Year 4 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
- Count backwards though zero to include negative numbers.
- Compare and order numbers beyond 1000.
- Compare and order numbers with up to 2 decimal places.
- Read Roman numerals to 100.
- Find 1000 more/less than a given number.
- Count in multiples of 6, 7, 9, 25 and 1000.
- Recall and use multiplication and division facts for all tables to 12 x12.
- Recognise place value of any 4-digit number.
- Round any number to the nearest 10, 100 or 1000.
- Round decimals with 1dp to nearest whole number.
- Add and subtract numbers with up to 4-digits using written column method.
- Multiply 2-digt by 1-digit and 3-digit by 1-digit.
- Count up/down in hundredths.
- Recognise and write equivalent fractions.
- +/- fractions with same denominator.
- Read, write and convert time between analogue and digital 12 and 24 hour clocks.

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

• Multiplication facts for 2, 3, 4, 5 and 10 times tables
• Division facts corresponding to tables of 2, 3, 4, 5 and 10
	• Count on or back in repeated steps of 1, 10 and 100
	• Count up through the next multiple of 10,100 or 1000
	• Reorder numbers in a calculation
	• Add 3 or 4 small numbers, finding pairs totalling 10
	• Add three two-digit multiples of 10
	• Partition into tens and units, adding the tens first
	• Bridge through 100
	• use knowledge of number facts and place value to add or subtract any pair of two-digit numbers
	• add or subtract 9, 19, 29, 11, 21, 31 by rounding and compensating
	• add or subtract the nearest multiple of 10 then adjust
		• find what must be added to any two-digit number to make 100, e.g. 37+ ?=100
		• add or subtract any pair of two-digit numbers, e.g. 38+85, 92-47
		• find out what must be added to/subtracted from any two-or three-digit number to make the next higher/lower multiple of 100, e.g. 374+?=400, 826-?=800
		• subtract any four-digit number from any four-digit number when the difference is small e.g. 3641-3628, 6002-5991
		• doubles and halves:
		  - double any whole number from 1 to 50, e.g. double 36, and find all the corresponding halves, e.g. 96÷2
		  - double any multiple of 10 to 500 e.g. 380 x 2,

	• identify near doubles • continue to use the relationship between addition and subtraction • double any two digit number by doubling tens first • use known number facts and place value to multiply or divide, including multiplying and dividing by 10 and then 100 • partition to carry out multiplication • use doubling or halving • use closely related facts to carry out multiplication and division • use the relationship between multiplication and division	and find all the corresponding halves e.g. 760÷2, 130÷2, - double any multiple of 5 to 100 e.g. 65 x 2 • multiply any two-digit number by 10, e.g. 26x10 • divide a multiple of 100 by 10 e.g. 600÷10 • divide any two-digit multiple of 10 by 2, 3, 4 or 5 e.g. 60 x 4, 80 x 3
Autumn (weeks 1-13)	**Spring (weeks 14-26)**	**Summer (weeks 27-39)**
Place Value • thousands, hundreds, tens, ones • decimal place values • tenths and hundredths • rounding up and down to nearest 10 and 100 **Number Systems** • Roman numerals **The Four Operations/Written Methods** • addition using partitioning/grid/number line/column method • subtraction using number line/partitioning/difference • know, use and apply multiplication facts daily • multiplication by 10, 100 and 100 • multiplication by single digits using partitioning/grid/column method • division use multiplication facts/chunking/short/long • dividing by 10, 100 and 1000 **Money** • addition and subtraction of decimals and money **Number Sequences** • negative number values **Fractions and Decimals** • identify/convert/use/apply • equivalents • adding and subtracting fractions with same denominator **Geometry** • mm/cm/m/km	**Place Value** • introduce millions and thousandths • decimal numbers • rounding up and down to nearest 10, 100 and 1000 • sequences/patterns/puzzles/missing digits **Number Systems** • Roman numerals **Written Methods for the four operations** • addition using partitioning/number line/grid/column method • subtraction using number line/grid/partitioning/decomposition • multiplication by single digits (HTUxU) using partitioning/grid/column method • finding factor pairs • division using chunking/short/long • dividing by 10, 100 and 1000 **Money** • add and subtract decimals and money **Fractions and Decimals** • conversions • use and apply • equivalents **Geometry** • identify properties of 2D and 3D shapes • symmetry • reflection • translation • triangles • nets	**Transitions Maths** **Statistics** • graphs and charts **Percentages** • fraction and decimal equivalents • finding percentages of shapes and amounts **Probability** • language of probability • probability as fractions, decimals and percentages **Using and Applying of all skills** • maths research • maths projects • maths investigations

• g/kg • L/ml • analogue and digital clocks • reading and writing time using analogue and digital clocks • solve time conversion problems • telling the time using Roman numerals	• area and perimeter of regular and irregular shapes • compound shapes • coordinates using 2-quadrant grid • ordinal and cardinal points • review telling time in 1 minute intervals **Statistics** • reading and interpreting • use and apply • Venn and Carroll diagrams	

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 accurately

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,