

Mathematics Progression at Friars

<u>Years 1 – 6</u>

White R@se Maths	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value Number	(Within 10)> Sorting objects> Counting objects> Counting objectsfrom a larger group> Representing objects> Recognise numbersas words> Count on from any number> 1 more> Count backwards within 10> 1 less> Compare groups by matching> Fewer, more, same> Less than, greater than, equal to> Compare numbers> Order objects and numbers> The number line (Within 20)> Count within 20> Understand 10> Understand 11, 12 and 13	 Numbers to 20 Count objects to 100 by making 10's Recognise tens and ones Use a place value chart Partition numbers to 100 Write numbers to 100 in words Flexibly partition numbers to 100 Write numbers to 100 in expanded form 10's on the number line to 100 10's and 1's on a number line to 100 10's and 1's on a number line to 100 Estimate numbers on a number line Compare objects Order objects and numbers Count in 2's, 5's 	 Represent numbers to 100 Partition numbers to 100 Number line to 100 Hundreds Represent numbers to 1,000 Partition numbers to 1,000 Flexible partitioning numbers to 1,000 Flexible partitioning numbers to 1,000 Hundreds, tens and ones Find 1, 10 or 100 more or less Number line to 1,000 Estimate on a number line to 1,000 Compare numbers to 1,000 Order numbers to 1,000 Count in 50's 	 Represent numbers to 1,000 Partition numbers to 1,000 Number line to 1,000 Thousands Represent Numbers to 10,000 Partition numbers to 10,000 Flexible portioning of numbers to 10,000 Find 1, 10, 100 and 1,000 more or less Number line to 10,000 Estimate on a number line to 10,000 Compare numbers to 10,000 Compare numbers to 10,000 Order numbers to 	 Roman numerals to 1,000 Numbers to 10,000 Numbers to 100,000 Numbers to 1,000,000 Read and write numbers to 1,000,000 Reowers of 10 10/100/1,000/ 10,000/100,000 more or less Partition numbers to 1,000,000 Number line to 1,000,000 Compare and order numbers to 100,000 Compare and order numbers to 1,000,000 Round to the nearest 10, 100 or 1,000 Round within 	 Numbers to 1,000,000 Numbers to 10,000,000 Read and write numbers to 10,000,000 Powers of 10 Number line to 10,000,000 Compare and order any integers Round any integer Negative numbers
	 Understand 14, 15 and 16 Understand 17, 18 and 19 	and 10's Count in 3's	v Count in 50's	 Forder humbers to 10,000 Roman numerals Round to the nearest 10 	 ► Round within 100,000 ► Round within 1,000,000 	

	\triangleright	Understand 20					\succ	Round to the				
	\succ	1 more and 1 less						nearest 100				
	\triangleright	The number line to					>	Round to the				
		20						nearest 1 000				
		Ectimate on a						Round to the				
	~	number line to 20						nearest 10, 100 or				
	~	Compare numbers to						1,000				
		20										
	\triangleright	Order numbers to 20										
		<u>(Within 50)</u>										
	\triangleright	Count from 20 to 50										
	\succ	20, 30, 40 and 50										
	\succ	Count by making										
		groups of tens										
	\triangleright	Groups of tens and										
		ones										
	\triangleright	Partition into tens										
		and ones										
	4	The number line to										
		50										
	~	Ju Estimata an a										
	~	number line to 50										
	~	1 more, 1 less										
		(Within 100)										
	>	Count from 50 to 100										
		Tens to 100										
	\triangleright	Partition into tens										
		and ones										
	\succ	The number line to										
		100										
	\succ	1 more, 1 less										
	\succ	Compare numbers										
		with the same										
		number of tens										
	\triangleright	Compare any two										
		numbers										
Addition and		(Within 10)	8	Bonds to 10	Þ	Annly number	8	Add and subtract	8	Mental strategies	8	Add and
Audition and	\triangleright	Introduce parts and	×	Fact families –	,	honds within 10	,	1's 10's 100's	, A	Add whole	,	subtract
Subtraction	,	wholes	,	addition and	2	Add and subtract		and 1.000 's	,	numbers with more		integers
		Bart whole model		subtraction bonds		1'c		$\frac{1}{2}$		than four diaits		Solvo multi
		Purt-whole model		subtraction bonus	~	15 Add and subtract	-	Aud up to two 4-	~	than jour aights	-	Solve multi-
Number	~	write number	~	within 20 Delated fasts	~			aigit numbers –	~	Subtruct Whole	~	Step problems
		sentences	×	Related facts		10's		no exchange		numbers with more	>	Uaer of
	\succ	Fact families –		Bonds to 100		Add and subtract		Add two 4-digit		tnan four digits		operations
		addition facts		(tens)		100's		numbers – one		Round to check	Þ	Mental
	\succ	Number bonds within	>	Add and subtract	\succ	Spot the pattern		exchange		answers		calculations
		10		1's	\succ	Add 1's across a	\succ	Add two 4-digit				and
			\succ	Add by making 10		10		numbers – more				estimation

	A AA AAAA A A A A A A A A A A A A A A	Systematic number bonds within 10 Number bonds to 10 Addition – Add together Addition problems Find a part Subtraction – Find a part Fact families – the eight facts Subtraction – take away/cross out – how many left? Subtraction – take away – how many left? Subtraction on a number line Add or subtract 1 or 2 (Within 20) Add by counting on within 20 Add ones using number bonds Find and make number bonds Find and make number bonds Subtract ones using number bonds Subtraction – counting back Subtraction – finding the difference Related facts Missing number problems	A AAAA AAA A A A A A A A	Add three 1-digit numbers Add to the next 10 Add across a 10 Subtract across 10 Subtract from a 10 Subtract a 1-digit number from a 2- digit number (across a 10) 10 more, 10 less Add and subtract 10's Add 2-digit numbers (not across a ten) Add 2-digit numbers (across a ten) Subtract 2-digit numbers (across a ten) Subtract 2-digit numbers (across a ten) Subtract 2-digit numbers (across a ten) Mixed addition and subtraction Compare number sentences Missing number problems	A A A A A A A A A A A A A A A A A A A	Add 10's across a 100 Make connections Add two numbers (no exchange) Subtract two numbers (no exchange) Add two numbers (across a 10) Add two numbers (across a 100) Subtract two numbers (across a 10) Subtract two numbers (across a 100) Add 2-digit and 3- digit numbers Subtract a 2-digit number from a 3- digit number Complements to 100 Estimate answers Inverse operations Make decisions		than one exchange Subtract two 4- digit numbers – no exchange Subtract two 4- digit numbers – one exchange Subtract two 4- digit numbers – more than one exchange Efficient subtraction Estimate answers Checking strategies		Inverse operations (addition and subtraction) Multi-step addition and subtraction problems Compare calculations Find missing numbers		Reason for known facts
Aultiplication	>	Count in 2s	~	Recognise equal	~	Multiplication –	>	Multiples of 3	~	Multiples	>	Common
and Division		Count in 10s Count in 5s Recognise equal groups		groups Make equal groups		equal groups Use arrays Multiples of 2 Multiples of 5 and	AA	Multiply and divide by 6 6 times-table and division facts		Common multiples Factors Common factors Prime numbers	•	factors Common multiples Rulas of
Number	A A	groups Add equal groups Make arrays		Auu equui groups		10	٨	Multiply and divide by 9		Square numbers Cube numbers		divisibility Primes to 100

\checkmark	Make doubles	\checkmark	Introduce the	A	Sharing and	×	9 times-table and		Multiply by 10, 100	A	Square and
\succ	Make equal groups –		multiplication		grouping		division facts		and 1,000		cube numbers
	grouping		symbol	\succ	Multiply by 3	\succ	The 3, 6 and 9	\succ	Divide by 10, 100	\succ	Multiply up to
\succ	Make equal groups -	\succ	Multiplication	\succ	Divide by 3		times tables		and 1,000		a 4-digit
	sharing		sentences	≻	The 3-times table	\succ	Multiply and	\succ	Multiples of 10,		number by a
	5	\succ	Use arrays	≻	Multiply by 4		divide by 7		100 and 1,000		, 2-digit
		\succ	Make equal	\succ	Divide by 4	\triangleright	7 times-table and	\triangleright	Multiply up to a 4-		number
			aroups – aroupina	\triangleright	The 4-times table		division facts		diait number by a		Solve
		\succ	Make equal	>	Multiply by 8	Þ	11 times-table		1-diait number	· · ·	problems with
		· ·	arouns – sharina	>	Divide by 8	· · ·	and division facts	\triangleright	Multinly a 2-diait		multiplication
		\triangleright	The 2 times-table	>	The 8-times table	>	12 times-table	, i i i i i i i i i i i i i i i i i i i	number hv a 2-diait		Short division
		, A	Divide hy 2	Å	The 2 4 and 8	ŕ	and division facts		number (area	Å	Division using
		Á	Doubling and		times_tables	4	Multinly by 1 and		model)	Í Í	factors
			halvina	4	Multinles of 10	,	0		Multinly a 2-diait	4	Introduction
		2	Odd and even		Related	4	0 Divide a number		number hv a 2-diait		tolong
			numbers		calculations		by 1 and itself		number by a 2-aight		division
			The 10 times table	6	Pageoning about	6	Dy I unu itseij Multiply throa	Þ	Multinly a 2 diait	6	Long division
			Divide by 10		multiplication		numbers	-	number by a 2 diait		LUNY UNISION
			Divide by 10 The E times table	~	Multiplication	~	Factor pairs		number by a z-aigit		willi
			Divide by E	-	viuitipiyiriy u 2-		Fucior puirs	~	number Multiplu a 4 diait	~	Coluco
			Divide by 5		aigit number by a			-	wullipiy a 4-aigit		SUIVE
		~	The 5 and 10		1-aigit number –	-	Multiply by 10		number by a 2-aigit		problems with
			times-tables	~	no exchange	-	Nultiply by 100	~	number Salva arabiaraa	~	aivision Coluce moulti
				~	Wuitipiying a 2-	-	Divide by 10	-	Solve problems	<i>×</i>	Solve multi-
					algit number by a	-	Divide by 100	~	With multiplication	~	step problems
					1-aigit number –	~	Related Jacts –	×	Short aivision	F	Oder of
				~	with exchange		multiplication and	~	Divide a 4-aigit	~	operations
				~	LINK		aivision		number by a 1-aigit		Mental
					multiplication and	>	Informal written		number		calculations
					division		methods for	>	Divide with		and
				>	Divide a 2-digit		multiplication		remainders		estimation
					number by a 1-		Multiply a 2-digit		Efficient division	>	Reason for
					digit number – no		number by a 1-	\succ	Solve problems		known facts
					exchange		digit number		with multiplication		
				>	Divide a 2-digit	>	Multiply a 3-digit		and division		
					number by a 1-		number by a 1-				
					digit number –		digit number				
					flexible	\triangleright	Divide a 2-digit				
					partitioning		number by a 1-				
				\succ	Divide a 2-digit		digit number (1)				
					number by a 1-	≻	Divide a 2-digit				
					digit number –		number by a 1-				
					with remainders		digit number (2)				
				\checkmark	Scaling	\checkmark	Divide a 3-digit				
				≻	How many ways?		number by a 1-				
							digit number				
						≻	Correspondence				
							problems				

				> Efficient		
				multiplication		
Fractions	Recognise half an	Introduction to	Understand the	Understand the	Find fractions	Equivalent
Tractions	object or shape	parts and whole	denominators of	whole	equivalent to unit	, fractions and
	Find a half of an	Equal and unequal	unit fractions	Count beyond 1	fractions	simplifying
Number	object or shape	parts	Compare and	Partition a mixed	Find fractions	Equivalent
	Recognise a half of a	 Recognise a half 	order unit	number	equivalent to non-	fractions on a
	quantity	Find a half	fractions	> Number lines with	unit fractions	number line
	Find a half of a	Recognise a	Understand the	mixed numbers	Recognise	Compare and
	quantity	quarter	numerators of	Compare and	equivalent fractions	order
	Recognise a quarter	Find a guarter	non-unit fractions	order mixed	Convert improper	(denominator)
	of an object or shape	Recognise a third	Understand the	numbers	fractions to mixed	Compare and
	Find a quarter of an	Find a third	whole	Understand	numbers	order
	object or shape	Find the whole	Compare and	improper	Convert mixed	(numerator)
	Recognise a quarter	Unit fractions	order non-unit	fractions	numbers to	Add and
	of a quantity	Non-unit fractions	fractions	Convert mixed	improper fractions	subtract
	Find a quarter of a	Recognise the	Fractions and	numbers to	Compare fractions	simple
	quantity	equivalence of a	scales	improper	less than 1	fractions
		half and two	Fractions on a	fractions	Order fractions less	Add and
		quarters	number line	Convert improper	than 1	subtract any
		Recognise three-	Count in fractions	fractions to mixed	Compare and order	two fractions
		quarters	on a number line	numbers	fractions greater	Add mixed
		Find three-	Equivalent	Equivalent	than 1	numbers
		quarters	fractions on a	fractions on a	Add and subtract	Subtract
		Count in fractions	number line	number line	fractions with the	mixed
		up to a whole	Equivalent	Equivalent	same denominator	numbers
			fractions as bar	fraction families	Add fractions	Multi-step
			models	Add two or more	within 1	problems
			Add fractions	fractions	Add fractions with	Multiply
			Subtract fractions	Add fractions and	a total greater than	fractions by
			Partition the	mixed numbers	1	integers
			whole	Subtract two	Add to a mixed	> Multiply
			Unit fractions of a	fractions	number	fractions by
			set of objects	Subtract from	Add two mixed	fractions
			Non-unit fraction	whole amounts	numbers	Divide a
			of a set of objects	Subtract from	Subtract fractions	fraction by an
			Reasoning with	mixed numbers	Subtract from a	integer
			fractions of an		mixed number	Divide any
			amount		Subtract from a	fraction by an
					mixea number –	Integer
					breaking the whole	► IVIIxed
					Subtract two mixed	questions
					numbers	WITH JEACTIONS
					fraction by an	Fraction of an amount
					jiuction by un	umount
					integer	

				Multiply a non-unit fraction by an integer Multiply a mixed number by an integer Calculate a fraction of a quantity Find the whole Use fractions as operators		Fraction of an amount – find the whole Fractions as division Fractions to percentages Equivalent fractions, decimals and percentages Order fractions, decimals and percentages
Decimals		Tenths as a fraction	7	Decimals up to 2	>	Place value
		 Tenths as 	>	Equivalent	>	Place value –
Number		decimals		fractions and		integers and
		Ienths on a place value chart	~	aecimais (tentns) Fauivalent	2	aecimais Round
		Tenths on a	,	fractions and	ŕ	decimals
		number line		decimals	\succ	Add and
		Divide a 1-digit		(hundredths)		subtract
		number by 10	\succ	Equivalent		decimals
		Divide a 2-digit		fractions and	\succ	Multiply by
		number by 10		decimals Thousandths as		10, 100 and
		F Hundreatins as		fractions	4	1,000 Divide hv 10
		 Hundredths as 	\succ	Thousandths as		100 and 1.000
		decimals		decimals	≻	Multiply
		Hundredths on a	≻	Thousandths on a		decimals by
		place value chart		place value chart		integers
		Divide a 1 or 2-	\succ	Order and compare	>	Divide
		digit number by		decimals (same		decimals by
		100 > Make a whole		nlaces)	4	Multinly and
		and tenths	≻	Order and compare		divide
		Make a whole		any decimals with		decimals in
		with hundredths		up to 3 decimal		context
		Partition decimals		places	>	Decimals and
		Flexibly partition	►	Round to the		fraction
		aecimais		nearest whole		equivalents Order
		decimals	4	Round to 1 decimal		fractions
		 Order decimals 		place		decimals and
				F. 400		percentages

		~	D 11 11	~			
		×	Round to the	×	Use known facts to		
			nearest whole		add and subtract		
			number		decimals within 1		
		\blacktriangleright	Halves and	\succ	Complements to 1		
			quarters as	\succ	Add and subtract		
			, decimals		decimals across 1		
					Add decimals with		
				,	the same number		
					of docimal places		
				~	Of decimal places		
				~	Subtract decimais		
					with the same		
					number of decimal		
					places		
				\succ	Add decimals with		
					different numbers		
					of decimal places		
				\triangleright	Subtract decimals		
					with different		
					numbers of decimal		
					Efficient strategies		
					for adding and		
					subtracting		
					decimals		
				\triangleright	Decimal sequences		
				≻	Multiply by 10, 100		
					and 1,000		
				≻	Divide bv 10. 100		
					and 1.000		
				\triangleright	Multinly and divide		
				,	decimals – missina		
					values		
- · ·				~	Vulues	~	Understand
Percentages				~	Unaerstana		Unaerstand
					percentages		percentages
Numehor					Percentages as	≻	Percentage of
ivurnber					fractions		amount – one
				\triangleright	Percentages as		step
					decimals	≻	Percentage of
				\succ	Equivalent		amount –
					fractions, decimals		multi step
					and percentages	≻	Percentaaes –
					,,		missina values
						A	Fauivalent
						,	fractions
							docimals and
							uecimais and
							percentages

Negative numbers Number			 Understand negative numbers Count through zero in 1s Count through zero in multiples Compare and order negative numbers 	>	Order fractions, decimals and percentages
Ratio Number			➢ Find the difference		Add or multiply? Use ratio language Introduction to the ratio symbol Ratio and fractions Scale drawing Use scale factors Similar shapes Ratio problems Proportion problems
Algebra Number					Recipes 1-step function machines 2-step function machines Form expressions Substitution Formulae Form equations Solve 1-step equations Solve 2-step equations

Length and Height (Year 1 and 2) Volume (Year 1) Length and Perimeter (Year 3 and 4) Area (Year 4) Perimeter and Area	 Compare lengths and heights Measure length using objects Measure length in centimetres Full and empty Compare volume 	 Measure in centimetres Measure in metres Compare heights and lengths Order lengths and heights Four operations with lengths and heights Four operations with volume and capacity 	 Measure in metres and centimetres Measure in millimetres Measure in centimetres and millimetres Metres, centimetres and millimetres Equivalent lengths (metres and centimetres) Compare lengths Add lengths Subtract lengths Subtract lengths What is perimeter? Measure perimeter 	 Measure in kilometres and metres Equivalent lengths (kilometres and metres) Perimeter on a grid Perimeter of a rectangle Perimeter of rectilinear shapes Find missing lengths in rectilinear shapes Calculate the perimeter of rectilinear shapes Calculate the perimeter of rectilinear shapes Perimeter of rectilinear shapes Perimeter of rectilinear shapes 	 Perimeter of rectangles Perimeter of rectilinear shapes Perimeter of polygons Area of rectangles Area of compound shapes Estimate area Cubic centimetres Compare volume Estimate volume Estimate capacity 	 Find pairs of values Solve problems with two unknowns Shapes – same area Area and perimeter Area of a triangle – counting squares Area of a right-angled triangle Area of any triangle Area of a parallelogram Volume – counting cubes Volume of a cuboid
Volume (Year 5)			perimeter	 polygons What is area? Count squares Make shapes Compare areas 		
Area, Perimeter and Volume (Year 6)						
Measurement						
Mass, Capacity	 Heavier and lighter Measure mass Compare mass Measure capacity 	 Compare mass Measure in grams Measure in kilograms 	 Use scales Measure mass in grams 			

and	Compare capacity	Four operations	Measure mass in			
Temperature		with mass	kilograms and			
remperature		Compare volume	grams			
		and capacity	Equivalent			
Measurement		Measure in millilitras	masses (kilograms and			
		Measure in litres	(Kilografiis and			
		 Four operations 	Compare mass			
		with volume and	 Add and subtract 			
		capacity	mass			
		Temperature	Measure capacity			
			and volume in			
			millilitres			
			Measure capacity			
			and volume in			
			litres and			
			millitres			
			Equivalent capacities and			
			volumes (litres			
			and millilitres)			
			Compare capacity			
			and volume			
			Add and subtract			
			capacity and			
			volume			
Converting					Kilograms and	> Metric
Units					Kilometres	Convert
					millilitres	metric
Magguramont					Convert unit of	measures
wieusurement					length	 Calculate with
					Convert between	metric
					metric and imperial	measures
					units	Miles and
					Convert units of	kilometres
					time	Imperial
					Calculate with	measures
T :	Before and after	> O'Clock and half	> Roman numerals	> Vears months		
lime	 Days of the week 	nast	to 12	weeks and days		
	 Months of the vear 	Quarter past and	 Tell the time to 5 	 Hours. minutes 		
Measurement	 Hours, minutes and 	guarter to	minutes	and seconds		
	seconds	Tell time past the	Tell the time to	Convert between		
	Tell the time to the	hour	the minute	analogue and		
	hour	Tell time to the	Read time on a	digital times		
		hour	digital clock			

	Tell the time to the half hour	 Tell the time to five minutes Minutes in an hour Hours in a day 	 Use a.m and p.m Years, months and days Days and hours Hours and minutes – use start and end times Hours and minutes – use durations Minutes and seconds Units of time Solve problems with time 	 Convert to the 24 hour clock Convert from the 24 hour clock 		
Money Measurement	 Unitising Recognise coins Recognise notes Count in coins 	 Count money – pence Count money – pounds (notes and coins) Count money – pounds and pence Choose notes and coins Make the same amount Compare amounts of money Calculate with money Making a pound 	 Pounds and pence Convert pounds and pence Add money Subtract money Find change 	 Write money using decimals Convert between pounds and pence Compare amounts of money Estimate with money Calculate with money Solve problems with money 		
		 Find change Two-step problems 				
Shape Geometry	 Recognise and name 3-D shapes Sort 3-D shapes Recognise and name 2-D shapes Sort 2-D shapes Patterns with 2-D and 3-D shapes 	 Recognise 2-D and 3-D shapes Count sides on 2-D shapes Count vertices on 2-D shapes Draw 2-D shapes Lines of symmetry on shapes Use lines of symmetry to 	 Turns and angles Right angles Compare angles Measure and draw accurately Horizontal and vertical Parallel and perpendicular Recognise and describe 2-D 	 Understand angles as turns Identify angles Compare and order angles Triangles Quadrilaterals Polygons Lines of symmetry Complete a symmetric figure 	 Understand and use degrees Classify agles Estimate angles Measure angles up to 180 Draw lines and angles accurately Calculate angles around a point Calculate angles on 	 Measure and classify angles Calculate angles Vertically opposite angles Angles in a triangle Angles in a triangle –
		complete shapes	shapes > Draw polygons	symmetric jigure	a straight line	special cases

		 Count faces on 3-D shapes Count edges on 3- D shapes Count vertices on 3-D shapes Sort 3-D shapes Make patterns with 2-D and 3-D shapes 	 Recognise and describe 3-D shapes Make 3-D shapes 		 Lengths and angles in shapes Regular and irregular polygons 3-D shapes 	 Angles in a triangle – missing angles Angles in quadrilaterals Angles in polygons Circles Draw shapes accurately Nets of 3-D shapes
Position and Direction Geometry	 Describe turns Describe position – left and right Describe position – forwards and backwards Describe position – above and below Ordinal numbers 	 Language of position Describe movement Describe turns Describe turns Describe movement and turns Shape patterns with turns 		 Describe position using coordinates Plot coordinates Draw 2-D shapes on a grid Translate on a grid Describe translation on a grid 	 Read and plot coordinates Problem solving with coordinates Translation Translation with coordinates Lines of symmetry Reflection in horizontal and vertical lines 	 The first quadrant Read and plot points in four quadrants Solve problems with coordinates Translations Reflections
Statistics		 Make tally charts Tables Block diagrams Draw pictograms (1-1) Interpret pictograms (1-1) Draw pictograms (2, 5 and 10) Interpret pictograms (2, 5 and 10) 	 Interpret pictograms Draw pictograms Interpret bar charts Draw bar charts Collect and represent data Two-way tables 	 Interpret charts Comparison, sum and difference Interpret line graphs Draw line graphs 	 Draw line graphs Read and interpret line graphs Read and interpret tables Two-way tables Read and interpret timetables 	 Line graphs Dual bar charts Read and interpret pie charts Pie charts Pie charts with percentages Draw pie charts The mean