



# Brackenwood Junior School

## *Power Maths* *Long Term Plan*

Y5

	Unit 1 - Place Value within 100,000	Unit 2 – Place Value within 1,000,000	Unit 3 – Addition and Subtraction	Unit 4 – Graphs and tables	Unit 5 – multiplication and Division	Unit 6 – Measure – area and perimeter
Autumn	<ul style="list-style-type: none"> <li>-Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>-Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>-Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>-Solve number problems and practical problems that involve all of the above</li> <li>-Read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	<ul style="list-style-type: none"> <li>-Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>-Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>-Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>-Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>-Solve number problems and practical problems that involve all of the above</li> </ul>	<ul style="list-style-type: none"> <li>-Estimate and use inverse operations to check answers to a calculation</li> <li>-Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> <li>-Add and subtract numbers mentally with increasingly large numbers</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 multi-step problems in contexts, deciding which operations and methods to use and why</li> </ul>	<ul style="list-style-type: none"> <li>-Solve comparison, sum and difference problems using information presented in a line graph</li> <li>-Complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <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>-Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>-Recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> <li>-Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>-Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul>	<ul style="list-style-type: none"> <li>-Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>-Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> </ul>
	Unit 7 – Multiplication and Division	Unit 8 – Fractions	Unit 9 - Fractions	Unit 10 - Fractions	Unit 11 – Decimals and percentages	

Spring	<ul style="list-style-type: none"> <li>-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</li> <li>-Multiply and divide numbers mentally drawing upon known facts</li> <li>-Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</li> </ul>	<ul style="list-style-type: none"> <li>-Compare and order fractions whose denominators are all multiples of the same number</li> <li>-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>-Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>]</li> <li>-Read, write, order and compare numbers with up to three decimal place</li> </ul>	<ul style="list-style-type: none"> <li>-Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>]</li> <li>-Add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> </ul>	<ul style="list-style-type: none"> <li>-Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> </ul>	<ul style="list-style-type: none"> <li>-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>-Read and write decimal numbers as fractions [for example, <math>0.71 = 71/100</math>]</li> <li>-Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>-Round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>-Read, write, order and compare numbers with up to three decimal places</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 which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math> and those fractions with a denominator of a multiple of 10 or 25</li> </ul>	
	Unit 12 - Decimals	Unit 13 Geometry – properties of shapes	Unit 14 Geometry – properties of shapes	Unit 15 – Geometry – position and direction	Unit 16 – Measure – converting units	Unit 17 – Measure – volume and capacity

Summer	<ul style="list-style-type: none"> <li>-Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>-Read, write, order and compare numbers with up to three decimal places</li> <li>-Solve problems involving number up to three decimal places</li> </ul>	<ul style="list-style-type: none"> <li>-Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> <li>-Draw given angles, and measure them in degrees (<math>^{\circ}</math>)</li> <li>-Use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>-Angles at a point and one whole turn (total <math>360^{\circ}</math>)</li> <li>-Angles at a point on a straight line and <math>1/2</math> a turn (total <math>180^{\circ}</math>)</li> </ul>	<ul style="list-style-type: none"> <li>-Identify 3-D shapes, including cubes and other cuboids, from 2-D representation</li> <li>-Draw given angles, and measure them in degrees (<math>^{\circ}</math>)</li> <li>-Use the properties of rectangles to deduce related facts and find missing lengths and angle</li> <li>-Distinguish between regular and irregular polygons based on reasoning about equal sides and angle</li> </ul>	<ul style="list-style-type: none"> <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 change</li> </ul>	<ul style="list-style-type: none"> <li>-Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</li> <li>-Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pint</li> <li>-Solve problems involving converting between units of time</li> <li>-Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> </ul>	<ul style="list-style-type: none"> <li>-Estimate volume [for example, using <math>1\text{ cm}^3</math> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> </ul>
--------	--	--	---	---	---	--