Year 3 Mathematics Curriculum Map For St. Antony's Catholic Primary School 2022-2023

Mastery Principles (Reasoning, Fluency and Problem Solving) to be taught across all areas, every term.
- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.
- The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention
- Teaching is supported by resources to foster deep conceptual and procedural knowledge.
- Practice and consolidation play a central role.
- Teachers use precise questioning in class to test conceptual and procedural knowledge and assess pupils regularly to identify those requiring additional support to catch up.

Expectations
- Compare and order numbers up to 1000.
- Read and write all numbers to 1000 in digits and words.
- Find 10 and 100 more/less than a given number.
- Count from 0 in multiples of 4, 8, 50 and 100.
- Reinforce multiplication and associated division facts for 2, 5 and 10.
- Recall and use multiplication and division facts for 3, 4, 8 tables.
- Recognise place value of any 3-digit number.
- Add and subtract: 3-digit numbers and ones; 3-digit numbers and tens; 3-digit numbers and hundreds.
- Add and subtract numbers with up to 3-digits using written column method.
- Estimate and use inverse to check.
- Multiply 2-digit by 1-digit.
- Count up/down in tenths.
- Compare and order fractions with same denominator.
- +/- fractions with same denominator with whole.
- Tell time using 12 and 24 hour clocks and using Roman numerals.
- Tell time to the nearest minute.
- Know number of days in each month and number of seconds in a minute.
- Knowing number of days in a year and a leap year

Rapid recall Children should be able to recall rapidly:	Mental strategies Children should be able to use the following strategies, as appropriate, for mental calculations	Mental calculations
    • Addition and subtraction facts for all numbers to 20 • All pairs of multiples of 100 with a total of 1000 • All pairs of multiples of 5 with a total of 100 • Multiplication facts for the 2, 5 and 10 times tables and corresponding division facts.	• Count on or back in tens or ones • Find a small difference by counting up from the smaller to the larger number • Reorder numbers in a calculation • Add three or four small numbers by putting the largest number first and/or by finding pairs totalling 9, 10 or 11 • Partition into tens and units then recombine • Bridge through a multiple of 10, then adjust • Use knowledge of number facts and place value to add or subtract pairs of numbers • Partition in '5 and a bit' when addition 6, 7, 8 or 9 • Add or subtract mentally a 'near multiple of 10'	• Find what must be added to any multiple of 100 to make 1000, e.g. 300+?=1000 • Add or subtract any pair of two-digit numbers, without crossing a tens boundary or 100 e.g. 33+45, 87-2 • Add or subtract any single-digit to any two-digit number, including crossing the tens boundary, e.g. 67+5, 82-7 • Find what must be added to/subtracted from any two-digit number to make the next higher/lower multiple of 10, e.g. 64+?=70, 56-?=50 • Subtract any three-digit number from any three-digit number when the difference is less than 10,

	to or from a two-digit number
	• Identify near doubles
	• Use patterns of similar calculations
	• Say or write a subtraction statement corresponding to a given addition statement
	• To multiply a number by 10/100, shift its digits one/two places to the left
	• Use knowledge of number facts and place value to multiply or divide by 2, 5, 10, 100
	• Use doubling or halving
	• Say or write a division statement corresponding to a given multiplication statement.
		e.g. 458-451 or 603-597
		• Find what must be added to/subtracted from any three-digit number to make the next higher/lower multiple of 10 e.g. 647+?=650, 246-?=240
		• Doubles:
		  ▪ Double any number to at least 20, e.g. double 18 and corresponding halves e.g. halve 36
		  ▪ Double 60, halve 120
		  ▪ Double 35, halve 70
		  ▪ Double 450, halve 900
		
		• Multiply single-digit numbers by 10 or 100, e.g. 6x100
		• Divide any multiple of 10 by 10, e.g. 60÷10 and any multiple of 100 by 100, e.g. 700÷100

Autumn (weeks 1-13)	**Spring (weeks 14-26)**	**Summer (weeks 27-39)**
Place Value • hundreds, tens and ones • negative number values on the number line • greater than/less than/equal to • more/less • half/double • number sequences **The Four Operations** • written methods for addition and subtraction • addition using partitioning/number line/100 square/beadstring • subtraction using number line/partitioning /difference • know, use and apply multiplication facts daily • multiplication by 10 and 100 • multiplication by single digits using partitioning and grid method • division using multiplication facts/chunking/short division • dividing by 10 and 100 using place value grid **Money** • addition and subtraction of simple decimals and money **Fractions** • identify/draw/colour • use and apply • tenths	**Number Systems** • Roman numerals **Place Value** • hundreds, tens and units • decimal place and numbers • tenths and hundredths • read and write numbers to thousands • rounding up and down to 10 and 100 **The Four Operations** • addition using partitioning/number line/grid • subtraction using number line/partitioning/simple decomposition • know, use and apply multiplication facts daily • division using simple chunking/short division/using multiplication facts • dividing by 10 and 100 **Money** • addition and subtraction of decimals and money **Number Sequences** • solve and explain • patterns/sequences/puzzles/missing digits **Fractions** • of numbers/groups/shapes/money • compare and ordering fractions with the same denominator • adding and subtracting fractions with same	**Transition Maths:** **Written Methods** • addition and subtraction using written column method • multiplication of 10, 100 and 1000 **Decimals** • fraction and decimal equivalents • finding simple decimals of amounts and shapes **Geometry** • name and identify properties of 2D and 3D shapes • explore nets • types of triangles **Statistics** • graphs and charts • mean, median, mode and range **Using and Applying of skills** • maths research • maths projects • maths investigations • calculator skills

Geometry	denominator	
- measures/weight/mass - recognise and use tools for mm, cm, m, g, kg - volume and capacity - litres and millilitres - reading and writing digital and analogue time - telling time using Roman numerals	**Geometry** - name and identify properties of 2D and 3D shapes - triangles - identify, name and classify angles that are larger/smaller than 90° - perimeter of regular and basic irregular shapes - area of regular and irregular shapes - coordinates using quadrant/grid/treasure map - cardinal points - identify horizontal, vertical, diagonal, parallel and perpendicular lines **Handling Data** - reading and interpreting - Carroll diagram - Venn diagram - bar chart - line graph - pictograph	

All Objectives must be stated as **"I CAN"** Statements which are measurable and linked to the **Mathematics Skills, Approaches and Strategies being taught:**

Examples of   Objectives: I can **read** and **write** whole numbers to 1,000,000   I can **Identify, read and write decimal** numbers to three decimal places
I can **find the perimete**r of quadrilaterals   I can **derive prime factors/factors/multiples** of given numbers
I can **plot co-ordinates** in a four quadrant grid   I can **calculate the area of 2D shapes** using standard formulae
I can **solve complex addition problems** using the column method   I can **use a protractor** to correctly measure angles
I can use the **grid method/partitioning/the empty number line** to solve addition/subtraction/multiplication problems
I can **use short/long division method** to solve   I can **use the chunking method** to solve division problems
I can **use BODMAS** to solve problems   I can **order negative and positive** numbers
I can **classify /define the properties** of polygons/simple/complex/2D/3D shapes

Suggested Maths Skills and Operations for formulating objectives when planning:
Read, Write, Identify, Define, Sort, Classify, Order, Find, Derive, Work out, Calculate, Explain, Justify, Add, Multiply, Divide, Use and Apply, Choose and Use, Plot, Draw, Measure, Estimate, Double, Halve, Investigate, Reduce, Increase, Convert, Sequence, Tally, Use relevant Maths Vocabulary correctly

Solve (simple, complex, one/two/multiple step)Word Problems, Extract Data, Represent Data using a :line graph, block graph, histogram, bar/pie/tally chart, pictogram/pictograph, scatter graph