d/2d 			<ul style="list-style-type: none"> • Add whole numbers with more than 4-digits (column method). • Subtract whole numbers with more than 4-digits (column method). • Round to estimate and approximate. • Inverse operations (addition and subtraction). • Multi-step addition and subtraction problems. OMS ; <ul style="list-style-type: none"> • Recall times tables facts. • Roman numerals • Rounding • Place value up to a million. • Reading numbers to a million. 		<ul style="list-style-type: none"> • Multiples. • Factors. • Common factors. • Prime numbers. • Square numbers. • Cube numbers. • Multiplying by 10, 100 and 1000. • Dividing by 10, 100 and 1000. • Multiples of 10, 100 and 1000. OMS ; <ul style="list-style-type: none"> • Rounding • Ordering numbers • Column addition and subtraction • Negative numbers • Money 		<ul style="list-style-type: none"> • Equivalent fractions. • Improper fractions to mixed numbers. • Mixed numbers to improper fractions. • Fraction number sequences. • Compare and order fractions less than 1. • Compare and order fractions greater than 1 • Fraction of an amount. OMS ; <ul style="list-style-type: none"> • Column addition and subtraction • Roman numerals • Reading line graphs • Multiplying and dividing by 10,100, 1000. • Recall times tables facts 		+Geometry <ul style="list-style-type: none"> • Identify 3D shapes, including cubes and other cuboids, from 2D representations. • Regular and irregular polygons. • Reasoning about 3D shapes. OMS ;	<ul style="list-style-type: none"> • Read and interpret line graphs. • Draw line graphs. • solve comparison, sum and difference problems using information presented in line graphs OMS ; <ul style="list-style-type: none"> • Recall times tables facts. • Column addition and subtraction. 	Consolidation and application of skills to problem solving. OMS ; <ul style="list-style-type: none"> • Column addition and subtraction • Common factors • Cube numbers.

										<ul style="list-style-type: none"> Column addition and subtraction. Prime numbers Square numbers 	Sequencing in 10s, 100s, 1,000s, 10,000s and 100,000s.	
Spring/Week	1	2	3	4	5	6	7	8	9	10	11	12
Area of focus	Place value – addition and subtraction		Multiplication and division	Fractions		Decimals		Measurement: Perimeter and Area	Fractions	Assessment	Data	Geometry: Position and Direction
Small steps	Revisit place value and addition and subtraction from term one – comparing, ordering, rounding numbers to a million and application to solve related problems. Revisit column addition and subtractions and application to Multi-step addition and subtraction problems. OMS ; <ul style="list-style-type: none"> Recall times tables facts. Roman numerals 		<ul style="list-style-type: none"> Multiply 4-digits by 1-digit. Multiply 2-digits (area model). Multiply 2-digits by 2-digits. Multiply 3-digits by 2-digits. Multiply 4-digits by 2-digits. Divide 4-digits by 1-digit. Divide with remainders OMS ; <ul style="list-style-type: none"> Column addition and subtraction. Rounding 2d/3d shape Decimals/fractions 	Recap on fractions from last term <ul style="list-style-type: none"> Add and subtract fractions. Add fractions within 1. Add 3 or more fractions. Add fractions. Add mixed numbers. Subtract fractions. Subtract mixed numbers. Subtract – breaking the whole. Subtract 2 mixed numbers. OMS ; <ul style="list-style-type: none"> Recall times tables facts. Column addition and subtraction. Rounding Negative numbers 		<ul style="list-style-type: none"> Decimals up to 2 d.p. Decimals as fractions (1). Decimals as fractions (2). Understand thousandths. Thousands as decimals. Rounding decimals. Order and compare decimals. Understand percentages. Percentages as fractions and decimals. Equivalent F.D.P. OMS ; <ul style="list-style-type: none"> Column addition and subtraction. Fractions recall Roman numerals Factors/prime numbers 		<ul style="list-style-type: none"> Measure perimeter. Calculate perimeter. Area of rectangles. Area of compound shapes. Area of irregular shapes. OMS ; <ul style="list-style-type: none"> Recall times tables facts. Fractions 	<ul style="list-style-type: none"> Multiply unit fractions by an integer. Multiply non-unit fractions by an integer. Multiply mixed numbers by integers. Fraction of an amount. Using fractions as operators. 	Revise addition and subtraction column methods +Revise line graphs	<ul style="list-style-type: none"> Read and interpret tables. Two way tables. Timetables. OMS ; <ul style="list-style-type: none"> Multiplying and dividing by 10,100, 1000 Number bonds Perimeter and area Column addition and subtraction 	<ul style="list-style-type: none"> Position in the first quadrant. Reflection. Reflection with coordinates. Translation. Translation with coordinates. OMS ; <ul style="list-style-type: none"> Recall times tables facts. Column addition and subtraction. Decimals
Summer/Week	1	2	3	4	5	6	7	8	9	10	11	12
Area of focus	Decimals			Multiplication	Geometry - Properties of shape			Measurement - Converting Units	Fractions	Assessment	Consolidation and application of skills to problem solving.	
Small steps	<ul style="list-style-type: none"> Adding decimals within 1. Subtracting decimals within 1. Complements to 1. Adding decimals – crossing the whole. Adding decimals with the same number of decimal places. Subtracting decimals with the same number of decimal places. 			<ul style="list-style-type: none"> Multiply 4-digits by 2-digits. Divide 4-digits by 1-digit. Divide with remainders 	<ul style="list-style-type: none"> Measuring angles in degrees. Measuring with a protractor (1). Measuring with a protractor (2). Drawing lines and angles accurately. Calculating angles on a straight line. Calculating angles around a point. Calculating lengths and angles in shapes. 			<ul style="list-style-type: none"> Kilograms and kilometres. Milligrams and millilitres. Metric units. Imperial units. Converting units of time. Timetables. 	Revise fractions from previous terms;	+ measurement volume and capacity <ul style="list-style-type: none"> What is volume? 	Consolidation and application of skills to problem solving. Revisit any areas of weakness.	

<ul style="list-style-type: none"> • Adding decimals with a different number of decimal places. • Subtracting decimals with a different number of decimal places. • Adding and subtracting whole and decimals. • Decimal sequences. • Multiplying decimals by 10, 100 and 1000. • Dividing decimals by 10, 100 and 1,000. <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p> <p>OMS ;</p> <ul style="list-style-type: none"> • Place value • Roman numerals • Negative numbers • Sequencing • Fractions 	<p>+ solve related multiplication and division problems</p> <p>OMS ;</p> <ul style="list-style-type: none"> • Column addition and subtraction • Rounding • Times tables recall. 	<p>OMS ;</p> <ul style="list-style-type: none"> • Decimals (all four operations) • Calculations for all four operations • Fractions • Position and direction 	<p>Convert for example, km and m; cm and m; cm and mm; g and kg; l and ml].</p> <ul style="list-style-type: none"> • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Solve problems involving converting between units of time. <ul style="list-style-type: none"> • Calculations for all four operations. • Perimeter and area. • Common factors/ Prime numbers/ Square numbers/ Cube numbers. • Angles 	<p>OMS ;</p> <ul style="list-style-type: none"> • Calculations for all four operations. • Angles • Position and direction 	<ul style="list-style-type: none"> • Compare volume. • Estimate volume. • Estimate capacity. <p>OMS ;</p> <ul style="list-style-type: none"> • Calculations for all four operations. <p>OMS ;</p> <ul style="list-style-type: none"> • Calculations for all four operations. • Decimals 	
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YEAR 5 - National Curriculum 2014

NUMBER - Number and place value.	NUMBER - Addition and Subtraction	NUMBER - Multiplication and Division	NUMBER - Fractions	MEASUREMENT	GEOMETRY - Properties of Shape	GEOMETRY - Position and direction	STATISTICS - Data
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • read, write, order and compare numbers to at least 1000000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1000 000 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10000 and 100000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • 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 • multiply and divide numbers mentally drawing upon known facts • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • 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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other • add and subtract fractions with the same denominator and related fractions; write mathematical statements >1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 11/5$) • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. <p>Decimals & Fractions</p> <ul style="list-style-type: none"> • read and write decimal numbers as fractions (e.g. $0.71 = 71/100$) • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places. <p>Percentages, decimals & fractions</p> <ul style="list-style-type: none"> • 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 hundred, and as a decimal fraction • solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $1/5$, $2/5$, $4/5$ and those with a denominator of a multiple of 10 or 25. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes • estimate volume (for example, using 1 cm^3 blocks to build cuboids (including cubes)) and capacity (for example, using water) • solve problems involving converting between units of time • use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify 3-D shapes, including cubes and other cuboids, from 2-D representations • know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees ($^\circ$) • identify: <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° • use the properties of rectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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>Pupils should be taught to:</p> <ul style="list-style-type: none"> • solve comparison, sum and difference problems using information presented in line graphs • complete, read and interpret information in tables, including timetables.