# BILSTON CHURCH OF ENGLAND PRIMARY

#### MEDIUM TERM PLANNING

Subject	Year Group	Term
Maths	6	Autumn

Curriculum       Objectives         Number and       • Read, write, order and compare numbers up to       • Power Maths Unit I         Place Value       • Operation of the value of each digit.       • Power Maths Unit I         (Approximat ely 8 days)       • Addition of the value of each digit.       • Inillions (1,000,000s)       • The million (10,000,000)	tion and calculation: numbers up to	Progress Criteria • 6NPV-1 Understand the relationship between powers of 10 from 1
Objectives       • Read, write, order and compare numbers up to 0,000,00 0 and determine ely 8 days)       • Power Maths Unit I       • Spine I         Image: Number and Place Value       • Read, write, order and compare numbers up to 0,000,000 0 and determine the value of each digit.       • Power Maths Unit I       • Spine I         Image: Number and Place Value       • Oover Maths Unit I       • Spine I       I.30 composition 10,000,000         Image: Number and Place Value       • Oover Maths Unit I       • The	tion and calculation: numbers up to DO epresents'	Criteria • ONPV-I Understand the relationship between powers of IO from I
Number and       • Read, write, order and compare numbers up to 10,000,00 O and determine the value of each digit.       • Power Maths Unit I       • Spine I         (Approximat ely 8 days)       • Power Maths Unit I       • Intervalue of each digit.       • Power Maths Unit I       • Spine I         (Approximat ely 8 days)       • Intervalue of each digit.	tion and calculation: numbers up to presents' of the is'.	• 6NPV-1 Understand the relationship between powers of 10 from 1
<ul> <li>number number and practical problems that involve all of the above.</li> <li>Round any whole number to a required degree of accuracy.</li> <li>Use negative numbers in compare</li> <li>Dace value partition interval inter</li></ul>	ad' ple of one million is The next multiple of one million ded to the nearest million.' ad' e of one hundred thousand is The next multiple of one hund fed to the nearest one hundred thousand.' al place value knowledge,	nunareath to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV-2 Recognise the place value of each digit in numbers



	intervals			including
	across zero.			decimal
				fractions,
				and compose
				and '
				decompose
				numbersjup
				to 10 millión
				using
				staņdard
				and pon-
				standard
				partitioning.
				I● <u>6</u> NPV_3
				Reason about
				the location
				ot any
				number up
				io 10 million,
				decimal
				fractions in
				the linear
				number
				sustem, and
				round
				numbers, as
				appropriate,
				in'cluding in
				contexts.
				● <u>6</u> NPV_4
				Divide
				powers ot 10,
				trom
				hundredth
				to 10 million,
				I INIO Z, 4, 5
				ana i equal
				partis, ana
				scales/numb
				er lines with
				labelled
				intervals
				divided into
				2, 4, 5 and
				10 egual
				parts.
	• Add and	• Power Maths unit 2	Spine I	•
Number	subtract			
	whole		1 31 Problems with unknowns	
1			1. J.I.I JUNETIUS WILLIL ULINILUWIUS	1



division where appropriate, interpreting remainders according to the context. Divide numbers up to 4 digits by a two- digit whole number using the formal written method of long division, and interpret remainders as whole number			
<ul> <li>Remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</li> <li>Identity common factors, common factors, common factors,</li> <li>Identity common factors,</li> </ul>	• Power Maths Unit 3 factor short division long division column multiplication long multiplication order of operations brackets inverse operation	Spine I I.31.Problems with unknowns Spine 2 2.23 Multiplication strategies for larger numbers and long multiplication 2.24 Division: dividing by two digit divisors	• OAS/MD-1 Understand that 2 numbers can be related additively or multiplicative ly, and quantify additive and multiplicative relationships (multiplicativ e relationships restricted to multiplicatio

	<ul> <li>calculations</li> <li>, including</li> <li>with mixed</li> <li>operations</li> <li>and large</li> <li>numbers.</li> <li>Use their</li> <li>knowledge</li> <li>of the</li> <li>order of</li> <li>operations</li> <li>to carry</li> <li>out</li> <li>calculations</li> <li>involving</li> <li>the four</li> <li>operations.</li> <li>Solve</li> <li>problems</li> <li>involving</li> <li>addition,</li> <li>subtraction,</li> <li>multiplicati</li> <li>on and</li> <li>dividing</li> </ul>	relationships, and place- value understandi ng.
--	--	---

	● Use	• Power Mains Unit 4	j spine s	
Fractions	çommon			Recognise
	tactors to		3.8 Common denomination: more adding and	when
Approximat	simplifu	numerator	subtracting	fractions
	fractions		subiracurig	can be
elu 9 daus)	11 600 600 100,	common denominator common factor equivalent		simplified
	common		eaten: <b>'The whole is divided into</b>	and use
		simplify simplest form factor		unu use
	multiples to		equal parts, and we have eaten	Common
	express	highest common factor	of them '	factors to
	tractions in	lighest common factor towest common multiple (LCM)	of them.	simplity
	the same			tractions.
	denominatio	compare   order   improper fraction   mixed number		• 6F_2
	n.			Evorass
	Compaire	convert lowest common denominator		fractions in
	ana oraer			a common
	fractions,			denominatio
	including			n and use
	tractionš >			this to
				compare
	Add and			fractions
	• / uu uru			that are
	Subiraci			similar in
	Tracuons			
	with .			
	ditterent			● ØF-3
	denominato			Compare
	rs and			fractions
	mixed			with.
	numbers			different
	using the			denominator
	using the			
	concept of			s, including
	equivalent			tractions
	tractions			greater than
				l I, using
				reasoning,
				and choose
				hetween
				reasonina
				and common
				aenominalio
				n as a
				comparison
				strategy
	Multiplu	Power Maths Unit 5	• Spine 3	
Fractions				
racions	simple pull's		● うぶ IVIUITIPLYING fractions and dividing	Divide
	ot proper		tractions by a whole number.	power's ot IU,
(Approximat	tractions,		sentence: 'To divide a fraction by a	trom I
	writing the			hundredth
ely 4 days)	answeř in		whole number, we can change it to an	to IU_million,
	its simplest		equivalent multiplication To divide by	into 2, 4, 5
	form (for		equivalent multiplication. To arvice by	and 10 equal
	example		, we can multiply by'	parts and
1		1		



(	nts of		parts, and
(Approximat	lengin, mass.	metric imperial units of measurement (or measu	scales/numb
ely 5 days)	volume and		er lines with
	a smaller	grams (g) kilograms (kg) pounds (lbs)	labelled
	unit of	ounces (oz) feet (ft) yards millilitres (ml)	divided_into
	measure to		2, 4, 5 and
	unit, and	litres (l) pints capacity millimetres (mm)	parts.
	vice versa,	centimetres (cm) metres (m) kilometres (km)	
	l using decimal		
	notation to	inches (in) mass miles length convert	
	decimal	conversion table conversion graph	
	places.	(contension graph)	
	<ul> <li>Solve</li> </ul>		
	involvina		
	the		
	calculation and		
	conversion		
	ot units of		
	using		
	deçimal		
	to three		
	decimal		
	places		
	appropriate.		
	• Convert		
	between miles and		
	kilometres		

### BILSTON CHURCH OF ENGLAND PRIMARY

## MEDIUM TERM PLANNING



Subject	Year Ciroup	Term
Maths	6	Spring

Topic	• National Curriculum Objectives	Power Maths Unit	<ul> <li>NCE IM Protessional development documents</li> </ul>	• Ready to Progress Criteria
Ratio and Proportion (Approximately 9 days)	<ul> <li>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving unequal sharing and grouping using knowleage of fractions and multiples.</li> <li>Solve problems involving similar shapes where the scale factor is known or can be found.</li> <li>Solve problems involving multiplication and division, including scaling by simple fractions and problems</li> </ul>	Power Maths Unit 7 ratio proportion part whole scale scale factor similar notation	Spine 2 <ul> <li>2.27 Scale factors, ratio and proportional reasoning</li> <li>'For every, there are'</li> </ul>	• 6AS/MD_3 Solve problems involving ratio relationships.

Algebra (Approximately II days)	<ul> <li>involving simple rates</li> <li>Use simple formulae.</li> <li>Generate and describe linear number sequences.</li> <li>Express missing number problems algebraically.</li> <li>Enumerate possibilities of combinations of two variables.</li> <li>Find pairs of numbers that satisfy an equation with</li> </ul>	Power Maths unit 8 sequence rule term algebra expression calculation formula substitute generalise operation calculate equation solution	• 6AS/MD-4+ Solve problems with 2 unknowns.
Decimals (Approximately 9 days)	<ul> <li>Identity the value of each digit in numbers given to three decimal places and multiply and divide numbers by IO, IOO and I,OOO giving answers up to three decimal places.</li> <li>Associate a fraction with division and calculate decimal fraction equivalents (for example, 3 8).</li> <li>Associate a fraction (for example, 3 8).</li> <li>Associate a fraction with division and calculate decimal fraction with division and calculate decimal fraction equivalents (for example, 3 8).</li> <li>Associate a fraction with division and calculate decimal fraction (for example, 3 8).</li> <li>Associate a fraction with division and calculate decimal fraction (for example, 3 8).</li> </ul>	Power Maths unit 9 multiply divide decimal decimal place (dp) recurring decimal placeholder place value tenths hundredths thousandths products fraction	<ul> <li>6NPV-I Understand the relationship between powers of IO from I hundredth to IO million, and use this to make a given number IO IOO I,000, I tenth, I hundredth or I thousandth times the size (multiply and divide by IO, IOO and I,000).</li> </ul>

•	example, 0.375) for a simple fraction (for example, 3 8 ). Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.		
Percentages (Approximately 8 days)	<ul> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> <li>Solve problems involving the calculation of percentages (for example, of measures_and such as 15% of 360) and the use of percentages for comparison.</li> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> <li>Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, 14 × 12 = 18).</li> </ul>	<ul> <li>Power Maths unit IO</li> <li>per cent (%) percentage parts whole</li> <li>decimal fraction divide share multiply</li> <li>convert compare order equivalent fraction</li> <li>simplify less than (&lt;) greater than (&gt;)</li> </ul>	

	Recall and use			
	between simple			
	tractions, '			
	percentages.			
	Including in			
	alterent contexts			
	• Numbers with up			
	to two decimal '			
	places by whole			
	<ul> <li>Recall and use</li> </ul>			
	equivalences			
	beiween simple fractions			
	decimals and			
	percentages,			
	different			
	contexts.			
	• Solve problems which require			
	answers to be			
	rounded to			
	of accuracy.			
	• Recall and use			
	equivalences between simple			
	fractions,			
	decimals and			
	including in			
	ditterent			
	Recognise that	↓ ● Power Maths unit II	Spine 2	• 6G-  Draw.
Measure	shapes with the			compose, and
Darimatar Araa	same areas can have different		2.30 Multiplicative contexts: area and	aecompose shapes
and V/-1	perimeters and		perimeter 2	according to
ana voiume	Vice versa. Recognise when it			given properties
(Approximately	is possible to use			including
II days)	formulae for			dimensions,
J <sup>1</sup>	of shapes.			area, and
	<ul> <li>Calculate the</li> </ul>			solve related
	area ot			problems.

<ul> <li>parallelograms and triangles</li> <li>Recognise that shapes with the same areas can have different perimeters and vice versa.</li> <li>Estimate volume (for example, using I cm3 blocks to build cuboids (including cubes)) and capacity (for example, using water).</li> <li>Recognise when it is possible to use formulae for area and volume of shapes.</li> <li>Calculate, estimate and compare volume of shapes.</li> <li>Calculate, estimate and cuboids using standard units, including cubic centimetres (cm3 ) and cubic metres (m3), and extending to other units (for example, mm3 and km3).</li> <li>Describe positions</li> </ul>	<ul> <li>area volume perimeter</li> <li>parallelogram height perpendicular</li> <li>width length square centimetres (cm<sup>2</sup>)</li> <li>square metres (m<sup>2</sup>) base estimate</li> <li>formula compound shape dimensions</li> <li>cubic centimetres (cm<sup>3</sup>) cubic metres (m<sup>3</sup>)</li> </ul>	'The base is' 'The perpendicular height is' 'The area is' 'To change shapeinto shape, scale the side-lengths by a scale factor of' 
Geometry Position and Direction Direction Geometry Position and Direction Direction Coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them	quadrant four quadrants translate translation x-axis y-axis axis axes horizontal vertical vertex reflect reflection	

## MEDIUM TERM PLANNING



Subject	Year Group	Term
Maths	6	Summer

Topic	<ul> <li>National Curriculum Objectives</li> </ul>	• Power Maths Unit	NCEIM Protessional development documents	<ul> <li>Ready to Progress Criteria</li> </ul>
Geometry Property of Shapes (approximately 2 weeks)	<ul> <li>Draw 2D shapes using given dimensions and angles</li> <li>Draw 2D shapes using given dimensions and angles.</li> <li>Compare and classify geometric shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons.</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> <li>Illustrate and name parts of circles, including radius, diameter and circumference, and know that the</li> </ul>	<ul> <li>Power Maths unit 13         <ul> <li>degree angle obtuse acute reflex right angle protractor triangle isosceles equilateral scalene regular polygon quadrilateral parallelogram kite rhombus trapezium diameter radius circumference concentric perimeter net pyramid tetrahedron cylinder prism vertically opposite angles cuboid cube</li> </ul> </li> </ul>		<ul> <li>OG-I Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</li> </ul>

	diameter is twice the radius. • Recognise, describe and build simple 3D shapes, including making nets. •	•	•	•
Number Problem Solving (approximately 2 weeks)	<ul> <li>Solve number and practical problems that involve all of the above.</li> <li>Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why.</li> <li>Solve problems in contexts, deciding which operations and methods to use and why.</li> <li>Solve problems involving addition, subtraction, multiplication and division.</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations. Solve problems involving addition, subtraction, multiplication and division.</li> </ul>	• • Power Maths unit 14- partition estimate round compare equivalent percentage ratio proportion convert common denominator coordinates translation reflection vertex scaling isosceles triangle	<ul> <li>Spine 2</li> <li>2.23 Multiplication strategies for larger numbers and long multiplication</li> <li>2.24 Division: dividing by two digit divisors</li> <li>2.28 Combining division with addition and subtraction</li> </ul>	
	estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.			

Recall and use		
eguivalences between		
simple fractions.		
decimals and		
percentages		
including in		
different contexts		
• Solve problems		
calculation of		
percentages (10r		
example, ot		
measures, and such		
as 15% of 5001 and		
the use of		
percentages for		
comparison		
<ul> <li>Solve problems</li> </ul>		
involving the relative		
sizes of two		
quantities where		
missing values can		
be tound by using		
integer multiplication		
and division 'facts.		
Solve problems		
involving unequal		
sharing and '		
grouping using		
Knowledge of		
fractions and		
multiples		
• Use read write and		
convert between		
standard units		
converting		
measurements of		
length mass volume		
and time from a		
smaller unit of		
measure to a larger		
unit. and vice versa.		
using decimal		
notation to up to		
three decimal places		
Describe positions on		
the full coordinate		
arid (all four		
auadrants)		
Compare and		
- classify appretric		
CIUDDITY YEUTTELTIC		

■ F C C C C C C C C C C C C C C C C C C C	shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.			
Statistics (approximately I week)	Calculate and interpret the mean as an average. Interpret and construct pie charts and line graphs and use these to solve problems. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison.	<ul> <li>Power Maths unit 15</li> <li>mean average</li> <li>pie chart segment line graph</li> <li>bar chart percentage</li> <li>fraction data</li> </ul>	Spine 2 2.26 Mean average and equal shares 'Therepresents the' 'The dividend is' 'The divisor isbecause' 'The mean is÷='	<ul> <li>ONPV-4 Divide powers of IO, from 1 hundredth to IO million, into 2, 4, 5 and IO equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and IO equal parts.</li> </ul>