Killigrew Maths Progression Map – Supplementary framework



	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Check	Estimate a	Practise counting	Use materials and a	Use multiples of 2, 3,	Use a variety of	Identify the place	Use the whole
	quantities	number of	and ordering	range of	4, 5, 8, 10, 50 and 100.	representations,	value in large whole	number system,
	of a number	objects	(including solving	representations to		including measures.	numbers.	including saying,
	by counting	and check	simple concrete	practise counting,	Use larger numbers			reading and writing
	up to 5.	quantities	problems, until they	reading, writing and	to at least 1000,	Understand the order	Use number in	numbers accurately.
		by	are fluent).	comparing numbers	applying partitioning	and place value of	context, including	
		counting		to at least 100.	related to place value	numbers beyond	measurement.	
		up to 20.	Begin to recognise		using varied and	1000, including		
			place value in	Solve a variety of	increasingly complex	counting in tens and	Extend and apply	
			numbers beyond 20	related problems to	problems, building on	hundreds.	their understanding	
			by reading, writing,	develop fluency.	work in year 2.		of the number	
au			counting and			Maintains fluency in	system to the	
Number and Place Value			comparing numbers	Count in multiples	Use a variety of	other multiples	decimal numbers	
×			up to 100,	of three to support	representations,	through varied and	and fractions that	
ace			supported by	their later	including those	frequent practice.	they have met so	
<u> </u>			objects and pictorial	understanding of a	related to measure.		far.	
auc			representations.	third.		Begin to extend		
ē					Count in ones, tens	knowledge of the	Recognise and	
윤			Practise counting as	Explore larger	and hundreds, to	number system to	describe linear	
Ž			reciting numbers	numbers to develop	become fluent in the	include the decimal	number sequences,	
			and counting as	their recognition of	order and place value	numbers and	including those	
			enumerating	patterns within the	of numbers to 1000.	fractions that they	involving fractions	
			objects, and	number system and		have met so far.	and decimals, and	
			counting in twos,	how to represent			find the term-to-	
			fives and tens from	numbers in different		Connect estimation	term rule.	
			different multiples	ways		and rounding		
			to develop their	(including spatial		numbers to the use	Recognise and	
			recognition of	representations).		of measuring	describe linear	
			patterns in the			instruments.	number sequences,	
			number system,	Partition numbers in			including those	
			including varied and	different ways to		Understand that	involving fractions	
			frequent practice	support subtraction.		there have been	and decimals.	

			through increasingly complex questions. Recognise and create repeating patterns with objects and with shapes.	Apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. Begin to understand zero as a placeholder.		different ways to write whole numbers (Roman numeral system) and that the important concepts of zero and place value were introduced over a period of time.	Find the term-to-term rule in words.	
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Memorise and	Extend their	Practise solving	Continue to practise	Practise using the	Practise addition and
			reason with number	understanding of	varied addition and	both mental methods	formal written	subtraction for larger
			bonds to 10 and 20	the language of	subtraction 	and columnar	methods of	numbers, using the
두			in several forms.	addition and	questions.	addition and	columnar addition	formal written
Ē			Dealise the offert of	subtraction to	Understand that for	subtraction with	and subtraction with	methods of columnar
tra			Realise the effect of adding or	include sum and difference.	mental calculations	increasingly large numbers to aid	increasingly large numbers to aid	addition and subtraction.
Sub			subtracting zero.	unierence.	with two-digit	fluency.	fluency.	Subtraction.
Addition and Subtraction			Subtracting Zero.	Practise addition	numbers, the	nuclicy.	nucicy.	Undertake mental
ם ופ			Establish addition	and subtraction to	answers could exceed		Practise mental	calculations with
ţį			and subtraction as	20 to become	100.		calculations with	increasingly large
dd			related operations.	increasingly fluent in			increasingly large	numbers and
⋖				deriving facts.	Use their		numbers.	calculations that are
		_ \	Combine and	-	understanding of			more complex.
			increase numbers,	Check calculations,	place value and			
1	I			including adding to	partitioning, and			

			counting forwards and backwards. Discuss and solve problems in familiar practical contexts, including using quantities.	check subtraction and adding numbers in a different order. Establish commutativity and associativity of addition.	practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent.			Round answers to a specified degree of accuracy. Explore the order of operations using brackets.
			Solve problems including the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than. Develop the concept of addition and subtraction and use these operations flexibly.	Record addition and subtraction in columns to support place value. Prepare for formal written methods with larger numbers.				
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division	Explore grouping by grouping objects by colour and size.	Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.	Through grouping and sharing small quantities, begin to understand key calculations: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.	Use a variety of language to describe multiplication and division. Practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other.	Practise their mental recall of multiplication tables when they are calculating mathematical statements. Through doubling, connect the 2, 4 and 8 multiplication tables.	Continue to practise recalling and using multiplication tables and related division facts to aid fluency. Practise mental methods and extend this to three-digit numbers to derive facts.	Practise and extend the use of the formal written methods of short multiplication and short division. Apply all the multiplication tables and related division facts frequently, commit them to memory and use	Practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division.

Make connections between arrays, number patterns, and counting in twos, fives and tens. Make connections between arrays, number patterns, and counting in twos, fives and tens. Mission or a clock face. Begin to use other multiplication and division, starting with a range of materials and collections. Work with a range of materials and contexts in which multiplication and division relate division freate to grouping. Share discrete and continuous quantities. Formulate arrays and understand and repeated addition. Begin to relate calculations. Work with a range of materials and contexts in division relate to grouping. Share discrete and continuous quantities. Formulate arrays and understand and division. Work with a range of materials and contexts in didigit numbers to yene-digit numbers and division. Work with a range of materials and contexts in dedicting which of the four operations to use and why. Solve simple problems in contexts, and correspondence problems in which mental and measures. Develop reliable written methods for multiplication and division. Work with a range of materials and contexts in deciminations. Work with a range of materials and contexts in deciminations. Work with a range of materials and contexts, and or cespondence problems in contexts, and correspondence problems in which mental and measures. Solve two step problems in contexts, and correspondence problems in which mental and measures. Solve two step problems in contexts, and correspondence problems in which mental and measures. Solve two step problems in contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts, and correspondence problems in which mental and mental contexts and rema		 	T .			,
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Formulate arrays and understand repeated addition. Begin to relate calculations to fractions and		continuous	involving measuring		ratio in year 6.	equivalent fractions.
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and understand repeated addition. Begin to relate calculations to fractions and			and correspondence		Understand the	
repeated addition. repeated addition. connected to n objects. Square, cube numbers, and use them to construct equivalence fractions and statements.		Formulate arrays	problems in which m		terms factor,	
Begin to relate calculations to fractions and se		and understand	objects are		multiple, prime,	
Begin to relate calculations to fractions and se		repeated addition.	connected to n		square, cube	
Begin to relate them to construct equivalence fractions and statements.			objects.		numbers, and use	
fractions and statements.		Begin to relate			them to construct	
		calculations to			equivalence	
measures.		fractions and			statements.	
		measures.				

				Han samer testinis			Head and accordate to	
				Use commutativity			Use and explain the	
				and inverse			equals sign to	
				relations to develop			indicate	
				multiplicative			equivalence,	
				reasoning.			including in missing	
							number problems.	
		5		V -		V		V 6
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Understand half and	Use fractions as	Connect tenths to	Connect hundredths	Understand that	Practise, use and
			quarter as 'fractions	'fractions of'	place value, decimal	to tenths and place	percentages,	understand the
			of' discrete and	discrete and	measures and to	value and decimal	decimals and	addition and
			continuous	continuous	division by 10.	measure.	fractions are	subtraction of
			quantities by solving	quantities by solving			different ways of	fractions with
			problems using	problems using	Begin to understand	Extend the use of the	expressing	different
			shapes, objects and	shapes, objects and	unit and non-unit	number line to	proportions.	denominators by
			quantities.	quantities.	fractions as numbers	connect fractions,		identifying equivalent
δί.					on the number line,	numbers and	Extend the	fractions with the
age			Connect halves and	Connect unit	and deduce relations	measures.	knowledge of	same denominator.
ırtı			quarters to the	fractions to equal	between them, such		fractions to	
rce			equal sharing and	sharing and	as size and	Understand the	thousandths and	Progress to varied
Pe			grouping of sets of	grouping, to	equivalence.	relation between	connect to decimals	and increasingly
Pu			objects and to	numbers and to		non-unit fractions	and measures.	complex problems.
Sa			measures.	measures, finding	Explore beyond the	and multiplication		
lal				fractions of lengths,	[o, 1] interval,	and division of	Connect equivalent	Use a variety of
Ğ			Recognise and	quantities, set of	including relating this	quantities, with	fractions > 1 that	images to support
De			combine halves and	objects or shapes.	to measure.	particular emphasis	simplify to integers	their understanding
ns,			quarters as parts of			on tenths and	with division and	of multiplication with
Fractions, Decimals and Percentages			a whole.	Explore $\frac{3}{4}$ as an	Understand the	hundredths	other fractions > 1 to	fractions.
rac				example of a non-	relation between unit		division with	
L.				unit fraction.	fractions as operators	Make connections	remainders, using	Use their
				diffe fraction.	(fractions of), and	between fractions of	the number line.	understanding of the
				Count in fractions	division by integers.	a length, of a shape		relationship between
				up to 10, starting	, ,	and as a	Explore improper	unit fractions and
				from any number	Continue to recognise	representation of	and mixed fractions.	division to work
					fractions in the	one whole or set of		backwards by
				and using the $\frac{1}{2}$ and	context of parts of a	quantities.	Connect	multiplying a quantity
				$\frac{2}{4}$ equivalence on the	whole, numbers,	·	multiplication by a	that represents a unit
				number line.	measurements, a		fraction to using	

shape, and unit	Use factors and	fractions as	fraction to find the
fractions as a division	multiples to	operators (fractions	whole quantity.
of a quantity.	recognise equivalent	of), and to division.	
	fractions and simplify		Practise calculations
Practise adding and	where appropriate.	Scale by simple	with simple fractions
subtracting fractions		fractions, including	and decimal fraction
with the same	Continue to practise	fractions > 1.	equivalents to aid
denominator through	adding and		fluency, including
a variety of	subtracting fractions	Practise adding and	listing equivalent
increasingly complex	with the same	subtracting	fractions to identify
problems to improve	denominator, to	fractions to become	fractions with
fluency.	become fluent	fluent through a	common
	through a variety of	variety of	denominators.
	increasingly complex	increasingly	
	problems beyond	complex problems.	Explore and make
	one whole.		conjectures about
		Extend an	converting a simple
	Understand the	understanding of	fraction to a decimal
	number system and	adding and	fraction.
	decimal place value	subtracting	
	to tenths and then	fractions to	
	hundredths.	calculations that	Learn about rounding
		exceed 1 as a mixed	the decimal to three
	Relates decimal	number.	decimal places, or
	notation to division		other appropriate
	of whole number by	Continue to practise	approximations
	10 and later 100.	counting forwards	depending on the
		and backwards in	context.
	Practise counting	simple fractions.	
	using simple fractions	5 1	Multiply and divide
	and decimal	Develop an	numbers with up to
	fractions, both	understanding of	two decimal places by
	forwards and	fractions as	one-digit and two-
	backwards.	numbers, measures	digit whole numbers.
		and operators by	MALIANA I A ANDRE I
	Learn decimal	finding fractions of	Multiply decimals by
	notation and the	numbers and	whole numbers,
	language associated	quantities.	starting with the

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		with it, including in the context of measurements. Make comparisons and order decimal amounts and quantities that are expressed to the same number of	Extend counting strategies from year 4, using decimals and fractions including bridging zero. Say, read and write decimal fractions	simplest cases, and in practical contexts, such as measures and money. Introduce the division of decimal numbers by one-digit whole number, initially, in practical contexts
		several ways, such as on number lines.	Check the reasonableness of their answers to problems. Mentally add and subtract tenths, and one-digit whole numbers and tenths. Practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1. Solve puzzles involving decimals.	inverse of multiplication. Develop the skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. Round answers to a specified degree of accuracy and checking the reasonableness of their answers.

							Make connections	
							between	
							percentages,	
							fractions and	
							decimals.	
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Make	Estimate,	Move from using	Use standard units	Measure using the	Understand place	Use their knowledge	Connect conversion
	comparisons	measure,	and comparing	of measurement	appropriate tools and	value and decimal	of place value and	to a graphical
	between	weigh,	different types of	with increasing	units, progressing to	notation to record	multiplication and	representation as
	objects	compare,	quantities and	accuracy, using their	using a wider range	metric measures,	division to convert	preparation for
	relating to	order	measures using non-	knowledge of the	of measures,	including money.	between standard	understanding
	size, length,	objects,	standard units to	number system.	including comparing		units.	linear/proportional
	weight and	and talk	using manageable		and using mixed units	Use multiplication to		graphs.
	capacity.	about	common standard	Use the appropriate	and simple	convert from larger	Calculate the	
		properties,	units.	language and record	equivalents of mixed	to smaller units.	perimeter of	Understand
		position		using standard	units.		rectangles and	approximate
		and time.	Begin to use	abbreviations.	Compare measures	Express perimeter	related composite	conversions and
			measuring tools		including simple	algebraically.	shapes, including	explain if an answer is
			such as a ruler,	Compare	scaling by integers,	Relate area to arrays	using the relations	sensible.
 			weighing scales and	Measures, includes	connected to	and multiplication.	of perimeter or area	Use the number line
laμ			containers.	simple multiples.	multiplication.		to find unknown	to add and subtract
Measurement							lengths.	positive and negative
asn			Use the language of	Tell the time on	Become fluent in			integers for measures
۸e			time, including	analogue clocks and	recognising the value		Express missing	such as temperature.
			telling the time	record it.	of coins, by adding		measures	
			throughout the day,		and subtracting		algebraically.	Relate the area of
			first using o'clock	Count and recognise	amounts, including			rectangles to
			and then half past.	coins.	mixed units, and		Calculate the area	parallelograms and
					giving change using		from scale drawings	triangles and
				Read and say	manageable		using given	calculate their areas.
				amounts of money	amounts.		measurements.	
				confidently and use				Understand and use
				the symbols £ and p	Record £ and p		Use all four	the formulae for
				accurately,	separately.		operations in	calculating area (in
				recording pounds			problems involving	words or symbols).
		_ 1		and pence	Use both analogue		time and money,	
				separately.	and digital 12-hour		including	Introduce compound
							conversions.	units for speed, such

					clocks and record			as miles per hour, and
					their times.			apply their
					their times.			knowledge in science
								or other subjects as
								appropriate.
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Handle common 2-D	Handle and name a	Explore symmetrical	Continue to classify	Become accurate in	Draw shapes and nets
			and 3-D shapes,	wider variety of	and non-symmetrical	shapes using	drawing lines with a	accurately, using
			naming these and	common 2-D and 3-	polygons and	geometrical	ruler to the nearest	measuring tools and
			related everyday	D shapes including	polyhedral shapes.	properties, extending	millimetre, and	conventional
			objects fluently.	the following:		to classifying	measuring with a	markings and labels
				quadrilaterals and	Describe the	different triangles	protractor.	for lines and angles.
			Recognise shapes in	polygons, and	properties of 2-D and	and quadrilaterals.		
bes			different	cuboids, prisms and	3-D shapes using		Use conventional	Describe the
la di			orientations and	cones.	accurate language,	Compare and order	markings for parallel	properties of shapes
) ,			sizes, and know that		including lengths of	angles in preparation	lines and right	and explain how
Sa			rectangles,	Identify the	lines and acute and	for using a protractor	angles.	unknown angles and
Ŧ			triangles, cuboids	properties of each	obtuse for angles	and compare lengths		lengths are from
be a			and pyramids are	shape.	greater or lesser than	and angles to decide	Use the term	known
P. P.			not always similar to		a right angle.	if a polygon is regular	diagonal and make	measurements.
Geometry - Properties of shapes			each other.	Identify, compare		or irregular.	conjectures about	
etr				and sort shapes	Connect decimals and		the angles formed	Begin to express
Ĕ				based on their	rounding to drawing	Draw symmetric	by diagonals and	relationships
ĕ				properties, using	and measuring	patterns using a	sides, and other	algebraically i.e. d = 2
				vocabulary	straight lines in	variety of media to	properties of	× r; a = 180 - (b + c).
				precisely.	centimetres, in a	become familiar with	quadrilaterals, for	
					variety of contexts.	different orientations	example using	
				Read and write		of lines of symmetry.	dynamic geometry	
				names for shapes			ICT tools.	
				that are appropriate		Recognise line		
				for their word		symmetry in a variety		

				reading and		of diagrams,	Use angle sum facts	
				spelling.		including where the	and other properties	
						line of symmetry	to make deductions	
				Draw lines and		does not dissect the	about missing	
				shapes using a		original shape.	angles and relate	
				straight edge.			these to missing	
							number problems.	
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Understand	Start to use	Use the language of	Work with patterns	Review and revise	Draw a pair of axes in	Recognise and use	Draw and label a pair
	position	the	position, direction	of shapes, including	positional language	one quadrant, with	reflection and	of axes in all four
	through	language of	and motion: left and	those in different	and patterns.	equal scales and	translation in a	quadrants with equal
	words	position,	right, top, middle	orientations.		integer labels.	variety of diagrams,	scaling.
	using the	direction	and bottom, on top				including continuing	
_	words in	and	of, in front of, above,	Use the concept and		Read, write and use	to use a 2-D grid and	Draw and label
<u>i</u>	front and	motion: on	between, around,	language of angles		pairs of coordinates	coordinates in the	rectangles,
ect	behind.	top of,	near, close and far,	to describe 'turn' by		(2, 5) including using	first quadrant.	parallelograms and
후		middle,	up and down,	applying rotations,		coordinate-plotting		rhombuses, specified
pu		inside and	forwards and	including in practical		ICT tools.	Reflection should be	by coordinates in the
па		outside.	backwards, inside	contexts.			in lines that are	four quadrants.
tio			and outside.				parallel to the axes.	
osi								Predict missing
٥			Make whole, half,					coordinates using the
<u> </u>			quarter and three-					properties of shapes.
net			quarter turns in					D : 1
Geometry – position and direction			both directions.					Begin to express
ق			Commont turning					algebraically for
			Connect turning clockwise with					example, translating vertex (a, b) to (a-2,
			movement on a					b+3); (a, b) and (a+d,
			clock face.					b+d) being opposite
			Clock lace.					vertices of a square of
								side d.
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	,			Record, interpret,	Understand and use	Understand and use a	Connect their work	Connect their work
Statistics				collate, organise	simple scales in	greater range of	on coordinates and	on angles, fractions
tist				and compare	pictograms and bar	scales in their	scales to their	and percentages to
Sta				information.	charts with increasing	representations.	interpretation of	the interpretation of
					accuracy.		time graphs.	pie charts.

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				Begin to relate the					
			Continue to interpret	graphical	Begin to decide	Encounter and draw			
			data presented in	representation of	which	graphs relating two			
			many contexts.	data to recording	representations of	variables, arising from			
				change over time.	data are most	their own enquiry and			
					appropriate and	in other subjects.			
					why.				
						Connect conversion			
						from kilometres to			
						miles in measurement			
						to its graphical			
						representation.			
						Know when it is			
						appropriate to find			
						the mean of a data			
						set.			
			Year 6						
_ u		 Recognise 	proportionality in contexts when the relations b	etween quantities are in	the same ratio.				
Ratio and proportion			 Link percentages or 360° to calculating 	angles of pie charts.					
tio a	 Consolidate an un 	derstanding of ratio wh	nen comparing quantities, size and scale drawing	s by solving a variety of	problems. Use the nota	tion a:b to record their			
Rat			work.						
<u> </u>	Solve problems involving unequal quantities.								
			Year 6						
q			bles and unknowns in mathematical situations th						
Algeb	angles, formulae i	in mathematics and scie	ence, equivalent expressions (for example, a + b		of number patterns and	d number puzzles (e.g.			
4			what two numbers can add	d up to)					