Killigrew Maths Progression Map – Supplementary framework



	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Estimate a	Practise counting	Use materials and a	Use multiples of 2, 3,	Use a variety of	Identify the place	Use the whole
	number of	and ordering	range of	4, 5, 8, 10, 50 and 100.	representations,	value in large whole	number system,
	objects and	(including solving	representations to		including measures.	numbers.	including saying,
	check	simple concrete	practise counting,	Use larger numbers to			reading and writing
	quantities by	problems, until they	reading, writing and	at least 1000, applying	Understand the order	Use number in	numbers accurately.
	counting up to	are fluent).	comparing numbers	partitioning related to	and place value of	context, including	
	20.		to at least 100.	place value using	numbers beyond	measurement.	
		Begin to recognise		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	
U		counting and			Maintains fluency in	system to the	
Number and Place Value		comparing numbers	Count in multiples of	Use a variety of	other multiples	decimal numbers	
>		up to 100, supported	three to support	representations,	through varied and	and fractions that	
ac		by objects and	their later	including those	frequent practice.	they have met so far.	
∆		pictorial	understanding of a	related to measure.			
an		representations.	third.		Begin to extend	Recognise and	
er				Count in ones, tens	knowledge of the	describe linear	
별		Practise counting as	Explore larger	and hundreds, to	number system to	number sequences,	
Z		reciting numbers	numbers to develop	become fluent in the	include the decimal	including those	
		and counting as	their recognition of	order and place value	numbers and	involving fractions	
		enumerating	patterns within the	of numbers to 1000.	fractions that they	and decimals, and	
		objects, and	number system and		have met so far.	find the term-to-	
		counting in twos,	how to represent			term rule.	
		fives and tens from	numbers in different		Connect estimation		
		different multiples	ways		and rounding	Recognise and	
		to develop their	(including spatial		numbers to the use of	describe linear	
		recognition of	representations).		measuring	number sequences,	
		patterns in the	Doubition number : !		instruments.	including those	
		number system,	Partition numbers in		11-4	involving fractions	
		including varied and	different ways to		Understand that	and decimals.	
		frequent practice	support subtraction.		there have been		

		through increasingly complex questions. Recognise and create repeating patterns with objects and with	Apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value		different ways to write whole numbers (Roman numeral system) and that the important concepts of zero and place value were introduced over	Find the term-to- term rule in words.	
		shapes.	of each digit in two- digit numbers.		a period of time.		
			Begin to understand		, 4		
			zero as a placeholder.		7		
			placerioider.				
				0///			
	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Memorise and	Extend their	Practise solving varied	Continue to practise	Practise using the	Practise addition and
		reason with number	understanding of	addition and	both mental methods	formal written	subtraction for larger
		bonds to 10 and 20	the language of	subtraction questions.	and columnar	methods of	numbers, using the
r o		in several forms.	addition and	Understand that for	addition and subtraction with	columnar addition and subtraction with	formal written methods of columnar
ĊĖ		Realise the effect of	subtraction to include sum and	mental calculations	increasingly large	increasingly large	addition and
tra		adding or	difference.	with two-digit	numbers to aid	numbers to aid	subtraction.
Suk		subtracting zero.	difference.	numbers, the answers	fluency.	fluency.	Subtraction.
pu		Subtracting 2cro.	Practise addition	could exceed 100.	nucirey.	nacricy.	Undertake mental
Addition and Subtraction		Establish addition	and subtraction to			Practise mental	calculations with
itio		and subtraction as	20 to become	Use their		calculations with	increasingly large
Pp		related operations.	increasingly fluent in	understanding of		increasingly large	numbers and
I 🗖	i		deriving facts.	place value and		numbers.	calculations that are
			deriving racts.	•			carcara croris cria car c
		Combine and		partitioning, and			more complex.
		Combine and increase numbers,	Check calculations, including adding to	•			

		counting forwards and backwards. Discuss and solve problems in familiar practical contexts, including using quantities. 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.	check subtraction and adding numbers in a different order. Establish commutativity and associativity of addition. Record addition and subtraction in columns to support place value. Prepare for formal written methods with larger numbers.	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.
	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division	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. Connect the 10 multiplication table	Practise their mental recall of multiplication tables when they are calculating mathematical statements. Through doubling, connect the 2, 4 and 8 multiplication tables. Develop efficient mental methods, for	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 them confidently to	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.

	T		T		
	to place value, and	example, using	Become fluent in the	make larger	Undertake mental
Make connections	the 5 multiplication	commutativity and	formal written	calculations.	calculations with
between arrays,	table to the divisions	associativity.	method of short		increasingly large
number patterns,	on a clock face.		multiplication and	Use and understand	numbers and
and counting in		Develop reliable	short division with	the terms factor,	calculations that are
twos, fives and tens.	Begin to use other	written methods for	exact answers.	multiple and prime,	more complex.
	multiplication tables	multiplication and		square and cube	
	and recall	division, starting with	Write statements	numbers.	Continue to use all the
	multiplication facts,	calculations of two-	about the equality of		multiplication tables
	including using	digit numbers by one-	expressions.	Interpret non-	to calculate
	related division facts	digit numbers and		integer answers to	mathematical
	to perform written	progressing to the	Combine their	division by	statements in order to
	and mental	formal written	knowledge of number	expressing results in	maintain their fluency.
	calculations.	methods of short	facts and rules of	different ways	
		multiplication and	arithmetic to solve	according to the	Round answers to a
	Work with a range	division.	mental and written	context, including	specified degree of
	of materials and		calculations.	with remainders, as	accuracy.
	contexts in which	Solve simple problems		fractions, as	
	multiplication and	in contexts, deciding	Solve two-step	decimals or by	Explore the order of
	division relate to	which of the four	problems in contexts,	rounding.	operations using
	grouping.	operations to use and	choosing the		brackets.
		why.	appropriate	Use multiplication	
	Share discrete and		operation.	and division as	Understand that
	continuous	Solve problems		inverses to support	common factors can
	quantities.	involving measuring		the introduction of	be related to finding
		and scaling contexts,		ratio in year 6.	equivalent fractions.
	Formulate arrays	and correspondence			
	and understand	problems in which m		Understand the	
	repeated addition.	objects are connected		terms factor,	
		to n objects.		multiple, prime,	
	Begin to relate			square, cube	
	calculations to			numbers, and use	
	fractions and			them to construct	
	measures.			equivalence	
				statements.	
	Use commutativity				
	and inverse relations			Use and explain the	
	to develop			equals sign to	

			multiplicative reasoning.			indicate equivalence, including in missing number problems.	
	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions, Decimals and Percentages	Luny (Curs	Understand half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. Connect halves and quarters to the equal sharing and grouping of sets of objects and to measures. Recognise and combine halves and quarters as parts of a whole.	Use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. Connect unit fractions to equal sharing and grouping, to numbers and to measures, finding fractions of lengths, quantities, set of objects or shapes. Explore $\frac{3}{4}$ as an example of a nonunit fraction. Count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line.	Connect tenths to place value, decimal measures and to division by 10. Begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. Explore beyond the [0, 1] interval, including relating this to measure. Understand the relation between unit fractions as operators (fractions of), and division by integers. Continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.	Connect hundredths to tenths and place value and decimal measure. Extend the use of the number line to connect fractions, numbers and measures. Understand the relation between nonunit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths Make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. Use factors and multiples to recognise equivalent fractions and simplify where appropriate.	Understand that percentages, decimals and fractions are different ways of expressing proportions. Extend the knowledge of fractions to thousandths and connect to decimals and measures. Connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line. Explore improper and mixed fraction by a fraction to using fractions as operators (fractions of), and to division.	Practise, use and understand the addition and subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator. Progress to varied and increasingly complex problems. Use a variety of images to support their understanding of multiplication with fractions. Use their understanding of the relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity.

Practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency. Understand the number system and decimal place value to tenths and then hundredths.	T					- · · · · · · · ·
subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency. Mark Comparisons Mark						Practise calculations
with the same denominator through a variety of increasingly complex problems to improve fluency. **Practise adding and subtracting fractions to become fluent through a variety of increasingly complex problems beyond one whole. **Understand the number system and decimal place value to tenths and then hundredths. **Relates decimal notation to division of whole number by 10 and later 100. **Practise counting listing equivalent fractions with tocommon increasingly complex problems. **Extend an understanding of adding and subtracting fractions to acclulations that exceed 1 as a mixed number. **Continue to practice counting simple fractions and decimal fractions. Develop an understanding of fractions as numbers, measures and perators by finding fractions. **Develop an understanding of fractions as numbers and understanding of fractions of functions as numbe						•
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with it, including in the context of the context of measurements. Multiply decimals by whole numbers, starting with the strategies from year simplest cases, and in Make comparisons Make comparisons With it, including in quantities. Extend counting strategies from year simplest cases, and in practical contexts,				notation and the	finding fractions of	digit whole numbers.
the context of measurements. the context of measurements. Extend counting starting with the strategies from year simplest cases, and in Make comparisons 4, using decimals practical contexts,		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		language associated	numbers and	-
measurements. Extend counting starting with the strategies from year simplest cases, and in Make comparisons 4, using decimals practical contexts,				with it, including in	quantities.	Multiply decimals by
strategies from year simplest cases, and in Make comparisons 4, using decimals practical contexts,				the context of		whole numbers,
strategies from year simplest cases, and in Make comparisons 4, using decimals practical contexts,				measurements.	Extend counting	starting with the
Make comparisons 4, using decimals practical contexts,					_	_
				Make comparisons	j j	
				and order decimal		,

· ·	•	·				
				amounts and	including bridging	such as measures and
				quantities that are	zero.	money.
				expressed to the		
				same number of	Say, read and write	Introduce the division
				decimal places.	decimal fractions	of decimal numbers
					and related tenths,	by one-digit whole
				Represent numbers	hundredths and	number, initially, in
				with one or two	thousandths	practical contexts
				decimal places in	accurately.	involving measures
				several ways, such as		and money.
				on number lines.	Check the	
					reasonableness of	Recognise division
					their answers to	calculations as the
					problems.	inverse of
						multiplication.
					Mentally add and	
					subtract tenths, and	Develop the skills of
					one-digit whole	rounding and
					numbers and tenths.	estimating as a means
					Practise adding and	of predicting and
					subtracting	checking the order of
					decimals, including a	magnitude of their
					mix of whole	answers to decimal
					numbers and	calculations.
					decimals, decimals with different	Davind analysis to a
						Round answers to a
					numbers of decimal	specified degree of
					places, and	accuracy and checking the reasonableness of
					complements of 1.	their answers.
					Solve puzzles	uleli alisweis.
					-	
					involving decimals.	
					Make connections	
					between	
					percentages,	
					fractions and	
					decimals.	
					ueciiliais.	

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Estimate,	Move from using	Use standard units	Measure using the	Understand place	Use their knowledge	Connect conversion to
	measure,	and comparing	of measurement	appropriate tools and	value and decimal	of place value and	a graphical
	weigh,	different types of	with increasing	units, progressing to	notation to record	multiplication and	representation as
	compare, order	quantities and	accuracy, using their	using a wider range of	metric measures,	division to convert	preparation for
	objects, and	measures using non-	knowledge of the	measures, including	including money.	between standard	understanding
	talk about	standard units to	number system.	comparing and using		units.	linear/proportional
	properties,	using manageable		mixed units and	Use multiplication to		graphs.
	position and	common standard	Use the appropriate	simple equivalents of	convert from larger to	Calculate the	
	time.	units.	language and record	mixed units.	smaller units.	perimeter of	Understand
			using standard	Compare measures		rectangles and	approximate
		Begin to use	abbreviations.	including simple	Express perimeter	related composite	conversions and
		measuring tools	_	scaling by integers,	algebraically.	shapes, including	explain if an answer is
		such as a ruler,	Compare	connected to	Relate area to arrays	using the relations of	sensible.
		weighing scales and	Measures, includes	multiplication.	and multiplication.	perimeter or area to	Use the number line
		containers.	simple multiples.	D (1)		find unknown	to add and subtract
يد			T-114b-45	Become fluent in		lengths.	positive and negative
Jen		Use the language of	Tell the time on	recognising the value		F	integers for measures
'en		time, including	analogue clocks and record it.	of coins, by adding		Express missing	such as temperature.
sui		telling the time throughout the day,	record it.	and subtracting amounts, including		measures algebraically.	Relate the area of
Measurement		first using o'clock	Count and recognise	mixed units, and		algebraically.	rectangles to
2		and then half past.	coins.	giving change using		Calculate the area	parallelograms and
		and their han past.	Collis.	manageable amounts.		from scale drawings	triangles and calculate
			Read and say	manageable amounts.		using given	their areas.
			amounts of money	Record £ and p		measurements.	tricii arcas.
			confidently and use	separately.		measarements.	Understand and use
			the symbols £ and p	separatery.		Use all four	the formulae for
			accurately,	Use both analogue		operations in	calculating area (in
			recording pounds	and digital 12-hour		problems involving	words or symbols).
			and pence	clocks and record		time and money,	
			separately.	their times.		including	Introduce compound
						conversions.	units for speed, such
							as miles per hour, and
							apply their knowledge
							in science or other
							subjects as
							appropriate.

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

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Start to use the	Use the language of	Work with patterns	Review and revise	Draw a pair of axes in	Recognise and use	Draw and label a pair
	language of	position, direction	of shapes, including	positional language	one quadrant, with	reflection and	of axes in all four
	position,	and motion: left and	those in different	and patterns.	equal scales and	translation in a	quadrants with equal
	direction and	right, top, middle	orientations.		integer labels.	variety of diagrams,	scaling.
	motion: on top	and bottom, on top				including continuing	
	of, middle,	of, in front of, above,	Use the concept and		Read, write and use	to use a 2-D grid and	Draw and label
io.	inside and	between, around,	language of angles		pairs of coordinates	coordinates in the	rectangles,
ect	outside.	near, close and far,	to describe 'turn' by		(2, 5) including using	first quadrant.	parallelograms and
di j		up and down,	applying rotations,		coordinate-plotting		rhombuses, specified
P		forwards and	including in practical		ICT tools.	Reflection should be	by coordinates in the
ā		backwards, inside	contexts.			in lines that are	four quadrants.
ţ		and outside.				parallel to the axes.	
osi							Predict missing
٦		Make whole, half,					coordinates using the
Geometry – position and direction		quarter and three-					properties of shapes.
μeί		quarter turns in both					Darin ta accessor
eol		directions.					Begin to express algebraically for
J		Connect turning					example, translating
		clockwise with					vertex (a, b) to (a-2,
		movement on a					b+3); (a, b) and (a+d,
		clock face.					b+d) being opposite
		CIOCK Tacc.					vertices of a square of
							side d.
	Early Years	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 on
			collate, organise and	simple scales in	greater range of	on coordinates and	angles, fractions and
			compare	pictograms and bar	scales in their	scales to their	percentages to the
			information.	charts with increasing	representations.	interpretation of	interpretation of pie
Statistics				accuracy.		time graphs.	charts.
ıtis					Begin to relate the		
Sta				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
							in other subjects.

					appropriate and 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.		
Ratio and proportion	Year 6 Recognise proportionality in contexts when the relations between quantities are in the same ratio							
			 Solve problems involving Year 6 	unequal quantities.				
Algeb		 Year 6 Use symbols and letters to represent variables and unknowns in mathematical situations that they already understand: missing numbers, lengths, coordinates and angles, formulae in mathematics and science, equivalent expressions (for example, a + b = b + a), generalisations of number patterns and number puzzles (e.g. what two numbers can add up to) 						