



SCHOOL CURRICULUM: ANNUAL PLANNER FOR MATHEMATICS – Y3

PNC PROGRAMME OF STUDY			SCHOOL PROGRESSION			
AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able			
			1	2	3	★
Number - number & place value	1	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number		✓	✓	✓
			✓		✓	✓
			✓		✓	✓
	2	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)		✓		✓
				✓	✓	✓
					✓	✓
	3	compare and order numbers up to 1000	✓	✓		✓
			✓	✓		✓
			✓			✓



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number - number & place value	4	identify, represent and estimate numbers using different representations	to estimate the number of objects, with a given value, in a set to 1000 to represent a number to 1000 using the correct base-10 equipment to identify a number to 1000 on a number line to identify the number of objects, with a given value, by grouping and counting in fours to identify the number of objects, with a given value, by grouping and counting in eights to identify the number of objects, with a given value, by grouping and counting in fifties to identify the number of objects, with a given value, by grouping and counting in hundreds	✓	✓	✓	✓
	5	read and write numbers up to 1000 in numerals and in words	to read numerals to 1000 to write numerals to 1000 to read numbers as words to 1000 and match to numerals to write numbers as words to 1000 to read 4 digit numbers as numerals	✓	✓	✓	✓
	6	solve number problems and practical problems involving these ideas.	to solve number and practical problems using multiples of 4, 8, 50 and 100 to solve number and practical problems finding 10 or 100 more or less than a given number. to solve number and practical problems using numbers to 1000	✓	✓	✓	✓



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			4	5	6	★	
addition and subtraction Number -	7	add and subtract numbers mentally, including: -a three-digit number and ones -a three-digit number and tens -a three-digit number and hundreds	to add a three-digit number and a one-digit number using base-10 icons	✓			
			to add a three-digit number and a one-digit number in my head with 100-square / number line support	✓			
			to add a three-digit number and a one-digit number in my head	✓			✓
			to subtract a one-digit number from a three-digit number using base-10 icons	✓			
			to subtract a one-digit number from a three-digit number in my head with 100-square / number line support	✓			
			to subtract a one-digit number from a three-digit number in my head	✓			✓
			to add a three-digit number and a multiple of 10 using base-10 icons	✓			
			to add a three-digit number and a multiple of 10 in my head with 100-square / number line support	✓			
			to add a three-digit number and a multiple of 10 in my head	✓			✓
			to subtract a multiple of 10 from a three-digit number using base-10 icons	✓			
			to subtract a multiple of 10 from a three-digit number in my head with 100-square / number line support	✓			
			to subtract a multiple of 10 from a three-digit number in my head	✓			✓
			to add a three-digit number and a multiple of 100 using base-10 icons		✓		
			to add a three-digit number and a multiple of 100 in my head with 100-square / number line support		✓		
			to add a three-digit number and a multiple of 100 in my head		✓		✓
to subtract a multiple of 100 from a larger three-digit number using base-10 icons		✓					
to subtract a multiple of 100 from a larger three-digit number in my head with 100-square / number line support		✓					
to subtract a multiple of 100 from a larger three-digit number in my head		✓		✓			



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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able			
			4	5	6	★
addition and subtraction	8	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction		✓ ✓ ✓ ✓		
	9	estimate the answer to a calculation and use inverse operations to check answers		✓ ✓	✓ ✓	
	10	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	



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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able	7	8	9	★	
multiplication and division Number -	11	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	to count forwards and back in steps of 3,	✓			✓	
			to count forwards and back in steps of 4		✓	✓	✓	
			to count forwards and back in steps of 8		✓	✓	✓	
			to recall the multiplication facts for the 3x tables	✓			✓	
			to recall the division facts for the 3x tables	✓			✓	
			to recognise multiples of 3 beyond the 10 th multiple	✓			✓	
			to derive related multiplication and division facts for the 3x table	✓			✓	
			to recall the multiplication facts for the 4x tables		✓		✓	
			to recall the division facts for the 4x tables		✓		✓	
			to recognise multiples of 4 beyond the 10 th multiple		✓		✓	
			to recognise that they can double their 4x tables to work out their 8x tables				✓	
			to recall the multiplication facts for the 8x tables					✓
to recall the division facts for the 8x tables						✓	✓	

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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able				
			7	8	9	★	
Number - multiplication and division	12	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	to match a calculation to a practical array (stage 3)	✓			
			to model a calculation using a practical array (stage 3)	✓			
			to model a calculation by drawing an array (stage 3)	✓			
			to model how to look for friendly numbers in a practical array (stage 4)	✓			
			to model how to look for friendly numbers by drawing an array (stage 4)	✓			
			to scale up by using multiples of 10 in a pictorial array (stage 4)		✓		
			to scale down when using an array to divide by powers of 10 (stage 4)		✓		
			to use written methods on an array to solve two-digit x one-digit calculations (stage 5)		✓		
			to use written methods alongside an array to solve two-digit x one-digit calculations (stage 5)		✓		
			to identify the link between an array and the grid method of multiplication (stage 5)		✓		
			to use grid method of multiplication to solve two-digit x one-digit calculations (stage 5)		✓		
			to arrange counters to show a given division calculation without exchanging (stage 5)				✓
			to arrange counters to show a division calculation that requires exchanging (stage 5)				✓
			to use counters to show the principle of exchange to create an array for division (stage 5)				✓
			to use written methods on an array to solve two-digit ÷ one-digit calculations (stage 5)				✓
			to use an array to show the link between sharing and fractions (stage 5)				✓
	13	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	to use the relationship between multiplication and division to find the missing number in a number sentence	✓			✓
			to scale up by powers of 10 to solve multiplication problems		✓		
			to scale down by powers of 10 to solve division problems		✓		
			to be able to solve problems involving x2, x5 and x10 multiplication facts	✓			
			to be able to solve problems involving x2, x5 and x10 related division facts	✓			
			to solve a multiplication or division problem that requires the children to word systematically (e.g. 3 hats, 4 coats, how many different outfits)				✓

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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able				
			10	11	12	★	
Number – fractions	14	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	to recognise that tenths arise from dividing an object into 10 equal parts	✓			
			to recognise that tenths arise from dividing one digit numbers by 10	✓			
			to recognise that tenths arise from dividing quantities by 10	✓			
			to count up and down in tenths between two whole numbers on a number line.	✓			
	15	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	to recognise and name unit and non-unit fractions with small denominators. e.g 1/3 3/6 1/5 4/5	✓			
			to find and write unit fractions with small denominators, of a discrete set of objects e.g 1/6 of 12 objects	✓			
			to find and write non-unit fractions with small denominators, of a discrete set of objects e.g 2/6 of 12 objects	✓			
	16	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	to recognise unit and non unit fractions and use as numbers placed on a number line between 2 whole numbers beyond 0, 1 interval.	✓			
	17	recognise and show, using diagrams, equivalent fractions with small denominators	to recognise, using pre-partitioned diagrams, equivalent fractions with small denominators e.g. $\frac{1}{2} = \frac{2}{4}$ $\frac{1}{2} = \frac{3}{6}$ $\frac{1}{2} = \frac{5}{10}$		✓		
			to recognise equivalent fractions with small denominators on a fraction wall		✓		
			to match, using pre-partitioned diagrams, pairs of equivalent fractions		✓		
			to show using practical methods, equivalent fractions with small denominators e.g. paper folding		✓		
			to show by shading pre-partitioned diagrams equivalent fractions with small denominators		✓		
			to show by drawing diagrams, equivalent fractions with small denominators		✓		



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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able	10	11	12	★
Number – fractions	18	add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	to use diagrams to add fractions with the same denominator within one whole to use diagrams to subtract fractions with the same denominator within one whole to add fractions with the same denominator within one whole to subtract fractions with the same denominator within one whole to use diagrams to find pairs of fractions that make 1 whole to add fractions with the same denominator to make 1 whole			✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
	19	compare and order unit fractions, and fractions with the same denominators	to compare unit fractions by stating which is larger or smaller to compare fractions with the same denominators by stating which is larger or smaller to order at least 3 unit fractions in ascending order to order at least 3 fractions with the same denominators in ascending order	✓ ✓ ✓ ✓			✓ ✓
	20	solve problems that involve all of the above.	to solve problems finding fractions (with small denominators) of quantities or discrete set of objects to solve problems using simple equivalent fractions to solve problems adding and subtracting fractions with the same denominator.	✓		✓	✓

AOL=Area of Learning ★=addressed as part of daily x10 mins ‘mental essentials’ sessions ◼=addressed in other parts of the curriculum
 Y3 Unit Progression 1-2-4-13-7-10 3-16-5-14-8-11 18-17-6-15-9-12

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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able	13	14	15	★
Measurement	24	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	to tell and write the time using a clock showing Roman Numerals I to XII to tell and write the time using a 12 hour analogue clock to tell and write the time using a 24 hour analogue clock to tell and write the time using both 12 hour analogue and digital clock	✓ ✓	✓ ✓		✓ ✓ ✓ ✓
	25	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	to tell and read the time to the nearest minute on a clock with hands to write down the time using am and pm to read analogue and 12 hour digit time to match analogue and 12 hour digit clock faces to compare durations of time using seconds, minutes and hours to use mathematical vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight to tell the time.	✓ ✓ ✓ ✓ ✓	✓		✓ ✓
	26	know the number of seconds in a minute and the number of days in each month, year and leap year	to say how many seconds there are in a minute to say how many days are in each month to say how many days are in 1 year to say how many days are in a leap year	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓		✓ ✓ ✓ ✓
	27	compare durations of events [for example to calculate the time taken by particular events or tasks].	to solve time problems to work out start and finish times. to calculate time intervals between two events		✓ ✓		

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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able			16	17	★										
Geometry – properties of shape	28	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	to draw straight lines accurately	to know and identify a 2-D shape as a polygons	to recognise symmetrical and non symmetrical polygons	to draw accurately 2-D shapes/polygons including symmetrical and non symmetrical e.g. triangle, square, rectangle, quadrilaterals, pentagon, hexagon, octagon	to describe the properties of 2-D shapes using accurate mathematical language including length of sides, lines of symmetry and angles	to make 3-D shapes using modelling materials – sphere, cube, cuboid, cone, pyramid, cylinder, prisms	to make and recognise different nets for 3D shapes	to recognise 3D shapes in different orientations	to describe the properties of 3-D shapes using accurate mathematical language including length of sides, lines of symmetry and angles	✓	✓	✓	✓	✓	✓	✓
	29	recognise angles as a property of shape or a description of a turn	to identify a right angle as a property of a 2-D shape	to identify a right angle as a description of a turn								✓		✓				
	30	identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	to identify right angles in 2-D shapes	to identify an angle greater than a right angle using accurate mathematical language (obtuse)	to identify an angle less than a right angle using accurate mathematical language (acute)	to identify whether angles of a 2-D shape are right angles or whether they are bigger or smaller	to test whether an angle is equal to, bigger than or smaller than a right angle	to recognise that two right angles make half a turn	to recognise that three right angles make three quarters of a turn	to recognise that four right angles makes a complete turn			✓	✓	✓	✓	✓	✓



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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able	16	17	★
Geo pro. of sh	31	identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	to identify a horizontal line to identify a vertical line to identify pairs of perpendicular lines to identify parallel lines	✓ ✓ ✓ ✓		

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AOL	REF	STATEMENTS The children will be taught to	LEARNING OBJECTIVES To be able	18	+
Statistics	32	interpret and present data using bar charts, pictograms and tables	to interpret data in tables to interpret data in bar charts and pictograms using 2:1, 5:1 and 10:1 correspondence to construct and present tables to represent the results of a data collection from a variety of contexts to construct and present bar charts and pictograms to represent the results of a data collection from a variety of contexts using 2:1, 5:1 & 10:1 correspondence	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓
	33	Solve one step and two step questions using information presented in scaled bar charts and pictograms and tables.	to solve one step questions using information presented in tables, scaled bar charts, pictograms using 2:1, 5:1 and 10:1 correspondence to solve two step questions using information presented in tables, scaled bar charts, pictograms using 2:1, 5:1 and 10:1 correspondence	✓ ✓	✓ ✓

AOL=Area of Learning ★=addressed as part of daily x10 mins 'mental essentials' sessions + =addressed in other parts of the curriculum
 Y3 Unit Progression 1-2-4-13-7-10 3-16-5-14-8-11 18-17-6-15-9-12