## Key Learning in Mathematics at Holbrook Primary School – Year 5

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
<ul> <li>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>Count forwards and backwards in decimal steps</li> <li>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>Read, write, order and compare numbers with up to 3 decimal places</li> <li>Identify the value of each digit to three decimal places</li> <li>Identify represent and estimate numbers using the number line</li> <li>Find 0.01, 0.1, 1, 10, 100, 100 and other powers of 10 more or less than a given number</li> <li>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>Round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>Multiply/divide whole numbers and decimals by 10, 100 and 1000</li> <li>Interpret negative numbers in context, count on and back with positive and negative whole numbers, including through zero</li> <li>Describe and extend number sequences including those with</li> </ul>	<ul> <li>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)</li> <li>Select a mental strategy appropriate for the numbers involved in the calculation</li> <li>Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)</li> <li>Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)</li> <li>Add and subtract numbers mentally with increasingly large numbers and decimals to two decimal places</li> <li>Add and subtract whole numbers with more than 4 digits and decimals with two decimal places, including using a written method</li> <li>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> <li>Solve addition and subtraction problems involving missing numbers</li> </ul>	<ul> <li>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)</li> <li>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>Establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>Recognise and use square (<sup>2</sup>) and cube (<sup>2</sup>) numbers, and notation</li> <li>Use partitioning to double or halve any number, including decimals to two decimal places</li> <li>Multiply and divide numbers mentally drawing upon known facts</li> <li>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>Multiply numbers up to 4 digits by a one- or two-digit number using a written method &amp; interpret remainders appropriately for the context</li> </ul>
<ul> <li>Becaution and the steps and where the step size is a decimal multiplication/division steps and where the step size is a decimal</li> <li>Read Roman numerals to 1000 (M); recognise years written as such</li> <li>Solve number and practical problems that involve all of the above</li> <li>Number - fractions, decimals and percentages</li> <li>Recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>Read and write decimal numbers as fractions (e.g. 0.71 = <sup>71</sup>/<sub>100</sub>)</li> <li>Count on and back in mixed number steps such as 1<sup>1</sup>/<sub>1</sub></li> </ul>	<ul> <li>Geometry – properties of shapes</li> <li>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> <li>Use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>Identify 3-D shapes from 2-D representations</li> <li>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> </ul>	<ul> <li>Use estimation/inverse to check answers to calculations; determine, in the context of a problem, an appropriate degree of accuracy</li> <li>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> <li>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul>
<ul> <li>Compare and order fractions whose denominators are all multiples of the same number (<i>including on a number line</i>)</li> <li>Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> </ul>	<ul> <li>Draw given angles, and measure them in degrees (°)</li> <li>Identify:         <ul> <li>angles at a point and one whole turn (total 360°)</li> <li>angles at a point on a straight line and half a turn (total 180°)</li> <li>other multiples of 90°</li> </ul> </li> <li>Geometry – position and direction</li> </ul>	<ul> <li>Measurement</li> <li>Use, read and write standard units of length and mass</li> <li>Estimate (and calculate) volume ((e.g., using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)) and capacity (e.g. using water)</li> <li>Understand the difference between liquid volume and solid volume</li> <li>Continue to order temperatures including those below 0°C</li> <li>Compare the transmission of the product of th</li></ul>
<ul> <li>Add and subtract fractions with denominators that are the same and that are multiples of the same number (using diagrams)</li> <li>Write statements &gt; 1 as a mixed number (e.g. <sup>2</sup>/<sub>5</sub> + <sup>4</sup>/<sub>5</sub> = <sup>6</sup>/<sub>5</sub> = 1 <sup>1</sup>/<sub>5</sub>)</li> <li>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>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 100, and as a decimal</li> <li>Solve problems involving fractions and decimals to three places</li> <li>Solve problems which require knowing percentage and decimal equivalents of <sup>1</sup>/<sub>2</sub>, <sup>1</sup>/<sub>3</sub>, <sup>2</sup>/<sub>5</sub>, <sup>4</sup>/<sub>5</sub> and fractions with a denominator of a multiple of 10 or 25</li> </ul>	<ul> <li>Describe positions on the first quadrant of a coordinate grid</li> <li>Plot specified points and complete shapes</li> <li>Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</li> <li>Statistics</li> <li>Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes)</li> <li>Complete, read and interpret information in tables and timetables</li> <li>Solve comparison, sum and difference problems using information presented in all types of graph including a line graph</li> <li>Calculate and interpret the mode, median and range</li> </ul>	<ul> <li>Convert between different units of metric measure</li> <li>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>Measure/calculate the perimeter of composite rectilinear shapes</li> <li>Calculate and compare the area of rectangle, use standard units square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> <li>Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks</li> <li>Solve problems involving converting between units of time</li> <li>Use all four operations to solve problems involving measure using decimal notation, including scaling</li> </ul>

## <u>Whiterose Maths – Year 5 blocks</u>

Autumn term	Week 1 Week 2 Week 3 Number Place value FREE TRIAL VIEW	Week 4 Week 5 Number Addition and subtraction VIEW	Week 6Week 7Week 8NumberMultiplication and division AVIEW	Week 9 Week 10 Number Fractions A	Week 11 Week 12
Spring term	Number Multiplication and division B	Number Fractions B	Number Decimals and percentages VIEW	Measurement Perimeter and area	Statistics VIEW
Summer term	Geometry Shape VIEW	Geometry Position and direction	Number Decimals	View View	