Year 2 Mathematics Curriculum Map For St Antony's Catholic Primary School 2017-2018

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 number up to 100 and use <, > and =.
- Read and write all numbers to 100 in digits and words.
- Say 10 more/less than any number to 100.
- Count in steps of 2, 3 and 5 from zero and in 10s from any number (forwards and backwards).
- Halving and doubling of 1-digit and 2-digit numbers
- Recall and use multiplication and division facts for 2, 5 and 10 tables.
- Recall and use +/- facts to 20.
- Derive and use related facts to 100.
- Recognise place value of any 2-digit number.
- Add and subtract: 2-digit numbers and ones; 2-digit numbers and tens; two 2-digit numbers; three 1-digit numbers
- Recognise and use inverse (+/-).
- Calculate and write multiplication and division calculation using multiplication tables.
- Recognise, find, name and write 1/3; ¼; 2/4; ¾.
- Write and recognise equivalence of simple fractions.
- Tell time to five minutes, including quarter past/to.
- Identify temperature using degrees Celsius

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 at least 10 • All pairs of numbers with at total of 20 • All pairs of multiples of 10 with a total of 100 e.g. 70+30 • Multiplication facts for the 2 and 10 times tables and corresponding division facts • Doubles of all numbers to 10 and the corresponding halves • Multiplication facts up to 5x5 e.g. 4x3	• 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 small numbers by putting the largest number first and/or find a pair totalling 10 • Partition additions into tens and units then recombine • Bridge through 10 or 20 • Use known number facts and place value to add or subtract pairs of numbers • Partition into '5 and a bit' when adding 6,7,8 or 9, then recombine • Add or subtract 9,19,11 or 21 by rounding and compensating • Identify near doubles	• Add or subtract any single-digit to or from any two-digit number, without crossing the tens boundary e.g. 62 + 4, 38 – 7 • Add or subtract any single-digit to or from a multiple of 10, e.g. 60 + 5, 80 – 7 • Add or subtract any 'teens' number to any two-digit number, without crossing the tens boundary, e.g. 23 +14, 48 – 13 • Find what must be added to any two-digit multiple of 10 to make 100 e.g. 70 +? = 100 • Add or subtract a multiple of 10 to or from any two-digit number, without crossing 100, e.g. 47+30, 82 –50 • Subtract any two-digit number from any two-digit number when the difference is less than 10, e.g. 78 -71 or 52- 48

	• Use patterns of similar calculations • Use the relationship between addition and subtraction • Use knowledge of number facts and place value to multiply or divide by 2, 5 or 10 • Use doubles and halves and halving as the inverse of doubling.	• Doubles of all numbers to at least 15, e.g. double 14 • Double any multiple of 5 up to 50, e.g. double 35 • Halve any multiple of 10 up to 100, e.g. halve 50
Autumn (weeks 1-13)	**Spring (weeks 14-26)**	**Summer (weeks 27-36)**
Place Value • reading and writing words in digits and words • tens and units • number values on the number line and 100 square • number bonds to 20 • greater than/less than/equal to • more/less • half/double **Addition** • U+U • TU+U • using counting on/number lines/100 square/bead strings/partitioning • word problems **Subtraction** • using counting back on number lines/number squares/bead strings/partitioning • subtraction by finding the difference (counting on) • word problems **Money** • know denominations • using vocabulary of £ and p • addition and subtraction of money **Number Patterns** • counting in steps • sequences • puzzles **Multiplication and Division** • times tables facts • know, use and apply daily facts for 2, 5 and 10 times tables using songs/chants/games **Fractions** • identify/name/draw/colour • use and apply • solve and explain • equivalences of simple fractions	**Place Value** • number bonds to 20, 30, 40 and 50 • patterns • sequences • puzzles **Addition and Subtraction** • TU+TU using partitioning/number line/100 square/bead string • adding 3 1-digit numbers together • TU-TU • recognise and use inverse **Money** • addition and subtraction **Multiplication and Division** • multiplying by 2, 5 and 10 • using groups of/sharing/counters **Fractions** • solve fraction problems • recognise simple equivalent fractions • find quantities of fractions • find fractions of lengths **Geometry** • name and identify basic properties of 2D and 3D shapes • match and make shapes • symmetry • reflection • ordinal points/places – first, second, third • co-ordinates using single quadrant/grid/treasure map • cardinal points **Statistics** • read, use and interpret • Carroll diagram • Venn diagram • bar graph • line graph • pictograph	**Key Stage 1 SATs** **Transition Maths** **Using and Applying of skills** • maths projects • maths investigations • maths puzzles **Place Value** • introduce HTU • number bonds to 50 **Addition** • HTU+TU • Using number line/partitioning/column method (where able) **Subtraction** • Using number line/partitioning/bonds/bead string • By finding difference (counting on) **Data handling** • Graphs and charts • Median and mode

Geometry • describing properties of shapes including vertices • weight/mass • recognise and use tools for mm, cm, m, g, kg • volume and capacity • recognise L and half L • extend to ml • distance • analogue time • digital time • read and write time		

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 I can **Identify, read and write decimal** numbers to one decimal places
I can **find the perimete**r of simple quadrilaterals I can **derive factors/multiples** of given numbers
I can **plot co-ordinates** in single quadrant grid I can **calculate the area of 2D shapes** using standard formulae
I can **solve addition problems** using the column method I can **use a ruler/scale** to correctly measure/weigh ……
I can use the **partitioning/the empty number line** to solve addition/subtraction/multiplication problems
I can **use short division/grouping/sharing method** to solve I can **use the times table facts** to solve simple division problems
I can **use RUCSAC** to solve problems I can **order negative and positive** numbers
I can **classify /define the properties** of simple 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 to explain/justify

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,