## Archbishop of York's CE Junior School - Year 5 Mathematics Curriculum Plan

Measurement, Geometry \& Statistics taught 1 session per week throughout the year

| Week | AUTUMN TERM | SPRING TERM | SUMMER TERM |
| :---: | :---: | :---: | :---: |
| 1 | Number - number and place value Determine the value of each digit <br> Count forwards or backwards in steps of powers of 10 for any given number up to 1000000 <br> Measurement- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles | Number - multiplication and division <br> Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers <br> Recognise and use square numbers and cube numbers, and the notation for squared ( ${ }^{2}$ ) and cubed ( ${ }^{3}$ ) <br> Solve problems involving multiplication and division including their knowledge of factors, multiples, squares and cubes <br> Measurement-Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. | Consolidation <br> Addition, subtraction, multiplication and division - formal written methods <br> Measurement-Convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; gram and kilogram; litre and millilitre) |
| 2 | Number - number and place value <br> Read, write, order and compare numbers to at least 1000 000... <br> Round any number up to 1000000 to the nearest $10,100,1000,10000$ and 100000 <br> Solve number problems and practical problems that involve all of the above <br> Measurement-Identify 3-D shapes, including cubes and other cuboids, from 2-D representations | Number - multiplication and division <br> Divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context <br> Measurement-Calculate and compare the area of squares and rectangles including using standard units, square centimetres $\left(\mathrm{cm}^{2}\right)$ and square metres $\left(\mathrm{m}^{2}\right)$ and estimate the area of irregular shapes. | Number - fractions <br> Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <br> Measurement-Convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; gram and kilogram; litre and millilitre) |
| 3 | Number - number and place value <br> Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero | Number - multiplication and division Solve problems involving multiplication and division <br> Measurement-Calculate and compare the area of squares and rectangles including using standard units, | Number - fractions <br> Solve problems involving fractions; reasoning |

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|  | Read Roman numerals to 1000 (M) and recognise years written in Roman numerals <br> Measurement-Identify 3-D shapes, including cubes and other cuboids, from 2-D representations | square centimetres $\left(\mathrm{cm}^{2}\right)$ and square metres $\left(\mathrm{m}^{2}\right)$ and estimate the area of irregular shapes. | Measurement-Understand and use approximate equivalences between metric and common imperial units such as inches, pounds and pints |
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| 4 | Number - addition and subtraction <br> Add and subtract numbers mentally with increasingly large numbers <br> Add whole numbers with more than 4 digits, including using formal written methods (columnar addition) | Number - fractions <br> Identify, name and write equivalent fractions of a given fraction, represented visually <br> Compare and order fractions whose denominators are all multiples of the same number <br> Geometry- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. <br> Other multiples of $90^{\circ}$ | Number - percentages <br> Recognise the per cent symbol (\%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal <br> Measurement-Solve problems involving converting between units of time |
| 5 | Number - addition and subtraction <br> Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction) | Number - fractions <br> Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $>1$ as a mixed number (e.g. $2 / 5+4 / 5=6 / 5=0$ <br> Geometry- Identify: angles at a point and one whole turn (total $360^{\circ}$ ). <br> Use the properties of rectangles to deduce related facts and find missing lengths and angles. | Number - percentages <br> Solve problems which require knowing percentage and decimal equivalents of $1 / 2,1 / 4$, $1 / 5,2 / 5,4 / 5$ and those fractions with a denominator of a multiple of 10 or 25 . <br> Statistics- Complete, read and interpret information in tables, including timetables |
| 6 | Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy <br> Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | Number - fractions <br> Add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> Geometry- Draw given angles, and measure them in degrees ( ${ }^{\circ}$ ) | Number - percentages <br> Problem solving and reasoning <br> Measurement-Estimate volume (e.g. using 1 $\mathrm{cm}^{3}$ blocks to build cubes and cuboids) and capacity (e.g. using water) |


| 7 | Statistics-solve comparison, sum and difference problems using information presented in line graphs | Number - fractions <br> Add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> Geometry- Angles at a point on a straight line and $\frac{1}{2}$ a turn (total $180^{\circ}$ ) | Number - decimals <br> Adding and subtracting decimals <br> Measurement-Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling |
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| 8 | Number - multiplication and division <br> Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <br> Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers <br> Establish whether a number up to 100 is prime and recall prime numbers up to 19 <br> Statistics-solve comparison, sum and difference problems using information presented in line graphs | Number - decimals <br> Read and write decimal numbers as fractions (e.g. $0.71=71 / 100)$ <br> Geometry- Identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed | Number - decimals <br> Multiplying and dividing decimal numbers |
| 9 | Number - multiplication and division <br> Multiply and divide numbers mentally drawing upon known facts <br> Statistics-solve comparison, sum and difference problems using information presented in line graph | Number - decimals <br> Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents | Assessment week |


| 10 | Number - multiplication and division <br> Multiply whole numbers and those involving decimals by 10,100 and 1000 <br> Divide whole numbers and those involving decimals by 10,100 and 1000 <br> Statistics- Complete, read and interpret information in tables, including timetables | Number - decimals <br> Round decimals with two decimal places to the nearest whole number and to one decimal place | Number - decimals <br> Dividing decimal numbers Reasoning and problem solving |
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| 11 | Assessment week | Assessment week | Number - decimals <br> Solve two-step problems in contexts involving decimals, deciding which operations and methods to use and why |
| 12 | Number - multiplication and division <br> Multiply numbers up to 4 digits by a one digit number using a formal written method <br> Statistics- Complete, read and interpret information in tables, including timetables <br> Statistics- Complete, read and interpret information in tables, including timetables | Number - decimals <br> Read, write, order and compare numbers with up to three decimal places | Consolidation /Recap Reasoning and problem solving |

