Year 2 – Mathematics Intent

Block	Topic	Term	Number of Weeks	Retrieval Focus
1	Number and Place Value		Estimated – 6 weeks	
2	Addition and Subtraction		Estimated – 9 weeks	
3	Money		Estimated – 2 weeks	
4	Multiplication and Division		Estimated – 6 weeks	
5	Fractions		Estimated – 3 weeks	
6	Geometry – Properties of Shape		Estimated – 2 weeks	
7	Measure – Time		Estimated – 2 weeks	
8	Statistics		Estimated – 2 weeks	
9	Geometry - Position and Direction		Estimated – 1 weeks	
10	Measure – Length, Height, Mass, Capacity and Temperature		Estimated – 4 weeks	

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Block 1			
Number and Place Value			
Substantive Knowledge National Curriculum	Ready to Progress Expected TAF Statements	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.		• Can count forwards and backwards in 2s from 0 and any number • Can count forwards and backwards in 5s from 0 and any multiple • Can count forwards and backwards in 3s from 0 any multiple • Can count forwards and backwards in 10s from any number	*Count, read and write numbers to 100 *Recognise Place Value in a 2-digit number *Examine patterns using Place Value & counting in steps of 10 *Compare and order numbers
Recognise the place value of each digit in a two-digit number (tens, ones)	2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. TAF – Partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus	• Can partition a 2-digit number into tens and ones using structured resources to support them • Can identify the number of tens and ones in a written 2-digit numbers without structured resources	*Identify and positions numbers on marked and blank number lines *Partition numbers into different combinations of tens and ones *Counting in steps of 2, 5 and 3
Identify, represent and estimate numbers using different representations, including the number line	2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. TAF – Read scales* in divisions of ones, twos, fives and tens	• Can position 2-digit numbers on a marked number line and reason about where they are positioned	*(Reflect on which elements of counting in different multiples to cover now and which to cover in Multiplication and Division Block)*
Compare and order numbers from 0 up to 100; use <, > and = signs		• Can create 2-digit numbers using concrete equipment and use to compare by reasoning about the size of numbers	

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		• Can compare numbers by identifying their relative positions in the linear number system (number line) • Can position the <, > and = signs correctly between two 2-digit numbers	
Read and write numbers to at least 100 in numerals and in words		• Can read numbers from 1 – 100 in numerals • Can write numbers from 1 – 100 in words	
Use place value and number facts to solve problems.		• Can use coins to make given amounts of money, applying place value • Can solve problems linked to place value	

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Block 2
Addition and Subtraction

Substantive Knowledge National Curriculum	Ready to Progress Expected TAF Statements	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice. TAF – Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)	• Can relate number facts to 10 to adding and subtracting multiples of 10 within 100 • Can recall and use addition and subtraction facts to 20 fluently; derive and use related facts to 100 • Can solve missing box and missing symbol calculations	*Add and subtract within 10 *Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
• A two-digit number and ones
• A two-digit number and tens
• Two two-digit numbers
• Adding three one-digit numbers
	2AS–1 Add and subtract across 10
	
	2AS–3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.
	
	2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.
	
	2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".
	
	TAF – Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)
		• Can add and subtract numbers mentally, including:
		   o a 2-digit number and 1s
		   o a 2-digit number and 10s
		   o 2 simple, 2-digit numbers, which do not involve bridging a 10
		   o adding 3 single-digit numbers
		• Can add and subtract two 2-digit numbers that bridge a multiple of 10 using jottings or a series of related number sentences to avoid overload of working memory
		• Can use concrete apparatus or pictorial representations to demonstrate how they have calculated an answer.
			* Understand that equations need to be balanced and an equation can have an expression on both sides.
			*Compare expressions with > < and = symbols
			* Recognise the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
			*Recall and use addition and subtractions facts within and to 20

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Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	TAF – Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 − 3 = 4, then 17 − 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 − 14 = 3 and 17 − 3 = 14)	• Can show that addition can be done in any order (commutative) • Can show that subtraction can't be done in any order	*Derive and use addition and subtraction facts to 100 *Consolidate adding two 1-digit numbers crossing the tens boundary *Consolidate subtracting a 1-digit number from a teen number crossing the tens boundary *Adding three 1-digit numbers (odd & even) *Add a 2-digit number and ones *Add a 2-digit number and tens *Add two 2-digit numbers (no bridging, with bridging, adjusting & compensating) *Subtract a 1-digit number from a 2-digit number * Subtract tens from a 2-digit number * Subtract two 2-digit numbers (no bridging, bridging, adjusting & compensating) *Use finding the difference to solve comparative problems *Solve word problems
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.		• Can recognise and use the inverse relationship between addition and subtraction • Can check calculations using the inverse operation	
Solve problems with addition and subtraction: Using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods		• Solve one-step addition problems using mental strategies • Solve one-step subtraction problems using mental strategies • Solve one-step addition problems using a written method in line with school calculation policy e.g. counting on a number line, partitioning • Solve one-step subtraction problems using a written method in line with school calculation policy e.g. counting back on a number line, partitioning • Understand when a word problem involves addition or subtraction	

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Block 3			
Money			
Substantive Knowledge **National Curriculum**	**Ready to Progress** **Expected TAF Statements**	**Key Performance Indicators**	**Sequence of learning** **Detailed in Planning Overview**
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	No specific Ready to Progress statements for Money but use the opportunity to consolidate prior statements as appropriate e.g 2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. 2AS–1 Add and subtract across 10. 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".	• Can record using symbols £ and p (separately, depending on the unit being used) • Can add together different coins and find the total Can find coins that make a particular amount *e.g. Which coins could you use to make 20p?*	*Recognise coins and notes (recap year 1) * Combine amounts to make a particular value * Find total value of groups of coins and notes and record using symbols £ and p (separately, depending on the unit being used) * Find different combinations of coins that equal the same amount of money
Find different combinations of coins that equal the same amounts of money		• Can say how many different combinations of coins can you use to make a given total *e.g. 20p*	
Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change		• Can find totals of different amounts of money • Can decide which coins could be used to pay for the total • Can solve subtraction problems such as *Jess has saved 62p. She spends 15p. How much does she have left?* • Can find change from a given amount *e.g. Jess buys a banana for 23p. She pays for it using a 50p. How much change does she get?*	* Solve simple problems in a practical context involving addition of money * Solve simple problems in a practical context involving change * Solve simple problems in a practical context involving subtraction of money (other than change) *Consolidation, reasoning and problem solving
	TAF – Use different coins to make the same amount		

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Block 4			
Multiplication and Division			
Substantive Knowledge **National Curriculum**	**Ready to Progress** **Expected TAF Statements**	**Key Performance Indicators**	**Sequence of learning** **Detailed in Planning Overview**
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward		• Can count forwards and backwards in 2s from 0 and any number • Can count forwards and backwards in 5s from 0 and any multiple • Can count forwards and backwards in 3s from 0 any multiple • Can count forwards and backwards in 10s from any number	*Understand and use the language of equal groups *Link equal groups to repeated addition *Link equal groups to multiplication sentences with x symbol *Recall and use multiplication facts from the 2x table
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	TAF – Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can use concrete objects to show understanding of multiplication • Can recall the 10x table in a random order • Can recall the 2x table in a random order • Can recall the 5x table in a random order • Can recognise odd and even numbers	*Recall and use multiplication facts from the 10x table *Recall and use multiplication facts from the 5x table *Recall and link facts from the 2x, 5x and 10x tables and reason about patterns between times table facts *Introduce arrays and the new term 'multipled by'
Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing	• Can write addition sentences as multiplication sentences and vice versa • Can when shown an array, write the 4 addition and multiplication sentences that the image represents and 2 division facts	* Link repeated addition and 'multiplied by' number sentences *Use an array to show that multiplication can be done in any order (commutative law) * Divide by grouping and record using the ÷ symbol *Divide by sharing and record using the ÷ symbol

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	factor, and to division equations (quotative division).		*Compare division by grouping and division by sharing
Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	TAF – Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can use an array to explain the commutative law *e.g. Why 2 x 5 is the same as 5 x 2?* • Can use an array to record the 2 division sentences that can be made from the image • Can explain why a division calculation cannot be done in any order *e.g. Why is 2 ÷ 10 not 5?*	*Related multiplication and division facts *Solve problems involving multiplication and division, using mental methods, and multiplication and division facts
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division). TAF – Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can use materials, arrays, repeated addition, mental methods, and multiplication and division facts to solve multiplication word problems in context • Can use materials, arrays, mental methods, and multiplication and division facts to solve sharing word problems in context • Can use materials, arrays, mental methods, and multiplication and division facts to solve grouping word problems in context • Can use materials, arrays, repeated addition, mental methods, and multiplication and division facts to solve multi-step problems involving multiplication and division in context	

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Block 5
Fractions

Substantive Knowledge National Curriculum	Ready to Progress Expected TAF Statements	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ of a length, shape, set of objects or quantity	TAF – Identify $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}, \frac{2}{4}, \frac{3}{4}$ of a number or shape, and know that all parts must be equal parts of the whole	• Can find unit fractions $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ of lengths, shapes or quantities by splitting into equal parts. • Can find non-unit fractions $\frac{2}{3}, \frac{2}{4}, \frac{3}{4}$ of lengths, shapes or quantities by selecting more than one part after splitting equally • Can find unit fractions $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ of a set of objects by splitting into equal groups and make links to division • Can find non-unit fractions $\frac{2}{3}, \frac{2}{4}, \frac{3}{4}$ of a set of objects by splitting equally then totalling the number of groups identified by looking at the numerator	*Recap Halves and Quarters *Introduce Fractions Notation 1/2 and ¼ *Find and Name Fraction One Third and Use Fractions Notation 1/3 *Find and Name 1/2,1/4,or 1/3 of a Set of Objects and Record as Sentences e.g. ½ of 8 = 4 *Introduce Non–Unit Fractions 2/3, 2/4 and 3/4 of an Object, Shape or Length *Find 2/3, 2/4 and 3/4 of a Set of Objects *Fractions as Steps in the Counting Sequence and on Number Lines *Problem Solving
Write simple fractions for example, $\frac{1}{2}$ of 6 = 3		• Can record fractions in writing and understand what each part represents • Can use a fraction as an operator on a number and record as a number sentence • Can calculate by dividing the number by the denominator and multiplying by the numerator	
Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$		• Count in fractions up to 10 and place on a number line • Use a number line to show that ½ is equivalent to $\frac{2}{4}$ • Reason about the equivalence of $\frac{1}{2}$ and $\frac{2}{4}$ using objects or images	

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Block 6			
Geometry – Properties of Shape			
Substantive Knowledge **National Curriculum**	**Ready to Progress** **Expected TAF Statements**	**Key Performance Indicators**	**Sequence of learning Detailed in Planning Overview**
Identify and describe the properties of 2–D shapes, including the number of sides and lines symmetry in a vertical line	2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties TAF – Name and describe properties of 2–D and 3–D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	• Can identify the number of sides on a range of 2D shapes • Can identify the number of vertices on a range of 2D shapes • Can define a polygon as a shape with straight sides and identify whether a 2D shape is a polygon or not • Can identify shapes by counting the number of sides or vertices including knowing quadrilateral as the generic term for a 4-sided shape • Recognises irregular shapes and can reason about this e.g. knows that every 5 sided polygon is a pentagon. • Can distinguish a square and a rectangle as special quadrilaterals and explain which properties define them • Can identify lines of symmetry on 2–D shapes	* Introduction and recap of shape work from year 1 * Name and describe properties of 2D shapes including sorting by those properties * Lines of symmetry * Name and describe properties of 3D shapes including sorting by those properties and identifying 2Dshapes as faces on 3D shapes *Consolidation with further sorting and problem solving
Identify and describe the properties of 3–D shapes, including the number of edges, vertices and faces		• Can recognise and name 3–D shapes, including cuboids, prisms and cones • Can describe the properties of 3–D shapes, including number of faces, edges and vertices	
Identify 2–D shapes on the surface of 3–D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]		Can identify 2–D shapes on the surface of a 3–D shape, including: • A triangle on a pyramid • A square on a cube • A rectangle on a cuboid • A circle on a cylinder and cone • A triangle and rectangle on a triangular prism	
Compare and sort common 2–D and 3–D shapes and everyday objects.		• Can sort and classify 2–D and 3–D shapes and everyday objects using a Venn diagram, according to their properties • Can sort and classify 2–D and 3–D shapes and everyday objects using a Carroll diagram	

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		Block 7	
		Measure – Time	
Substantive Knowledge **National Curriculum**	**Ready to Progress** **Expected TAF Statements**	**Key Performance Indicators**	**Sequence of learning** **Detailed in Planning Overview**
Compare and sequence intervals of time		• Can describe intervals of time in days • Can state the difference between time in days. • Can measure accurately in hours, seconds and minutes • Can add and subtract intervals to times on clocks	*Introduction & recap of analogue clocks from Y1 *Understand the term clockwise *o'clock & half past with just the hour hand *Quarter past & quarter to with just the hour hand *o'clock half past, quarter past and quarter to with just the minute hand (Measuring in fractions of an hour)
Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	TAF – Read the time on a clock to the nearest 15 minutes	• Can tell the time to quarter past the hour • Can tell the time to quarter to the hour • Can tell the time to the nearest 5 minutes	*Telling the time on an analogue clock with both hands to the nearest 15 minutes (TAF expected) *Telling the time on an analogue clock with both hands to the nearest 5 minutes (NC objective)
Know the number of minutes in an hour and the number of hours in a day		• Know that there are 60 minutes in an hour • Know that there are 24 hours in a day	*Know the number of minutes in an hour *Know the number of hours in a day *Compare and sequence units of time *Link telling the time with time durations *Compare and sequence intervals of time

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	Block 8		
	Statistics		
Substantive Knowledge **National Curriculum**	**Ready to Progress** **Expected TAF Statements**	**Key Performance Indicators**	**Sequence of learning Detailed in Planning Overview**
Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. TAF – Read scales* in divisions of ones, twos, fives and tens	• Can generate data in everyday situations *e.g. How many children eat dinner or packed lunch?* • Can present data in different ways using a scale of 1, 2, 5 or 10 • Can answer retrieval questions from the charts and graphs that they are working with	*Introduction – key vocab * Interpret and construct simple tally charts and ask and answer questions about the data *Interpret and construct simple tables and ask and answer questions about the data
Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity		• Can answer questions about the data that they have collected using scales of 1, 2, 5 and 10 *e.g. which is the most popular chocolate bar when a full chocolate bar represents 2 people on a pictogram?*	*Interpret and construct simple pictograms and ask and answer questions about the data
Ask and answer questions about totalling and comparing categorical data.	2AS–1 Add and subtract across 10 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".	• Can find the total of two categories on a pictogram, tally, block diagram and simple table • Can find the difference between two categories on a pictogram, tally, block diagram and simple table to answer How many more…? How many fewer…? questions	*Interpret and construct simple block diagrams and ask and answer questions about the data *Consolidation – ask and answer questions about a variety of different representations

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Block 9			
Geometry – Position and Direction			
Substantive Knowledge National Curriculum	Ready to Progress Expected TAF Statements	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Order and arrange combinations of mathematical objects in patterns and sequences		• Can continue and create patterns of shapes, including those in different orientations. • Can identify the unit of repeat	*Describe position (in, on, under, in front of, behind, in between, next to, on the left of, on the right of, above, below)
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).		• Confidently uses and understands terms, forwards, backwards, left and right, up and down to describe routes on a grid • Can recognise when an image has been rotated a whole, half, quarter or three-quarter turn • Can rotate themselves or an object clockwise or ant-clockwise • Can program robots using instructions given in right angles	*Describe direction and movement without turns (forwards, backwards, left, right, up, down) *Describe rotation as turns (whole, half quarter and three quarter turns clockwise and anti-clockwise) *Describe rotation in terms of right angles *Describe direction and movement including using a range of vocabulary to describe turns *Order and arrange combinations of mathematical objects in patterns and sequences

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Block 10
Measures – Length, Height, Mass, Capacity & temperature

Substantive Knowledge National Curriculum	Ready to Progress Expected TAF Statements	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. TAF – Read scales* in divisions of ones, twos, fives and tens	• Can make sensible estimations in relation to all areas of measure • Can measure accurately in centimetres and metres using rulers and metre sticks • Can record measures using correct abbreviations cm and m • Can measure accurately in grams and kilograms using measuring scales • Can record measures using correct abbreviations g and kg • Can measure accurately in millilitres and litres using measuring vessels • Can record measures using correct abbreviations ml and l • Can measure accurately in degrees Celsius • Can record measures using correct abbreviations °C • Can measure accurately in hours, seconds and minutes • Can decide the correct unit of measure to use in a given situation *e.g. What unit of measure would we use to measure the mass of an apple?* • Can decide on the appropriate measuring tool to use in a given situation *e.g. what would you use to see how much water is in this cup?*	*Introduction – choosing sensible units and equipment *Number lines recap *Choose and use appropriate standard units to estimate and measure length /height in any direction (m/cm) to the nearest appropriate unit, using rulers *Compare and order lengths *Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit, using measuring vessels *Compare and order volume/capacity *Choose and use appropriate standard units to estimate and measure mass (kg/g) using scales *Compare and order mass *Choose and use appropriate standard units to estimate and measure temperature (°C) to the nearest appropriate unit, using thermometers *Compare and order temperature *Solve problems with addition and subtraction
Compare and order lengths, mass, volume/capacity and record the results using >, < and =		• Can compare and order different units of measure • Can use ‹ › and = to record comparisons	

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			using concrete objects and pictorial representations, including those involving numbers, quantities and measures *Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts