

# Bryn Offa C of E Primary School

## Year 5 - Autumn

### Teacher Planning & Assessment Tool - Maths

Topic	Curriculum Objective
Place value to 1,000,000	<ul style="list-style-type: none"> <li>To read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit.</li> <li>To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li> </ul>
Mental addition and subtraction	<ul style="list-style-type: none"> <li>To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li> <li>To add and subtract numbers mentally with increasingly large numbers.</li> <li>To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>
Factors of numbers and prime numbers	<ul style="list-style-type: none"> <li>To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.</li> <li>To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</li> <li>To establish whether a number up to 100 is prime and recall prime numbers up to 19.</li> </ul>
Using multiplication and division facts	<ul style="list-style-type: none"> <li>To multiply and divide numbers mentally drawing upon known facts.</li> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Angles	<ul style="list-style-type: none"> <li>To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li> <li>To draw given angles, and measure them in degrees (<math>^{\circ}</math>).</li> <li>To identify: <ul style="list-style-type: none"> <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> <li>Other multiples of <math>90^{\circ}</math>.</li> </ul> </li> </ul>
Length, perimeter and area	<ul style="list-style-type: none"> <li>To convert between different units of measure (for example, kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre).</li> <li>To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.</li> <li>To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</li> <li>To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>To calculate and compare the area of squares and rectangles including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes</li> </ul>
Written methods for multiplication	<ul style="list-style-type: none"> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Divide 4-digit numbers	<ul style="list-style-type: none"> <li>To 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.</li> <li>To multiply and divide numbers mentally drawing upon known facts.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Fractions and decimals: tenths and hundredths	<ul style="list-style-type: none"> <li>To compare and order fractions whose denominators are all multiples of the same number.</li> <li>To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</li> <li>To read and write decimal numbers as fractions (for example, <math>0.71 = 71/100</math>).</li> </ul>
Decimals: tenths, hundredths, thousandths	<ul style="list-style-type: none"> <li>To read, write, order and compare numbers with up to three decimal places.</li> <li>To read and write decimal numbers as fractions (for example, <math>0.71 = 71/100</math>).</li> <li>To round decimals with two decimal places to the nearest whole numbers and to one decimal place.</li> <li>To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.</li> <li>To solve problems involving number up to three decimal places.</li> </ul>
2D and 3D shapes	<ul style="list-style-type: none"> <li>To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>To use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>To identify 3D shapes including cubes and cuboids from 2D representations.</li> </ul>
Tables and bar charts	<ul style="list-style-type: none"> <li>To complete, read and interpret information in tables, including timetables.</li> </ul>

# Bryn Offa C of E Primary School

Year 5 - Spring

## Teacher Planning & Assessment Tool - Maths

Topic	Curriculum Objective
Place value to 1,000,000	<ul style="list-style-type: none"> <li>To read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit.</li> <li>To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li> </ul>
Mental addition and subtraction	<ul style="list-style-type: none"> <li>To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li> <li>To add and subtract numbers mentally with increasingly large numbers.</li> <li>To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>
Factors of numbers and prime numbers	<ul style="list-style-type: none"> <li>To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.</li> <li>To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</li> <li>To establish whether a number up to 100 is prime and recall prime numbers up to 19.</li> </ul>
Using multiplication and division facts	<ul style="list-style-type: none"> <li>To multiply and divide numbers mentally drawing upon known facts.</li> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Angles	<ul style="list-style-type: none"> <li>To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li> <li>To draw given angles, and measure them in degrees (°).</li> <li>To identify: <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total 360°)</li> <li>angles at a point on a straight line and 1/2 a turn (total 180°)</li> <li>Other multiples of 90°.</li> </ul> </li> </ul>
Length, perimeter and area	<ul style="list-style-type: none"> <li>To convert between different units of measure (for example, kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre).</li> <li>To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.</li> <li>To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</li> <li>To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>To calculate and compare the area of squares and rectangles 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>
Written methods for multiplication	<ul style="list-style-type: none"> <li>To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Divide 4-digit numbers	<ul style="list-style-type: none"> <li>To 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.</li> <li>To multiply and divide numbers mentally drawing upon known facts.</li> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Fractions and decimals: tenths and hundredths	<ul style="list-style-type: none"> <li>To compare and order fractions whose denominators are all multiples of the same number.</li> <li>To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</li> <li>To read and write decimal numbers as fractions (for example, 0.71 = 71/100).</li> </ul>
Decimals: tenths, hundredths, thousandths	<ul style="list-style-type: none"> <li>To read, write, order and compare numbers with up to three decimal places.</li> <li>To read and write decimal numbers as fractions (for example, 0.71 = 71/100).</li> <li>To round decimals with two decimal places to the nearest whole numbers and to one decimal place.</li> <li>To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.</li> <li>To solve problems involving number up to three decimal places.</li> </ul>
2D and 3D shapes	<ul style="list-style-type: none"> <li>To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>To use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>To identify 3D shapes including cubes and cuboids from 2D representations.</li> </ul>
Tables and bar charts	<ul style="list-style-type: none"> <li>To complete, read and interpret information in tables, including timetables.</li> </ul>

# Bryn Offa C of E Primary School

## Year 5 - Summer

### Teacher Planning & Assessment Tool - Maths

Topic	Curriculum Objective
Negative numbers and Roman numerals	<ul style="list-style-type: none"> <li>To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li> <li>To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.</li> <li>To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000.</li> <li>To solve number problems and practical problems that involve all of the above.</li> <li>To read numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul>
Adding and subtracting large and small numbers	<ul style="list-style-type: none"> <li>To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li> <li>To add and subtract numbers mentally with increasingly large numbers.</li> <li>To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> <li>To solve problems involving numbers up to three decimal places.</li> </ul>
Long multiplication and division with remainders	<ul style="list-style-type: none"> <li>To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li> <li>To 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.</li> <li>To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li> </ul>
Working with fractions	<ul style="list-style-type: none"> <li>To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements <math>&gt; 1</math> as a mixed number: <math>2/5 + 4/5 = 6/5 = 11/5</math>.</li> <li>To add and subtract fractions with the same denominator and multiples of the same number.</li> </ul>
Diagonals and problems involving angles	<ul style="list-style-type: none"> <li>To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li> <li>To draw given angles, and measure them in degrees (<math>^{\circ}</math>).</li> <li>To identify:             <ul style="list-style-type: none"> <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> <li>other multiples of <math>90^{\circ}</math>.</li> </ul> </li> <li>To use the properties of a rectangle to deduce related facts and find missing lengths and angles.</li> <li>To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> </ul>
Volume, time and money	<ul style="list-style-type: none"> <li>To estimate volume (e.g. using 1 cm<sup>3</sup> blocks to build cubes and cuboids) and capacity (e.g. using water).</li> <li>To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling</li> <li>To solve problems involving converting between units of time.</li> </ul>
Addition and subtraction of money	<ul style="list-style-type: none"> <li>To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li> <li>To add and subtract numbers mentally with increasingly large numbers.</li> <li>To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>
Multiplication and division of money	<ul style="list-style-type: none"> <li>To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li> <li>To multiply and divide numbers mentally drawing upon known facts.</li> <li>To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.</li> <li>To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li> </ul>
Decimals and fractions	<ul style="list-style-type: none"> <li>To read, write, order and compare numbers with up to three decimal places.</li> <li>To read and write decimal numbers as fractions (for example, <math>0.71 = 71/100</math>).</li> <li>To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.</li> <li>To round decimals with two decimal places to the nearest whole numbers and to one decimal place.</li> </ul>
Problems involving percentages	<ul style="list-style-type: none"> <li>To 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 fraction.</li> <li>To solve problems which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>4/5</math> and those with a denominator of a multiple of 10 or 25.</li> </ul>
Perimeter, area and scale drawing	<ul style="list-style-type: none"> <li>To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>To calculate and compare the area of squares and rectangles 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> <li>To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
Using tables, and line graphs	<ul style="list-style-type: none"> <li>To complete, read and interpret information in tables, including timetables.</li> <li>To solve comparison, sum and difference problems using information presented in a line graph.</li> </ul>