

Church Lane Primary School
 and Nursery

Mathematics Curriculum

2020/2021

Year 4

Year 4 – Mathematics curriculum

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| Subject area | Overview | Lessons | Equipment | Key Vocab |
| Place Value | Numbers to 10,000 | Numbers to 1,000 | Place value countersBase 10 equipmentNumber linePlace value gridPlace value cards | Tens, hundreds, thousandsRounding, counting, represent, compare, orderMore than, less thanPartition, recombineNumeralsNearest, distance  |
| Rounding to the nearest 10 |
| Rounding to the nearest 100 |
| Counting in 1,000 |
| Representing 4-digit numbers |
| 1,000s, 100s, 10s, 1s |
| The number line to 10,000 (1) |
| The number line to 10,000 (2) |
| Roman numerals to 100 |
|  |  |  |  |  |
| Place value | 4-digit numbers | Finding 1,000 more or less | Base 10 equipmentPlace value countersNumber linesPlace value grids | Thousands, hundreds, tens, onesPlace valueMore, lessGreater than, less than, equal toOrder, compareRound to, nearestNegative, positiveStepAscending, descending |
| Comparing 4-digit numbers (1) |
| Comparing 4-digit numbers (2) |
| Ordering numbers to 10,000 |
| Rounding to the nearest 1,000 |
| Solving problems using rounding |
| Counting in 25s |
| Negative numbers (1) |
| Negative numbers (2) |
|  |  |  |  |  |
| Addition and subtraction | Adding and subtracting | Adding and subtracting 1s, 10s, 100s, 1,000s | Place value countersBase 10 equipment | AdditionSubtractionTotalMore thanLess thanDifferenceExchangeColumn methodEstimateAccurateEfficientExactStrategydiagram |
| Adding two 4-digit numbers (1) |
| Adding two 4-digit numbers (2) |
| Adding two 4-digit numbers (3) |
| Subtracting two 4-digit numbers (1) |
| Subtracting two 4-digit numbers (2) |
| Subtracting two 4-digit numbers (3) |
| Subtracting two 4-digit numbers (4) |
| Equivalent difference |
| Estimating answers to additions and subtractions |
| Checking strategies |
| Problem solving – addition and subtraction (1) |
| Problem solving – addition and subtraction (2) |
| Problem solving – addition and subtraction (3) |
| Problem solving - addition and subtraction (4) |
|  |  |  |  |  |
| Multiplication and division | Multiplying and dividing | Multiplying by multiples of 10 and 100 | Base 10 equipmentMultiplication squarecounters  | Times-table, times, times byMultiply, multiple, multiply byDivide, divide byGrouping, groups of, lots of, sets of, grouped, x groups of ySharing, share, equal, equallyNumber facts, number sentences, multiplication facts/ sentences, division facts/ sentences, fact familyOnes, tens, hundreds, zero, how many, total, method, calculation, exchange, solve, less than, greater than, added, sort, sum, recall |
| Dividing multiples of 10 and 100 |
| Multiplying by 0 and 1 |
| Dividing by 1 |
| Multiplying and dividing by 6 |
| 6 times-table |
| Multiplying and dividing by 9 |
| 9 times-table |
| Multiplying and dividing by 7 |
| 7 times-table |
| 11 and 12 times-tables |
|  |  |  |  |  |
| Multiplication and division | Multiplying and dividing | Problem solving – addition and subtraction | CubesCounters | Multiplication, multiplication statementGrouping, groups, equal, total, repeated additionCorrespondence, multiply, divide, combinationsDivide, division statementTimes-tablesWhole, left over, remainderOne-step, two-step, multi-stepArray, bar model, part-whole model |
| Problem solving – mixed problems |
| Using written methods to multiply |
| Multiplying a 2-digit number by a 1-digit number |
| Multiplying a 3-digit number by a 1-digit number |
| Problem solving – multiplication |
| Multiplying more than two numbers (1) |
| Multiplying more than two numbers (2) |
| Problem solving – mixed correspondence problems |
| Dividing a 2-digit number by a 1-digit numbers (1) |
| Division with remainders |
| Dividing a 2-digit number by a 1-digit number (2) |
| Dividing a 2-digit number by a 1-digit number (3) |
| Dividing a 3-digit number by a 1-digit number |
| Problem solving - division |
|  |  |  |  |  |
| Fractions and decimals | Tenths and hundredths | Tenths and hundredths (1) | CountersLarge hundredths gridBase 10 equipment | Tenths, hundredthsEquivalent fractionsImproper fractions, mixed numbersSimplify, simplest fractions |
| Tens and hundredths (2) |
| Equivalent fractions (1) |
| Equivalent fractions (2) |
| Simplifying fractions |
| Fractions greater than 1 (1) |
| Fractions greater than 1 (2) |
|  |  |  |  |  |
| Fractions and decimals | Adding and subtracting fractions | Adding fractions | Fraction cardsBase 10 equipment | Numerator, denominatorFractions, whole number, mixed number, proper fraction, improper fractionAdd, subtract, multiply, divide, sign, greater than, less thanWhole, part, find .. of ..Fraction strip, represent, number line, diagram, problem solving |
| Subtracting fractions (1) |
| Subtracting fractions (2) |
| Problem solving – adding and subtracting fractions (1) |
| Problem solving – adding and subtracting fractions (2) |
| Calculations fractions of a quantity |
| Problem solving – fraction of a quantity (1) |
| Problem solving – fraction of a quantity (2) |
|  |  |  |  |  |
| Fractions and decimals | Decimals  | Tenths (1) | Place value counters | Decimal point, whole, tenths, hundredths, integer, tenths column hundredths columnOne more, one less, greater than, increase, decrease Divide, regroup, equivalent, partition |
| Tenths (2) |
| Tenths (3) |
| Dividing by 10 (1) |
| Dividing by 10 (2) |
| Hundredths (1) |
| Hundredths (2) |
| Hundredths (3) |
| Dividing by 100 |
| Dividing by 10 and 100 |
|  |  |  |  |  |
| Fractions and decimals | Decimals | Making a whole | Hundredth gridBlank ten framesNumber cards1s and tenths place value countersLarge laminated part-whole model | Tens, ones, tenths, hundredths, fractionsDecimal points, decimal placeEquivalent, number bond, equivalent fractionWhole number, digitRounding, round up, round down, multiply, divideGreater than, less than, equal to, smallest, lightest, greatest, heaviest, capacityOrder, compare, statement, ascending, convertPart-whole, place value, bar model |
| Writing decimals |
| Comparing decimals |
| Ordering decimals |
| Rounding decimals |
| Halves and quarters |
| Problem solving - decimals |
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| Measure | Perimeter | Kilometres | Metre sticksDistance tables | Kilometres, metres, centimetresConvert, equivalent toPerimeter, distance, aroundTotalLength, widthSquare, rectangle, rectilinear shape |
| Perimeter of a rectangle (1) |
| Perimeter of a rectangle (2) |
| Perimeter of rectilinear shapes (1) |
| Perimeter of rectilinear shapes (2) |
|  |  |  |  |  |
| Measure | Area | What is area? | Small countersVariety of flat non-standard units to measure (flat coloured squares or triangles, playing cards, coins)Variety of squares and rectangles to measure (book covers, newspaper pages, paper, card) | Area, space, inside, units, rowsLengths, width, measure(shapes)Larger, more area, smaller, less area, least area, greatest areaRight angleCounting, subtractionReflection, rotationCompare, order, size |
| Counting squares (1) |
| Counting squares (2) |
| Making shapes |
| Comparing area |
|  |  |  |  |  |
| Measure | Money  | Pounds and pence | Plastic coinscrayons | Notes, coins, pounds, penceAdd, subtractChangeRound to the nearest, orderGreater than, less thanCheaper, more expensiveEstimate, over estimate, under estimate, total |
| Pounds, tenths, hundredths |
| Ordering amounts of money |
| Rounding money |
| Using rounding to estimate money |
| Problem solving – pounds and pence |
| Problem solving – multiplication and division |
| Solving two-step problems |
| Problem solving - money |
|  |  |  |  |  |
| Measure  | Time  | Units of time (1) | Digital timersstopwatches | Seconds, minutes, hoursDays, weeks, months, yearsUnits of timeConvert, equal to, compare12-hour, 24-hour, am, pmAnalogue, digitalBar model |
| Units of time (2) |
| Converting times (1) |
| Converting times (2) |
| Problem solving – units of time |
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| Geometry | Angles and 2D shapes | Identifying angles | A range of 2D shapesPaper squaresClock face | Angle, acute, obtuse, right angle, quarter turn, half turn, interior angles, exterior angles(shape names)Regular, irregular, side length, length, perimeterSymmetrical, symmetry, lines of symmetry, horizontal, vertical, diagonal, reflective, sequence, patternSort, group, compare, order, propertiesShape, vertices, parallel |
| Comparing and ordering angles |
| Identifying regular and irregular shapes |
| Classifying triangles |
| Classifying and comparing quadrilaterals |
| Deducing facts about shape |
| Lines of symmetry inside a shape |
| Lines of symmetry outside a shape |
| Completing a symmetric figure |
| Completing a symmetric shape |
|  |  |  |  |  |
|  |  |  |  |  |
| Measure  | Position and direction | Describing position (1) | Access to the InternetSimple maps | CoordinatesPositionHorizontal, verticalUp, down,left, rightsquare, rectanglevertex, vertices |
| Describing position (2) |
| Drawing on a grid |
| Reasoning on a grid |
| Moving on a grid |
| Describing a movement on a grid |
|  |  |  |  |  |
| Statistics | Recording and interpreting data | Charts and tables (1) | RulersMultilink cubes | Table, line graph, bar chart, pictogramDiscrete data, continuous dataOperationAltogether more than, greatest, smallestcompare |
| Charts and tables (2) |
| Line graphs (1) |
| Line graphs (2) |
| Problem solving - graphs |
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At the end of each **unit**, please allow ALL pupil to independently complete the end of unit assessment. This can be found on your PowerMaths online account.

* Click on your unit (left hand side)
* Scroll down to the bottom of the screen to find ‘assess’ menu.
* Print off end of unit test and stick it in their book.

At the end of each **term** (Autumn, Spring, Summer), please complete the end of term assessments from White Rose Maths. These can be find using the web address: <https://whiterosemaths.com/resources/assessment/primary-assessment/end-of-term-primary/>

Displays should be a ‘working wall’ including **up-to-date** information and pupil work. It should also include questions and challenges. It **must** show the **progressive journey** your class have been on throughout that unit.

All classrooms should follow the colour co-ordinated questions:

Orange – fluency (no worded response necessarily required, although KS2 should request pupils to answer using Stem sentences E.G 2 + 2 = The total of 2 plus 2 is 4)

Blue – reasoning – there should be a written worded response which is grammatically coherent with correct punctuation.

Green – problem solving – the children should show their workings (journey). We should be looking for and encouraging systematic approaches, using all prior knowledge not ‘trial and error’

**Next steps** should take learning to the next level. For example: a child has only completed fluency questions, their next step could be a reasoning or a pupil that has only completed fluency supported, then a fluency independently is a good next step.

**Immediate interventions or pre-**learning should take place regularly with **ALL** pupils.