BILSTON CHURCH OF ENGLAND PRIMARY
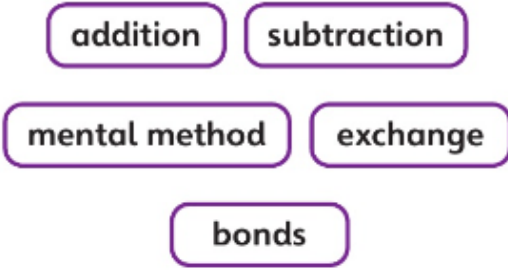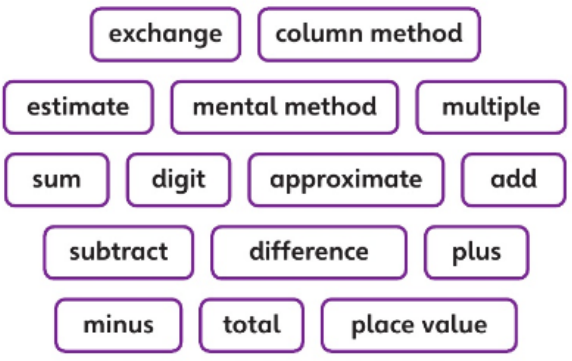
Subject	Year Group	Term
Maths	3	Autumn

Topic	National Curriculum Objectives	Power Maths Unit	NCETM Professional development documents	Ready to Progress Criteria
Number and Place Value (duration approximately 13 days)	• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). • Identify, represent and estimate numbers using different representations. • Read and write numbers up to 1,000 in numerals and in words. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) (three-digit number).	• Power Maths Unit 1 hundreds (100s) tens (10s) ones (1s) place value more less greater than (>) less than (<) equal to order compare estimate exchange ascending descending	Spine 1 1.17 Composition and calculation: 100 and bridging 100 When children are completing bar models or reading scales, encourage them to reason using the stem sentence: *'One hundred is divided into ___ equal parts; so each part/division has a value of ___.'* *'I know that ___ plus ___ is equal to ten.'* *'So, ___ tens plus ___ tens is equal to ten tens.'* *'___ plus ___ is equal to 100.'*	• 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. • 3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers

			1.18	using standard and non-standard partitioning.
	• Compare and order numbers up to 1,000. • Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). • Identify, represent and estimate numbers using different representations. • Solve number problems and practical problems involving these ideas.		*'___ is ___ ones.'* *'___ is ___ hundreds and ___ ones.'* *'___ is ___ tens and ___ ones.'* *'___ is ___ hundreds, ___ tens and ___ ones.'* *'I know that ten minus ___ is equal to ___.'* *'So, ten tens minus ___ tens is equal to ___ tens.'* *'100 minus ___ is equal to ___.'* Composition and calculation: three digit numbers *'What digit is in the ___ place?'* *'What is the value of the ___ digit?'* *'What does the ___ represent?'* *'___ is between ___ and ___.'* *'___ is the previous multiple of one hundred.'* *'___ is the next multiple of one hundred.'*	• 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. • 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.
Addition and Subtraction (duration approximately 10 days)	• . Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds. • Solve problems,	• Power Maths unit 2	Spine 1 1.19 Securing mental strategies : calculation up to *'First we add: ___ plus ___ is equal to ___ ...'* *'...then we adjust: ___ minus ___ is equal to ___.'* 999	• 3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. • 3NF–3 Apply place-value knowledge to known additive and

	including missing number problems, using number facts, place value, and more complex addition and subtraction. • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	addition subtraction mental method exchange bonds	Provide practice with a range of examples. Encourage children to refer back to the generalisation for support and use the following stem sentence: *'I have added ___ to this addend, so I need to subtract ___ from the other addend.'* For Dienes: • *'We line up the ones; ___ one(s) plus ___ one(s).'* • *'We line up the tens; ___ ten(s) plus ___ ten(s).'* For the column addition calculation: • *'The ___ is in the ones column – it represents ___ one(s); the ___ is in the ones column – it represents ___ one(s).'* 1.20 Algorithms: column addition 1.21 Algorithms: column subtraction	multiplicative number facts (scaling facts by 10). • 3AS–1 Calculate complements to 100. • 3AS–2 Add and subtract up to three-digit numbers using columnar methods.

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			• For Dienes:
			  • '___ one(s) minus ___ one(s) is equal to ___ ones.'
			  • '___ ten(s) minus ___ ten(s) is equal to ___ tens'.
			• For the column addition calculation:
			  • 'The ones column represents ___ one(s) minus ___ one(s) is equal to ___ ones.'
			  • 'The tens column represents ___ ten(s) minus ___ ten(s) is equal to ___ tens.'	

Addition and Subtraction (duration approximately 13 days)	• Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds. • Add and subtract numbers with up to three digits, using	• Power Maths Unit 3 exchange column method estimate mental method multiple sum digit approximate add subtract difference plus minus total place value	Spine 1 1.19 Securing mental strategies : calculation up to 999 'First we add: ___ plus ___ is equal to ___…' '…then we adjust: ___ minus ___ is equal to ___.' 1.20 Algorithms: column addition	• 3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. • 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts

	formal written methods of columnar addition and subtraction.
	• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
	• Estimate the answer to a calculation and use inverse operations to check answers.
	•
			1.21 Algorithms: column subtraction
			
			• For Dienes:
			  • '___ one(s) minus ___ one(s) is equal to ___ ones.'
			  • '___ ten(s) minus ___ ten(s) is equal to ___ tens'.
			• For the column addition calculation:
			  • 'The ones column represents ___ one(s) minus ___ one(s) is equal to ___ ones.'
			  • 'The tens column represents ___ ten(s) minus ___ ten(s) is equal to ___ tens.'
				(scaling facts by 10).
				• 3AS–1 Calculate complements to 100.
				• 3AS–2 Add and subtract up to three-digit numbers using columnar methods.
				• 3AS–3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.

Multiplication and Division (duration approximately 18 days)	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication and division	• Power Maths Unit 4	Spine 2 2.7 Times tables: 2, 4, and 8, and the relationship between them	• 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.

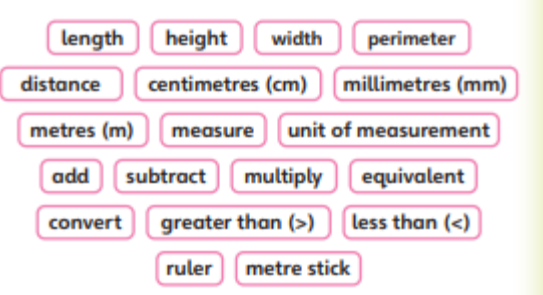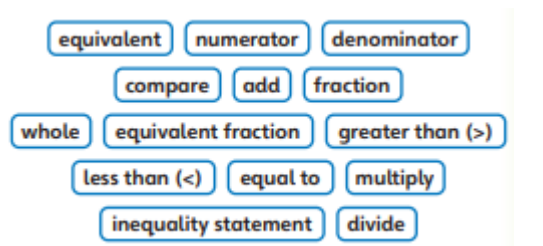|			
	using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. • Recall multiplication and division facts for multiplication tables up to 12 × 12 (3, 4 and 8).	equal multiply divide multiple times-tables sharing grouping array bar model repeated addition commutative Power Maths unit 5 equal multiply divide multiple times-tables sharing grouping array bar model repeated addition multiplication sentence multiplication fact division sentence division fact remainder	'___ is a factor.' '___ is a factor.' 'The product of ___ and ___ is ___.' '___ is the product of ___ and ___.' • 'Four is double two, so ___ fours is double ___ twos.' • 'Two is half of four, so ___ twos is half of ___ fours.' 2.8 Times tables: 3, 6, and 9, and the relationship between them	• 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. • 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). • 3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.
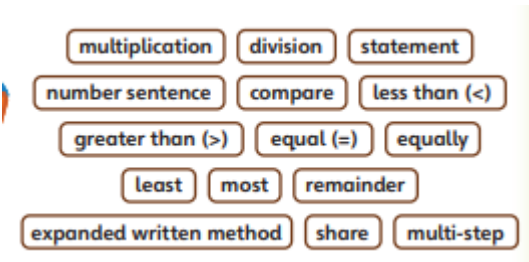
Subject	Year Group	Term
Maths	3	Spring

Topic	National Curriculum Objectives	Power Maths Unit	NCETM Professional development documents	Ready to Progress Criteria
Properties of shapes (approximately 1 week)	• Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	• Power Maths unit 14 right angle acute obtuse parallel perpendicular vertical horizontal triangle quadrilateral kite trapezium rhombus parallelogram cuboid triangular prism square-based pyramid cone cylinder sphere edges faces vertices clockwise anticlockwise	•	• 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. • 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.

	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.			
Multiplication And Division (approximate duration 13 days)	• Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Recall multiplication and division facts for multiplication tables up to 12 × 12 (3, 4 and 8)	Power Maths unit 6 multiplication division statement number sentence compare less than (<) greater than (>) equal (=) equally least most remainder expanded written method share multi-step	Spine 2 2.7 Times tables: 2, 4, and 8, and the relationship between '___ is a factor.' '___ is a factor.' 'The product of ___ and ___ is ___.' '___ is the product of ___ and ___.' them 2.8 Times tables: 3, 6, and 9, and the relationship between them • 'Four is double two, so ___ fours is double ___ twos.' • 'Two is half of four, so ___ twos is half of ___ fours.'	• 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).

Measure **Length** (approximate duration 11 days)	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). • Measure the perimeter of simple 2D shapes. •	Power Maths unit 7 length height width perimeter distance centimetres (cm) millimetres (mm) metres (m) measure unit of measurement add subtract multiply equivalent convert greater than (>) less than (<) ruler metre stick		•
Fractions (approximate duration 10 days)	• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • 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. • Compare and order unit fractions, and fractions with the same denominators. • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Solve problems that involve all of the above.	Power Maths unit 8 equivalent numerator denominator compare add fraction whole equivalent fraction greater than (>) less than (<) equal to multiply inequality statement divide	• Spine 3 • 3.1. Preparing for fractions: the part-whole relationship *'If Europe is the whole, then ___ is part of the whole.'* *'If the week is the whole, then ___ is part of the whole.'* *'If the school day is the whole, then ___ is part of the whole.'* *'The whole has been divided into _____ equal/unequal parts.'* *'The parts are equal. I know this because the number of ____ in each part is the same.'* *'The parts are unequal. I know this because the number of ____ in each part is not the same.'* 3.2. unit fractions: identifying, representing and comparing *'If ___ is the whole, then ___ is part of the whole.'* *'The whole has been divided into ___ equal/unequal parts.'*	• 3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. • 3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency). • 3F–3 Reason about the location of any fraction within 1 in the linear number system.

			'The whole has been divided into ___ equal parts.' *'___ of the parts has been shaded.'* *'If one- ___ is a part, then the whole is ___ times as much. Take ___ parts and put them together to make one whole.'*	
Measure Mass (approximate duration 7 days	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). •	Power Maths Unit 9) [mass] [measure] [kilograms (kg)] [scale] [interval] [grams (g)]	•	•
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MEDIUM TERM PLANNING

Subject	Year Group	Term
Maths	3	Summer

Topic	• National Curriculum Objectives	• Power Maths Unit	• NCETM Professional development documents	• Ready to Progress Criteria
Measure Capacity (approximate duration 6 days)	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Power Maths Unit 10 • capacity litre (l) millilitre (ml) convert scale interval	•	•
Fractions (approximately 2 weeks)	• Recognise and show, using diagrams, equivalent fractions with small denominators • Compare and order unit fractions, and	• Power Maths unit 11	• Spine 3 3.2. unit fractions: identifying, representing and comparing	• 3F–3 Reason about the location of any fraction within 1 in the linear number system. • 3F–4 Add and subtract

	fractions with the same denominators • Solve problems that involve all of the above. • Add and subtract fractions with the same denominator within one whole • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Solve simple measure and money problems involving fractions and decimals to two decimal places.	equivalent numerator denominator compare add subtract fraction whole equivalent fraction greater than (>) less than (<) equal to multiply divide difference inequality statement ___	**3.3 Non unit fractions: identifying, representing and** Discuss how many parts each whole has been split into. Encourage children to describe the examples using the stem sentence: *'There are ___ equal parts in the whole. There are ___ parts shaded. ___ is shaded.'* *'The whole has been divided into ___ equal parts. ___ of the parts have been shaded; that is ___ of the whole.'* *'When the numerator and denominator are the same ___'* comparing **3.4 Adding and subtracting within one whole** '$\frac{\Box}{\Box}$ is ___ lot of $\frac{1}{\Box}$' '$\frac{\Box}{\Box}$ is ___ lots of $\frac{1}{\Box}$' 'I know that ___ is less than ___ …' '…so $\frac{\Box}{\Box}$ is less than $\frac{\Box}{\Box}$'	fractions with the same denominator, within 1.

			$\dfrac{\square}{\square}$ is ___ lots of $\dfrac{\square}{\square}$, $\dfrac{\square}{\square}$ is ___ lots of $\dfrac{\square}{\square}$, 'I know that ___ + ___ = ___' '...so, I know that $\dfrac{\square}{\square} + \dfrac{\square}{\square} = \dfrac{\square}{\square}$,' '$\dfrac{4}{15}$ is ___ lots of $\dfrac{1}{15}$.' '$\dfrac{2}{15}$ is ___ lots of $\dfrac{1}{15}$.' 'I know that ___ + ___ = ___' '...so, I know that $\dfrac{4}{15} + \dfrac{2}{15} = \dfrac{\square}{\square}$,'	•
Measure Money (approximately 1 week)	• Add and subtract amounts of money to give change, using both £ and p in practical contexts. •	Power Maths unit 12 • pounds (£) and pence (p) convert total difference change	•	•
Measure Time (approximately 2 weeks)	• Know the number of seconds in a minute and the number of days in each month, year and leap year. • Tell and write the time from an analogue clock, including using Roman numerals	• Power Maths unit 13 month year midnight midday am pm duration estimate consecutive hour minute second past to start end duration digital clock analogue clock	•	•

	from I to XII, and 12-hour and 24-hour clocks. • Estimate and read time with increasing accuracy to the nearest minute; 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 • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. • Compare durations of events (for example to calculate the time taken by particular events or tasks). • Convert between different units of measure (for example, kilometre to metre; hour to minute).			
Statistics (approximately 1 week)	• Interpret and present data using bar charts, pictograms and tables. • 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 one-step and two-step questions (for example, 'How many more?' and	Power Maths unit 15 pictogram key bar chart scale table row column vertical axis		

	'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.		