

# Heath Hayes Academy

## Mathematics Curriculum



### Reception: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 5)	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subtise (recognise quantities without counting) up to 5.</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantities.</p>	<p>Recognise read, count, write numbers to 5. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> <li>Compare amounts</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 5 forwards and backwards</li> <li>Verbally rehearsing counting to 5 from any given number below 5</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 5</li> <li>Subtise to 5</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>Compare groups of amounts</li> </ul>
Geometry (circles, triangles, squares)		<ul style="list-style-type: none"> <li>Name circles, triangles, squares,</li> <li>Recall shapes</li> <li>Matching shapes to names</li> <li>Count the number of sides a shape has</li> <li>Sort between circles, triangles and squares and other shapes</li> <li>Use properties of shapes to decide what they are</li> <li>Explore ordering shapes by size</li> </ul>	<ul style="list-style-type: none"> <li>Use accurate language to identify shapes</li> <li>Recall and identify basic properties the shapes</li> <li>Recognise the shapes in different sizes and orientations</li> <li>Relate shapes to everyday objects</li> <li>Use counting strategies to support understanding the number of sides a shape has</li> <li>Explore properties such as straight and curved</li> </ul>
Addition (Number bonds to 5)	<p>Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including doubling.</p>	<p>Represent and use objects and numbers to subtract. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 5</li> <li>Recall number bonds verbally</li> <li>Match number bonds</li> <li>Calculate addition with objects and numerals</li> <li>Calculate a problem involving addition</li> <li>Calculate a problem with missing numbers</li> </ul>	
Measurement—Time		<ul style="list-style-type: none"> <li>Say the days of the week</li> <li>Say the months of the year</li> <li>Say the times in the day (morning, afternoon, evening, night, day)</li> <li>Recognise the order of the days/months</li> <li>Organise the days of the days/months</li> <li>Sort into school days and weekends</li> <li>Apply number knowledge to understand the order of the months</li> <li>Explore seasons and the months within these</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing days/months</li> <li>Learn rhymes and chants to support</li> <li>Using language of time daily</li> <li>Display days of the week, months of the year</li> <li>Understanding which day is next, which days are school days and which are weekends</li> </ul>



## Reception: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 10)	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subtise (recognise quantities without counting) up to 5.</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantities.</p>	<p>Recognise read, count, write numbers to 10. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> <li>Compare amounts</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 10 forwards and backwards</li> <li>Verbally rehearsing counting to 10 from any given number below 10</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 10</li> <li>Subtise to 10</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>Compare groups of amounts</li> </ul>
Measurement (Length, weight, capacity)			
Addition (Number bonds to 10)	<p>Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including doubling.</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantities.</p>	<p>Represent and use objects and numbers to subtract. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 10</li> <li>Recall number bonds verbally</li> <li>Match number bonds</li> <li>Calculate addition with objects and numerals</li> <li>Calculate a problem involving addition</li> <li>Calculate a problem with missing numbers</li> </ul>	
Subtraction (Commutative Law)	<p>Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including doubling.</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantities.</p>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>



## Reception: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (Within 20 and beyond)	<p>Verbally count beyond 20, recognising the pattern of the counting system.</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantities.</p>	<p>Recognise read, count, write numbers to 20 Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> <li>Compare amounts</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 20 +forwards and backwards</li> <li>Verbally rehearsing counting to 20 +from any given number below 5</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 20</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>Compare groups of amounts</li> </ul>
Place Value (Number facts)	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts, and how quantities can be distributed equally.</p>	<ul style="list-style-type: none"> <li>Identify odd and even numbers</li> <li>Subtising numbers to 5 and 10</li> <li>Consolidate number bonds to 5 and 10</li> </ul>	
Addition & Multiplication (0-20)	<p>Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including doubling.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts, and how quantities can be distributed equally.</p>	<ul style="list-style-type: none"> <li>Doubling</li> <li>Repeated addition twice</li> <li>Exploring addition sign</li> <li>Number line/number sentences for doubling</li> </ul>	
Subtraction & Division (0-20)	<p>Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including doubling.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts, and how quantities can be distributed equally.</p>	<ul style="list-style-type: none"> <li>Halving</li> <li>Repeated subtraction twice</li> <li>Exploring subtract sign</li> <li>Number line/number sentences for sharing between 2</li> <li>Sharing quantities equally—physical objects</li> </ul>	<ul style="list-style-type: none"> <li>Halving pictorial representations and numbers</li> <li>Using pictorial representations to build a whole/half</li> <li>Understanding what a whole is, and how many a whole is</li> <li>Using pictorial representations and numbers to find a quarter</li> </ul>

## Year 1: Autumn Term Scheme of Learning



Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 10)	<p>Count to and across 100, forwards and backwards beginning with 0, 1 or from any given number.</p> <p>Read and write numbers to 100, in numerals and words.</p> <p>Identify 1 more and 1 less.</p> <p>Identify and represent numbers using objects, pictorial representations. (Number line using language of equal to, more than, less than, most and least).</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p>	<p>Recognise read, count, write numbers to 10. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 10 forwards and backwards</li> <li>Verbally rehearsing counting to 10 from any given number below 10</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 10</li> <li>Use number lines to support counting</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> </ul>
Addition (working within 10)	<p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Read, write and interpret mathematical statements involving addition, subtraction and equals.</p> <p>Add and subtract one-digit and two-digit numbers to 20 including zero.</p> <p>Solve one-step problems that involve addition using concrete objects and pictorial representations and missing number problems.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p>	<p>Represent and use objects and numbers to add. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 10</li> <li>Calculate addition with objects and numerals</li> <li>Calculate a problem involving addition</li> <li>Calculate a problem with missing numbers</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing and compare numbers bonds to 10 (addition fact families)</li> <li>Counting in two groups</li> <li>Using language of addition and the addition symbol</li> <li>Following the part-whole model</li> <li>Understanding zero with objects and numerals</li> <li>Use methods to understand adding together and adding more</li> </ul>
Subtraction (working within 10)	<p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Read, write and interpret mathematical statements involving addition, subtraction and equals.</p> <p>Add and subtract one-digit and two-digit numbers to 20 including zero.</p> <p>Solve one-step problems that involve subtraction using concrete objects and pictorial representations and missing number problems.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p>	<p>Represent and use objects and numbers to subtract. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 10</li> <li>Calculate subtraction with objects and numerals</li> <li>Calculate a problem involving subtraction</li> <li>Calculate a problem with missing numbers</li> </ul>	<ul style="list-style-type: none"> <li>Counting back</li> <li>Taking away—how many are left? Crossing out</li> <li>Taking away—how many are left? Using the subtraction symbol</li> <li>Finding a part and finding the difference</li> <li>Comparing calculations using equal to, more than, less than, most and least, when talking about calculations</li> </ul>



## Year 1: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Geometry (3D Shapes)	<p>Recognise and name 3D shapes. Including: cubes, cuboids, pyramids and spheres.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>Name 3D shapes</li> <li>Matching shapes to names</li> <li>Sort between 2D and 3D shapes</li> <li>Solve a problems naming 3D shapes</li> </ul>	<ul style="list-style-type: none"> <li>Use accurate language to identify 3D shapes</li> <li>Recall and identify basic properties of 3D shapes</li> <li>Recognise the shapes in different sizes and orientations</li> <li>Relate shapes to everyday objects</li> </ul>
Place Value (working within 20)	<p>Count to and across 100, forwards and backwards beginning with 0, 1 or from any given number.</p> <p>Count, read and write numbers to 100.</p> <p>Read and write numbers to 20, in numerals and words.</p> <p>Identify 1 more and 1 less.</p> <p>Identify and represent numbers using objects, pictorial representations. (Number line using language of equal to, more than, less than, most and least).</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<p>Recognise read, count, write numbers to 20. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 20 forwards and backwards</li> <li>Verbally rehearsing counting to 20 from any given number below 10</li> <li>Identify and read numbers 11-20</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 20.</li> <li>Use number lines to support counting</li> <li>Use language of tens and ones</li> <li>Compare groups of objects and numbers</li> <li>Order groups of objects and numbers</li> <li>Ordinal numbers</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers &lt; &gt; =</li> </ul>



## Year 1: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 50)	<p>Count to and across 100 forwards and backwards beginning with 0, 1 or from any given number.</p> <p>Count, read and write numbers to 10, in numerals and words.</p> <p>Identify 1 more and 1 less.</p> <p>Identify and represent numbers using objects, pictorial representations. (Number line using language of equal to, more than, less than, most and least).</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<p>Recognise read, count, write numbers to 50. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Counting in multiples of 2, 5 and 10</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 50 forwards and backwards</li> <li>Verbally rehearsing counting to 50 from any given number</li> <li>Verbally rehearse counting in 2s and 5s</li> <li>Using objects to count</li> <li>Write numerals to match objects and numbers within 50</li> <li>Use language and representations of tens and ones</li> <li>Use number lines to support counting</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers <math>&lt;</math> <math>&gt;</math> <math>=</math></li> <li>1:1 correspondence to compare and order groups of objects and numbers</li> </ul>
Addition (working within 20)	<p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Read, write and interpret mathematical statements involving addition, subtraction and equals.</p> <p>Add and subtract one-digit and two-digit numbers to 20 including zero.</p> <p>Solve one-step problems that involve addition using concrete objects and pictorial representations and missing number problems.</p>	<p>Represent and use objects and numbers to add. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 20</li> <li>Calculate addition with objects and numerals</li> <li>Calculate a problem involving addition</li> <li>Calculate a problem with missing numbers</li> <li>Apply knowledge to compare number sentences</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing numbers bonds to 20</li> <li>Counting in two groups</li> <li>Using language of addition and the addition symbol</li> <li>Following the part-whole model</li> <li>Understanding zero with objects and numerals</li> <li>Understand adding by counting on</li> <li>Find and make number bonds, and add to make 10</li> </ul>
Subtraction (working within 20)	<p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Read, write and interpret mathematical statements involving addition, subtraction and equals.</p> <p>Add and subtract one-digit and two-digit numbers to 20 including zero.</p> <p>Solve one-step problems that involve subtraction using concrete objects and pictorial representations and missing number problems.</p>	<p>Represent and use objects and numbers to subtract. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 20</li> <li>Calculate subtraction with objects and numerals</li> <li>Calculate a problem involving subtraction</li> <li>Calculate a problem with missing numbers</li> <li>Apply knowledge to compare number sentences</li> </ul>	<ul style="list-style-type: none"> <li>Counting back</li> <li>Finding the difference</li> <li>Subtracting when not crossing 10</li> <li>Subtraction when crossing 10</li> <li>Comparing calculations using equal to, more than, less than, most and least, when talking about calculations</li> </ul>



## Year 1: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Measurement (Length, height)	<p>Compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> <li>Lengths and heights.</li> </ul> <p>Measure and begin to record the following:</p> <ul style="list-style-type: none"> <li>Lengths and heights.</li> </ul> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>Identifying short/longer/taller</li> <li>Using non-standard units of measure (cubes/hands/straws etc.)</li> <li>Completing sentences to explain the measurement of an object</li> <li>Comparing lengths/heights using language and measures</li> <li>Applying knowledge of measures to problems</li> </ul>	<ul style="list-style-type: none"> <li>Using language such as: long/short/taller/shorter/longer/double/half</li> <li>Opportunity to use non-standard units of measure (hands/cubes/straws/feet etc)</li> <li>Understanding objects can vary in length</li> <li>Counting and reading a ruler in centimetres</li> </ul>
Measurement (Weight and volume)	<p>Compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> <li>Mass or weight</li> <li>Capacity and volume</li> </ul> <p>Measure and begin to record the following:</p> <ul style="list-style-type: none"> <li>Mass or weight</li> <li>Capacity and volume</li> </ul> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>Identifying heavier/lighter</li> <li>Identify full/empty/less/more/greater/less than</li> <li>Using non-standard units of measure (cubes/bricks etc.)</li> <li>Completing sentences to explain the weight of an object</li> <li>Comparing weights/capacity using language and measures</li> <li>Applying knowledge of measures to problems</li> </ul>	<ul style="list-style-type: none"> <li>Using language such as: full/empty/greater than/more than/less than</li> <li>Using language such as: heavy/light/heavier than/lighter than</li> <li>Opportunity to use non-standard units of measure (hands/bricks/cubes/etc)</li> <li>Compare using balancing scales</li> <li>Compare amounts of weight/capacity</li> </ul>
Geometry (Position and direction)	<p>Describe position, directions and movements, including whole, half, quarter and three-quarter turns.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>Identify how a shape/object has turned</li> <li>Draw a shape in a new position</li> <li>Describe the direction a shape has moved in</li> <li>Explain how to move a shape/object using positional and directional language</li> </ul>	<ul style="list-style-type: none"> <li>Using language: full, half, quarter turn, three-quarter turn, left, right, forwards, backwards</li> <li>Describe turns made by objects or shapes</li> </ul>
Measurement (Money)	<p>Recognise and know the value and different denominations of coins and notes.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>Match value of coins to image</li> <li>Identify coins value</li> <li>Show amounts of money in coins</li> <li>Compare value of coins</li> <li>Apply to money problems</li> </ul>	<ul style="list-style-type: none"> <li>Using coins to identify and count (1p, 2p, 5p, 10p, 20p, 50, £1, £2)</li> <li>Using notes to identify and count (£5, £10, £20, £50)</li> <li>Comparing the concrete money to number representations</li> <li>Knowing the value to match coins to their equivalents</li> <li>Combine knowledge of money to count in 2s, 5s and 10s</li> <li>Calculating amounts of money altogether</li> <li>Comparing amounts of money with the same and different value coins</li> </ul>



## Year 1: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Multiplication and Division (Multiples of 2s, 5s, and 10s)	<p>Solve one-step problems involving multiplication and division, by calculating the answer using concrete, pictorial representations and arrays with the support of the teacher.</p> <p>Count in multiples of 2s, 5s and 10s.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>• Make groups of a number</li> <li>• Complete the missing number</li> <li>• Share between groups</li> <li>• Explain if sharing or grouping has been done correctly</li> <li>• Find errors in counting</li> </ul>	<ul style="list-style-type: none"> <li>• Counting in 2s, 5s and 10s.</li> <li>• Using language of tens and ones</li> <li>• Understanding equal—making equal groups (grouping and sharing)</li> <li>• Using arrays</li> <li>• Doubling objects, pictorial representations and numbers</li> </ul>
Geometry (2D Shapes)	<p>Recognise and name 2D shapes. Including: rectangles, squares, circles and triangles.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>• Name 2D shapes</li> <li>• Matching shapes to names</li> <li>• Sort between 2D and 3D shapes</li> <li>• Solve a problem naming 2D shapes</li> <li>• Describe 2D shape properties</li> </ul>	<ul style="list-style-type: none"> <li>• Use accurate language to identify 2D shapes</li> <li>• Recall and identify basic properties of 2D shapes</li> <li>• Recognise the shapes in different sizes and orientations</li> <li>• Relate shapes to everyday objects</li> </ul>
Fractions (of shapes)	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>• Identify half of a shape</li> <li>• Identify one quarter of a shape</li> <li>• Solve fraction related problems</li> <li>• Match fractions to pictorial representations</li> <li>• Draw a fraction of a given shape</li> </ul>	<ul style="list-style-type: none"> <li>• Halving shapes and objects</li> <li>• Using fraction shapes to build a whole</li> <li>• Understanding what a whole is, and how many a whole is</li> <li>• Cutting/shading/moving a shape/object to find a quarter</li> </ul>
Fractions (of amounts)	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p> <p>Sequence events in chronological order.</p>	<ul style="list-style-type: none"> <li>• Find half and quarter of an amount</li> <li>• Solve fraction related problems</li> <li>• Match fractions to pictorial representations</li> <li>• Show half or a quarter of an amount</li> </ul>	<ul style="list-style-type: none"> <li>• Halving pictorial representations and numbers</li> <li>• Using pictorial representations to build a whole/half</li> <li>• Understanding what a whole is, and how many a whole is</li> <li>• Using pictorial representations and numbers to find a quarter</li> </ul>





## Year 1: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 100)	<p>Count to and across 100, forwards and backwards beginning with 0, 1 or from any given number.</p> <p>Count, read and write numbers to 100, in numerals.</p> <p>Count in 2s, 5s and 10s.</p> <p>Identify 1 more and 1 less.</p> <p>Identify and represent numbers using objects, pictorial representations. (Number line using language of equal to, more than, less than, most and least).</p> <p>Read and write numbers to 20, in numerals and words.</p> <p>Recognise and use language relating to dates, including days</p>	<p>Recognise read, count, write numbers to 100. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Verbalising number of objects</li> <li>Identifying numerals</li> <li>Using correct number formation</li> <li>Counting in multiples of 2, 5 and 10</li> <li>Matching numbers to amounts</li> <li>Applying use of numbers by 1 more or 1 less</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 100 forwards and backwards</li> <li>Verbally rehearsing counting to 100 from any given number</li> <li>Verbally rehearse counting in 2s and 5s</li> <li>Write numerals to match objects and numbers within 20</li> <li>Use language and representations of tens and ones</li> <li>Use number lines to support counting</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers <math>&lt;</math> <math>&gt;</math> <math>=</math></li> <li>Partition numbers into tens and ones</li> <li>Compare numbers up to 100</li> <li>Using number tracks to support visual representations</li> </ul>
Measurement (Time)	<p>Compare, describe and solve practical problems for time.</p> <p>Measure and begin to record time. (hours, minutes, seconds).</p> <p>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p> <p>Sequence events in chronological order</p> <p>Recognise and use language relating to dates, including days of the week, months and years.</p>	<ul style="list-style-type: none"> <li>Draw the hands on the clock at o'clock and half past</li> <li>Identify clocks with o'clock</li> <li>Identify clocks with half past</li> <li>Solve problems related to time</li> <li>Compare times</li> </ul>	<ul style="list-style-type: none"> <li>Use language quicker, slower, earlier, later, before, after, morning, afternoon, evening, first, next, finally, o'clock, half past</li> <li>Understand hours, minutes, seconds</li> <li>Verbally discuss sorting events into time order using appropriate language</li> <li>Use a clock to navigate telling the time and support in drawing clock hands</li> <li>Rehearse days of the week and months of the year songs</li> </ul>



## Year 2: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 100)	<p>Read and write numbers to at least 100, in numerals and words.</p> <p>Compare and order numbers from 0 to 100; using <math>&lt;</math> <math>&gt;</math> <math>=</math>.</p> <p>Identify, represent and estimate numbers using difference representations, including the number line.</p> <p>Recognise the place value of each digit in a two-digit number (tens and ones).</p> <p>Count in steps of 2, 3 and 5 from 0 and in tens from any numbers, forwards and backwards.</p> <p>Use place value and number facts to solve problems.</p>	<p>Recognise read, count, write numbers from 0 to 100. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Identifying numerals and words</li> <li>Matching numbers to amounts</li> <li>Comparing amounts</li> <li>Ordering numbers</li> <li>Completing a representation of numbers</li> <li>Applying place value knowledge to solve problems with comparisons</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 100 forwards and backwards</li> <li>Verbally rehearsing counting to 100 from any given number below 100</li> <li>Write numerals to match objects and numbers within 100</li> <li>Use a place value chart</li> <li>Count in 2s, 3s, 5s and 10s</li> <li>Use number lines to support counting</li> </ul> <p>Use language equal to, more than, less than, most and least, when talking about numbers</p>
Addition (working within 100)	<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Show that addition of two numbers can be done in any order (commutative).</p> <p>Applying their increasing knowledge of mental and written methods.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <p>Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures.</p>	<p>Represent and use objects and numbers to add. Including:</p> <ul style="list-style-type: none"> <li>Number bonds within 20</li> <li>Calculate addition with objects and numerals</li> <li>Calculate a problem involving addition</li> <li>Calculate a problem with missing numbers</li> <li>Calculate with numbers in either order (commutative law)</li> <li>Provide opportunity for calculating:               <ul style="list-style-type: none"> <li>two-digit number and ones</li> <li>two-digit number and tens</li> <li>two two-digit numbers</li> <li>adding three one-digit numbers.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing and compare numbers bonds to 20 (addition fact families)</li> <li>Number bonds to 100 (in 10s)</li> <li>Add 1s and 10s</li> <li>10 more and 10 less</li> <li>Compare number sentences</li> <li>Using language of addition and the addition symbol</li> <li>Use methods to understand adding together and adding more</li> </ul>
Subtraction (working within 100)	<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Show that subtraction of one number from another cannot work.</p> <p>Applying their increasing knowledge of mental and written methods.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <p>Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures.</p> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>	<p>Represent and use objects and numbers to subtract. Including:</p> <ul style="list-style-type: none"> <li>Calculate subtraction with objects and numerals</li> <li>Calculate a problem involving subtraction</li> <li>Calculate a problem with missing numbers</li> <li>Organise numbers into a number sentence showing you cannot always subtract one number from another</li> <li>Provide opportunity for calculating:               <ul style="list-style-type: none"> <li>two-digit number and ones</li> <li>two-digit number and tens</li> <li>two two-digit numbers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing and compare numbers bonds to 20 (subtraction fact families)</li> <li>Number bonds to 100 (in 10s)</li> <li>Subtract 1s and 10s</li> <li>10 more and 10 less</li> <li>Compare number sentences</li> <li>Using language of subtraction and the subtraction symbol</li> <li>Use methods to understand subtracting and finding the difference</li> </ul>



## Year 2: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
<p>Measurement (Money)</p>	<p>Recognise and use symbols for pounds (£) and pence (p).</p> <p>Combine amounts to make a particular value.</p> <p>Find different combinations of coins that equal the same amounts of money.</p> <p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p>	<ul style="list-style-type: none"> <li>Using coins to identify and count (1p, 2p, 5p, 10p, 20p, 50, £1, £2)</li> <li>Using notes to identify and count (£5, £10, £20, £50)</li> <li>Comparing the concrete money to number representations</li> <li>Calculating amounts of money altogether</li> </ul>	<ul style="list-style-type: none"> <li>Knowing the value to match coins to their equivalents</li> <li>Combine knowledge of money to count in 2s, 5s and 10s</li> <li>Comparing amounts of money with the same and different value coins</li> <li>Find the total</li> <li>Find the difference</li> <li>Find change</li> </ul>
<p>Multiplication &amp; Division</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<ul style="list-style-type: none"> <li>Show arrays for corresponding number sentences</li> <li>Answer basic number sentence with methods shown</li> <li>Fill in the missing operations</li> <li>Match symbols to number sentences</li> <li>Answer a problem involving multiplication or division with 'shared between/lots of/altogether'</li> <li>Provide reasoning for a problem solved</li> </ul>	<ul style="list-style-type: none"> <li>Counting in 2s, 3s, 5s and 10s. (multiply and divide the 2s, 5s and 10s only)</li> <li>Using language of tens and ones</li> <li>Understand odd and even</li> <li>Understanding equal—making equal groups (grouping and sharing)</li> <li>Make and add equal groups</li> <li>Using arrays</li> <li>Doubling and halving objects, pictorial representations and numbers</li> <li>Using multiplication and division within number sentences from pictures</li> </ul>



## Year 2: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Multiplication & Division	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (<math>=</math>) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<ul style="list-style-type: none"> <li>Show arrays for corresponding number sentences</li> <li>Answer basic number sentence with methods shown</li> <li>Fill in the missing numbers</li> <li>Work within a formal method</li> <li>Answer a problem involving multiplication or division with 'shared between/lots of/altogether'</li> <li>Provide reasoning for a problem solved</li> </ul>	<ul style="list-style-type: none"> <li>Counting in 2s, 3s, 5s and 10s. (multiply and divide the 2s, 5s and 10s only)</li> <li>Using language of tens and ones</li> <li>Understand odd and even</li> <li>Understanding equal—making equal groups (grouping and sharing)</li> <li>Make and add equal groups</li> <li>Using arrays</li> <li>Doubling and halving objects, pictorial representations and numbers</li> <li>Using multiplication and division within number sentences from pictures</li> <li>Making comparisons with number sentences</li> </ul>
Statistics	<p>Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p> <p>Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>Ask and answer questions about totalling and comparing categorical data.</p>	<ul style="list-style-type: none"> <li>Read a chart/table</li> <li>Label a given table</li> <li>Create a table</li> <li>Applying a pictogram key</li> <li>Modify and table from given information</li> <li>Solve problems interpreting a table</li> <li>Solve a problem using a pictogram key</li> </ul>	<ul style="list-style-type: none"> <li>Make: tally charts, pictograms, bar charts and simple tables</li> <li>Read: tally charts pictograms, bar charts and simple tables</li> <li>Interpret: tally charts, pictograms, bar charts and simple tables</li> <li>Look at and understand simple scales, 1s, 2s, 5s, 10s</li> <li>Know that charts must have titles and variants</li> </ul>
Geometry (Properties of Shape 2D & 3D)	<p>Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.</p> <p>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</p> <p>Identify 2D shapes on the surface of 3-D shapes (a circle on a cylinder and a triangle on a pyramid).</p> <p>Compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<ul style="list-style-type: none"> <li>Label shapes</li> <li>Label shapes with their properties</li> <li>Identify shapes from a given variety</li> <li>Classify shapes into groups based on their property</li> <li>Explain a shape using its property</li> <li>Prove it when working with shapes</li> </ul>	<ul style="list-style-type: none"> <li>Use language to identify 2D and 3D shapes</li> <li>Recall and identify basic properties of 2D and 3D shapes</li> <li>Recognise the shapes in different sizes and orientations</li> <li>Relate shapes to everyday objects</li> </ul>
Fractions	<p>Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity.</p> <p>Write simple fractions for example, <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</p>	<ul style="list-style-type: none"> <li>Write a fraction as a number/label a fraction</li> <li>Shade given fractions</li> <li>Show equivalence in pictures using fractions</li> <li>Use <math>\frac{1}{2}</math> or <math>\frac{1}{4}</math> within a word problem</li> </ul>	<ul style="list-style-type: none"> <li>Halving shapes, objects, pictorial representations and numbers</li> <li>Using fraction shapes to build a whole</li> <li>Understanding what a whole is, and how many a whole is</li> <li>Cutting/shading/moving a shape/object to find a quarter</li> </ul>
Measurement (Length & Height)	<p>Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers.</p> <p>Compare and order lengths.</p>	<ul style="list-style-type: none"> <li>Read a measuring scale</li> <li>Mark a given point on a measuring scale</li> <li>Order measurements (ascending/descending)</li> <li>Find the difference between measures</li> <li>Use measures in a number sentence</li> </ul>	<ul style="list-style-type: none"> <li>Using language such as: long/short/taller/shorter/longer/double/half</li> <li>Opportunities to use non-standard units of measure (hands/cubes/straws/feet etc)</li> <li>Understanding objects can vary in length</li> <li>Counting and reading a ruler in centimetres and metres</li> </ul>



## Year 2: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Geometry (Position & Direction)	<p>Order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).</p>	<ul style="list-style-type: none"> <li>Continue a pattern with shapes</li> <li>Draw the next in a sequence</li> <li>Explain what is happening within a pattern</li> <li>Use positional and directional language to explain a pattern/sequence.</li> <li>Justify reasoning why a pattern has moved</li> </ul>	<ul style="list-style-type: none"> <li>Using language: full, half, quarter turn, three-quarter turn, left, right, forwards, backwards</li> <li>Describe turns made by objects or shapes</li> </ul>
Measurement (Mass, Capacity, Temperature)	<p>Choose and use appropriate standard units to estimate and measure mass (kg/g) temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using scales, thermometers and measuring vessels.</p> <p>Compare and order, mass, volume/capacity and record the results using &gt;, &lt; and =.</p>	<ul style="list-style-type: none"> <li>Read a measuring scale</li> <li>Mark a given point on a measuring scale</li> <li>Order measurements (ascending/descending)</li> <li>Find the difference between measures</li> <li>Use measures in a number sentence</li> </ul>	<ul style="list-style-type: none"> <li>Using language such as: full/empty/greater than/more than/less than</li> <li>Using language such as: heavy/light/heavier than/lighter than</li> <li>Opportunity to use non-standard units of measure (hands/bricks/cubes/etc)</li> <li>Compare using balancing scales</li> <li>Compare amounts of weight/capacity</li> <li>Understand temperatures at times of the year</li> </ul>
Measurement (Time)	<p>Compare and sequence intervals of time.</p> <p>Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p>	<ul style="list-style-type: none"> <li>Read a clock face</li> <li>Label the timings on a clock</li> <li>Match the time to the clock</li> <li>Say when is a longer/shorter time—explain why</li> <li>Arrange minutes/hours/days in length order</li> <li>Categorise clocks into minutes past, minutes to</li> <li>Solve problems using time</li> </ul>	<ul style="list-style-type: none"> <li>Use equipment to compare clocks</li> <li>Understand the purpose of clock hands</li> <li>Explore the times of the day at intervals</li> </ul>
Place Value (within and through 100)	<p>Read and write numbers to at least 100, in numerals and words.</p> <p>Compare and order numbers from 0 to 100; using &lt; &gt; =.</p> <p>Identify, represent and estimate numbers using difference representations, including the number line.</p> <p>Recognise the place value of each digit in a two-digit number (tens and ones).</p> <p>Count in steps of 2, 3 and 5 from 0 and in tens from any numbers, forwards and backwards.</p> <p>Use place value and number facts to solve problems.</p>	<p>Recognise read, count, write numbers from 0 to 100. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Identifying numerals and words</li> <li>Matching numbers to amounts</li> <li>Comparing amounts</li> <li>Ordering numbers</li> <li>Completing a representation of numbers</li> <li>Applying place value knowledge to solve problems with comparisons</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 100 forwards and backwards</li> <li>Verbally rehearsing counting to 100 from any given number below 100</li> <li>Write numerals to match objects and numbers within 100</li> <li>Use a place value chart</li> <li>Count in 2s, 3s, 5s and 10s</li> <li>Use number lines to support counting</li> </ul> <p>Use language equal to, more than, less than, most and least, when talking about numbers</p>



## Year 3: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within 1000)	<p>Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.</p> <p>Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).</p> <p>Compare and order numbers up to 1000.</p> <p>Identify, represent and estimate numbers using different representations.</p> <p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Solve number problems and practical problems involving these ideas.</p>	<p>Recognise read, count, write numbers from 0 to 1000. Including:</p> <ul style="list-style-type: none"> <li>Identifying number of objects</li> <li>Identifying numerals and words</li> <li>Matching numbers to amounts</li> <li>Comparing amounts</li> <li>Ordering numbers</li> <li>Completing a representation of numbers</li> <li>Applying place value knowledge to solve problems with comparisons</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 1000 forwards and backwards</li> <li>Verbally rehearsing counting to 1000 from any given number below 10</li> <li>Write numerals to match objects and numbers within 1000</li> <li>Use number squares to support counting</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>Find 1, 10, 100 more or less than</li> <li>Count in 10s, 20s, 50s and 100s</li> </ul>
Addition & Subtraction	<p>Add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> <li>three-digit number and ones</li> <li>a three-digit number and tens</li> <li>three-digit number and hundreds</li> </ul> <p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<ul style="list-style-type: none"> <li>Match number bonds within 20</li> <li>Follow methods to calculate with addition and subtraction</li> <li>Calculate a problem involving addition and subtraction</li> <li>Explain how a calculation is correct/incorrect</li> <li>Modify a calculation to be accurate</li> <li>Calculate a problem for addition and subtraction with missing numbers</li> <li>Solve a multi-step problem</li> <li>Use reasoning to prove addition and subtraction knowledge</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract 100s (mentally)</li> <li>Use equipment to support column method</li> <li>Estimate answers to calculations, then check</li> <li>Compare number sentences following calculations</li> </ul>
Measurement (Length & Perimeter)	<p>Measure, compare, add and subtract: lengths (m/cm/mm).</p> <p>Measure the perimeter of simple 2-D shapes.</p>	<ul style="list-style-type: none"> <li>Read a scale with mm, cm, m</li> <li>Mark a point on a measuring scale</li> <li>Draw and measure a specified length</li> <li>Order measurements (ascending/descending)</li> <li>Find the difference between measures</li> <li>Use measures in a number sentence</li> </ul>	<ul style="list-style-type: none"> <li>Use equipment to measure accurately</li> <li>Understand mm, cm, m and km</li> <li>Compare amounts</li> <li>Understand equivalent amounts</li> <li>Add and subtract lengths - explore decimals</li> </ul>
Multiplication	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> <p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.</p> <p>Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p>	<ul style="list-style-type: none"> <li>Recognise multiplication facts</li> <li>Build a multiplication number sentence using an array</li> <li>Draw an array</li> <li>Follow methods to complete written multiplication</li> <li>Solve a word problem including multiplication</li> <li>Apply reasoning to a statement about multiplying</li> </ul>	<ul style="list-style-type: none"> <li>Count in 2s, 3s, 4s, 4s, 8s and 10s</li> <li>Multiply by 3, 4 and 8</li> <li>Rehearse and practise the 3, 4 and 8 times table</li> <li>Use arrays to support representations</li> </ul>



## Year 3: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Division	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> <p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.</p> <p>Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects.</p>	<ul style="list-style-type: none"> <li>Recognise division facts</li> <li>Build a division number sentence using an array</li> <li>Draw an array</li> <li>Follow methods to complete written division</li> <li>Solve a word problem including division</li> <li>Apply reasoning to a statement about divide</li> </ul>	<ul style="list-style-type: none"> <li>Count in 2s, 3s, 4s, 4s, 8s and 10s</li> <li>Divide by 3, 4 and 8</li> <li>Rehearse and practise the 3, 4 and 8 times table</li> </ul>
Geometry (Properties of shapes)	<p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p>	<ul style="list-style-type: none"> <li>Name images of shapes</li> <li>Label shapes including properties</li> <li>Circle or identify parallel or perpendicular lines</li> <li>Classify shapes by their properties</li> <li>Interpret shapes based on their descriptions</li> <li>Justify reasoning for a shape based on their properties</li> </ul>	<ul style="list-style-type: none"> <li>Describe 2D and 3D shapes</li> <li>Make 3D shapes</li> <li>Explore nets</li> <li>Draw 2D shapes</li> </ul>
Geometry (Angles)	<p>Recognise angles as a property of shape or a description of a turn.</p> <p>Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn.</p> <p>Identify whether angles are greater than or less than a right angle.</p>	<ul style="list-style-type: none"> <li>Identify where an angle is on a shape/line/point</li> <li>Name a right angle</li> <li>Label angles based on their turns</li> <li>Infer what size an angle could be</li> <li>Explain how an angle is made/the size of an angle/ angle facts/which angles can be found in which shapes etc</li> </ul>	<ul style="list-style-type: none"> <li>Turns and angles</li> <li>Identify right angles in shapes</li> </ul>
Fractions	<p>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p> <p>Recognise and show, using diagrams, equivalent fractions with small denominators.</p>	<ul style="list-style-type: none"> <li>Show a shape split into tenths</li> <li>Write the shape as a fraction</li> <li>Label fractions of shapes</li> <li>Shade fractions of shapes</li> <li>Explain how the above has been done</li> <li>Compare fractions</li> </ul>	<ul style="list-style-type: none"> <li>Use shapes, cubes and blocks to show fractions</li> <li>Understanding what a whole is, and how many a whole is</li> <li>Colour/shade fractions</li> </ul>



## Year 3: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Fractions	<p>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.</p> <p>Compare and order unit fractions, and fractions with the same denominators.</p> <p>Solve problems that involve all of the above.</p> <p>Add and subtract fractions with the same denominator within one whole; for example, <math>5/7 + 1/7 = 6/7</math>.</p>	<ul style="list-style-type: none"><li>•</li></ul>	<ul style="list-style-type: none"><li>• Show fractions in both ways</li><li>• Understand fractions as numbers</li><li>• Compare and order fractions</li></ul>
Measurement (Money)	<p>Add and subtract amounts of money to give change, using both £ and p in practical contexts.</p>	<ul style="list-style-type: none"><li>•</li></ul>	<ul style="list-style-type: none"><li>• Knowing the value to match coins to their equivalents</li><li>• Combine knowledge of money to count in 2s, 5s and 10s</li><li>• Comparing amounts of money with the same and different value coins</li><li>• Find the total</li><li>• Find the difference</li><li>• Find change</li></ul>





## Year 3: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Measurement (Mass & Capacity)	Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml).		<ul style="list-style-type: none"> <li>Using language such as: full/empty/greater than/more than/less than</li> <li>Using language such as: heavy/light/heavier than/lighter than</li> <li>Opportunity to use standard units of measure</li> <li>Compare using balancing scales</li> <li>Compare amounts of weight/capacity</li> </ul>
Statistics	<p>Interpret and present data using bar charts, pictograms and tables.</p> <p>Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</p>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Make: pictograms, bar charts and tables</li> <li>Read: pictograms, bar charts and tables</li> <li>Interpret: pictograms, bar charts and tables</li> <li>Look at and understand scales</li> <li>Know that charts must have titles and variants</li> </ul>
Measurement (Time)	<p>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.</p> <p>Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.</p> <p>Know the number of seconds in a minute and the number of days in each month, year and leap year.</p> <p>Compare durations of events (for example to calculate the time taken by particular events or tasks).</p>		<ul style="list-style-type: none"> <li>Use equipment to compare clocks</li> <li>Understand the purpose of clock hands</li> <li>Explore the times of the day at intervals</li> <li>Use vocabulary: half past, quarter past, quarter to and of 5 minute intervals of time</li> </ul>
Place Value (working within and through 1000)	<p>Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.</p> <p>Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).</p> <p>Compare and order numbers up to 1000.</p> <p>Identify, represent and estimate numbers using different representations.</p> <p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Solve number problems and practical problems involving these ideas.</p>		<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 1000 forwards and backwards</li> <li>Verbally rehearsing counting to 1000 from any given number below 10</li> <li>Write numerals to match objects and numbers within 1000</li> <li>Use number squares to support counting</li> <li>Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>Find 1, 10, 100 more or less than</li> <li>Count in 10s, 20s, 50s and 100s</li> </ul>



## Year 3: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
4 Operations	<p>Add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> <li>- three-digit number and ones</li> <li>- a three-digit number and tens</li> <li>- three-digit number and hundreds</li> </ul> <p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p> <p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> <p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.</p> <p>Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n</p>		<ul style="list-style-type: none"> <li>● Add and subtract 100s (mentally)</li> <li>● Use equipment to support column method</li> <li>● Estimate answers to calculations, then check</li> <li>● Compare number sentences following calculations</li> <li>● Count in 2s, 3s, 4s, 4s, 8s and 10s</li> <li>● Multiply by 3, 4 and 8</li> <li>● Rehearse and practise the 3, 4 and 8 times table</li> <li>● Use arrays to support representations</li> <li>● Count in 2s, 3s, 4s, 4s, 8s and 10s</li> <li>● Divide by 3, 4 and 8</li> <li>● Rehearse and practise the 3, 4 and 8 times table</li> </ul>



## Year 4: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within and through 1000)	<p>Count in multiples of 6, 7, 9, 25 and 1000.</p> <p>Find 1000 more or less than a given number.</p> <p>Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).</p> <p>Order and compare numbers beyond 1000.</p> <p>Identify, represent and estimate numbers using different representations.</p> <p>Round any number to the nearest 10, 100 or 1000.</p> <p>Solve number and practical problems that involve all of the above and with increasingly large positive numbers.</p>	<ul style="list-style-type: none"> <li>• Read and write numbers in digits and words</li> <li>• Identify the value of a digit in a given number</li> <li>• Use symbols &lt; &gt; to compare numbers</li> <li>• Explain the value of numbers using representations</li> <li>• Solve problems involving place value</li> </ul>	<ul style="list-style-type: none"> <li>• Verbally rehearsing counting to 1000 forwards and backwards from any given number below 10s</li> <li>• Use and understand place value charts</li> <li>• Understanding partitioning</li> <li>• Write numerals to match objects and numbers within 1000</li> <li>• Use number squares and number lines to 10,000</li> <li>• Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>• Find 1, 10, 100, 1000 more or less than</li> <li>• Count in 10s, 20s, 25s, 50s and 100s</li> </ul>
Place Value (Negative Numbers)	<p>Count backwards through zero to include negative numbers.</p>	<ul style="list-style-type: none"> <li>• Complete a negative number line</li> <li>• Identify and complete mounts within scales using negative numbers</li> <li>• Calculate the difference using negative numbers</li> <li>• Explain the place of zero</li> <li>• Solve problems involving negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Understand numbers below 0</li> <li>• Count through zero</li> </ul>
Addition and Subtraction	<p>Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.</p> <p>Estimate and use inverse operations to check answers to a calculation.</p> <p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<ul style="list-style-type: none"> <li>• Follow methods to add and subtract with a formal written method</li> <li>• Show the process to add and subtract</li> <li>• Explain errors in addition and subtraction methods</li> <li>• Apply knowledge to solve problems including those with 2 steps</li> <li>• Investigate problems involving addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract in 100s and 1000s (mentally)</li> <li>• Use equipment to support column method</li> <li>• Estimate answers to calculations, then check</li> <li>• Compare number sentences following calculations</li> </ul>
Measurement (Length & Perimeter)	<p>Convert between different units of measure (for example, kilometre to metre).</p> <p>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.</p>	<ul style="list-style-type: none"> <li>• Calculate the perimeter of rectilinear figures using method</li> <li>• Solve problems to find perimeter including missing lengths in perimeter</li> <li>• Create shapes with a given perimeter providing explanations</li> </ul>	<ul style="list-style-type: none"> <li>• Use and understand mm, cm, m, km</li> <li>• Look at perimeter on a grid, of a rectangle and of rectilinear shapes</li> <li>• Measure lengths and draw lines at given lengths</li> <li>• Illustrate the unit or measure chosen to measure different objects/items</li> </ul>



## Year 4: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Multiplication	<p>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math>.</p> <p>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.</p> <p>Recognise and use factor pairs and commutativity in mental calculations.</p> <p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</p> <p>Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</p>	<ul style="list-style-type: none"> <li>• Use formal methods to multiply 2 digit and 3 digit numbers 1 digit</li> <li>• Find the multiplication fact</li> <li>• Estimate answers for multiplication based on rounding</li> <li>• Solve number problems including multiplication</li> <li>• Explain the process of formal methods</li> </ul>	<ul style="list-style-type: none"> <li>• Count in multiples of 2—12</li> <li>• Count in 20s, 25s, 50s, 100s, 1000s</li> <li>• Multiply by 6, 7 and 9</li> <li>• Rehearse and practise the 3, 4 and 8 times table</li> <li>• Use arrays to support representations</li> <li>• Multiply 3 numbers</li> <li>• Use language: factor pairs, multiples, prime</li> </ul>
Multiplication & Division	<p>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.</p>	<ul style="list-style-type: none"> <li>• Follow methods to multiply by 10, 100, 1000</li> <li>• Follow methods to divide by 10, 100, 1000</li> <li>• Solve problems including multiplying and dividing by 10, 100 and 1000</li> <li>• Investigate rules when multiplying and dividing by 10, 100 and 1000</li> </ul>	<ul style="list-style-type: none"> <li>• Use and understand a place value chart to support multiplying and dividing by 10, 100 and 1000</li> <li>• Use equipment to support place value</li> <li>• Use language: factor pairs, multiples, prime</li> </ul>



## Year 4: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Division	<p>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math>.</p> <p>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.</p> <p>Recognise and use factor pairs and commutativity in mental calculations.</p> <p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</p> <p>Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</p>	<ul style="list-style-type: none"> <li>Use formal methods to divide 2 digit and 3 digit numbers by 1 digit</li> <li>Find the division fact</li> <li>Solve number problems including division</li> <li>Explain the process of formal methods</li> </ul>	<ul style="list-style-type: none"> <li>Count in multiples of 2—10</li> <li>Count in 20s, 25s, 50s, 100s, 1000s</li> <li>Divide by 6, 7 and 9</li> <li>Rehearse and practise the 3, 4 and 8 times table</li> <li>Use arrays to support representations</li> <li>Use language: factor pairs, multiples, prime</li> </ul>
Measurement (Area)	<p>Find the area of rectilinear shapes by counting squares.</p>	<ul style="list-style-type: none"> <li>Calculate the area of rectilinear figures using method</li> <li>Solve problems to find area</li> <li>Create shapes with a given area providing explanations</li> </ul>	<ul style="list-style-type: none"> <li>Explore area</li> <li>Use objects and representations for area</li> <li>Compare areas or shapes with shades, drawings and representations</li> </ul>
Geometry (Properties of Shapes)	<p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>Identify lines of symmetry in 2-D shapes presented in different orientations.</p> <p>Complete a simple symmetric figure with respect to a specific line of symmetry.</p>	<ul style="list-style-type: none"> <li>Name the types of triangles and quadrilaterals</li> <li>Recall properties of triangles and quadrilaterals</li> <li>Draw lines of symmetry</li> <li>Reflect shapes within a mirror line</li> <li>Spot the mistake in a reflected image</li> <li>Explain the process of reflecting shapes and the understanding of symmetry</li> </ul>	<ul style="list-style-type: none"> <li>Describe 2D and 3D shapes</li> <li>Label regular and irregular polygons</li> <li>Use vocabulary: triangles, quadrilaterals, vertices, corner, symmetry, parallel, perpendicular</li> </ul>
Geometry (Angles)	<p>Identify acute and obtuse angles and compare and order angles up to two right angles by size.</p>	<ul style="list-style-type: none"> <li>Recall acute and obtuse angles</li> <li>Compare angle sizes</li> <li>Order angles based on their size</li> <li>Solve problems including angles</li> </ul>	<ul style="list-style-type: none"> <li>Turns and angles</li> <li>Draw and measure</li> <li>Identify right angles in shapes</li> <li>Use vocabulary: acute, obtuse, right angle</li> </ul>



## Year 4: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Fractions	<p>Recognise and show, using diagrams, families of common equivalent fractions.</p> <p>Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.</p> <p>Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.</p>	<ul style="list-style-type: none"> <li>• Show fractions of shapes, objects and items using diagrams/pictures</li> <li>• Match common equivalent fractions</li> <li>• Compare fractions using pictorial representations and digits, including fractions greater than 1</li> <li>• Solve problems including fraction equivalents</li> </ul>	<ul style="list-style-type: none"> <li>• Show fractions in both ways</li> <li>• Understand fractions as numbers</li> <li>• Understand equivalent fractions</li> <li>• Explore fractions greater than 1 with objects, pictures and shapes</li> <li>• Count in fractions - complete the missing fraction within a sequence</li> <li>• Count up and down in hundredths</li> </ul>
Fractions	<p>Add and subtract fractions with the same denominator.</p>	<ul style="list-style-type: none"> <li>• Follow methods to add and subtract fractions with the same denominator</li> <li>• Identify errors in calculating fractions</li> <li>• Complete missing digits in fraction calculations</li> <li>• Solve problems in calculating fractions with addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>• Understand adding fractions with the same denominator (using pictures, objects and numerals)</li> <li>• Add 2 or more fractions</li> </ul>
Measurement (Money)	<p>Estimate, compare and calculate different measures, including money in pounds and pence .</p>	<ul style="list-style-type: none"> <li>• Identify coins and notes to their monetary value</li> <li>• Match coins with amounts</li> <li>• Calculate using money with both pictorial representations and money written in digits</li> <li>• Solve problems using money exploring 2 step problems</li> </ul>	<ul style="list-style-type: none"> <li>• Knowing the value to match coins to their equivalents</li> <li>• Combine knowledge of money to count in 2s, 5s and 10s</li> <li>• Comparing amounts of money with the same and different value coins</li> <li>• Find the total</li> <li>• Find the difference</li> <li>• Find change</li> </ul>



## Year 4: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Decimals	<p>Recognise and write decimal equivalents to <math>1/4</math>, <math>1/2</math> <math>3/4</math>.</p> <p>Recognise and write decimal equivalents of any number of tenths or hundredths.</p> <p>Round decimals with one decimal place to the nearest whole number.</p> <p>Compare numbers with the same number of decimal places up to two decimal places.</p> <p>Solve simple measure and money problems involving fractions and decimals to two decimal places.</p>	<ul style="list-style-type: none"> <li>Place fractions and equivalent decimals on a number line</li> <li>Order decimals (include fraction equivalents if appropriate)</li> <li>Match fractions and equivalent decimals</li> <li>Compare decimals and fractions using symbols appropriate, and decimals up to two decimal places</li> <li>Solve decimal and fraction problems</li> </ul>	<ul style="list-style-type: none"> <li>Use comparison and ordering charts for decimals and fractions</li> <li>Complete number lines with decimals up to two decimal places</li> <li>Understand thousandths</li> <li>Understand decimal equivalents of any number of tenths or hundredths.</li> </ul>
Measurement (Time)	<p>Read, write and convert time between analogue and digital 12- and 24-hour clocks.</p> <p>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p> <p>Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.</p>	<ul style="list-style-type: none"> <li>Show given times on a clock (analogue, digital, 12 and 24hr)</li> <li>Record times shown on clocks (analogue, digital, 12 and 24hr)</li> <li>Convert between units of time</li> <li>Apply knowledge of time to sort times/clocks into time order based on time of day (in 24hr)</li> <li>Solve problems including conversions of time</li> <li>Investigate time</li> </ul>	<ul style="list-style-type: none"> <li>Use equipment to compare clocks</li> <li>Understand the purpose of clock hands</li> <li>Explore the times of the day at intervals</li> <li>Understand the numbers of hours, minutes, days, years, months, weeks</li> <li>Use vocabulary: half past, quarter past, quarter to and of 5 minute intervals of time</li> </ul>
Statistics	<p>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>	<ul style="list-style-type: none"> <li>Complete a bar chart using information given</li> <li>Label a bar chart based on an explanation</li> <li>Interpret information shown in a chart/graph to answer questions</li> <li>Calculate using information within a chart/graph</li> <li>Represent data within a chosen chart explaining choices with mathematical reasoning</li> </ul>	<ul style="list-style-type: none"> <li>Make: bar charts, time graphs and tables</li> <li>Read: bar charts, time graphs and tables</li> <li>Interpret: bar charts, time graphs and tables</li> <li>Look at and understand varying scales</li> <li>Know that charts must have titles and variants</li> <li>Compare sum and difference</li> </ul>
Geometry (Position & Direction)	<p>Describe positions on a 2-D grid as coordinates in the first quadrant.</p> <p>Describe movements between positions as translations of a given unit to the left/right and up/down.</p> <p>Plot specified points and draw sides to complete a given polygon.</p>	<ul style="list-style-type: none"> <li>Record coordinates of shapes within 1 quadrant</li> <li>Draw a shape using given coordinates</li> <li>Explain how a shape has moved using positional language</li> <li>Identify and explain errors within shape movements</li> <li>Prove reasoning using coordinates</li> </ul>	<ul style="list-style-type: none"> <li>Describe position and movement</li> <li>Draw and move on a grid</li> </ul>



## Year 4: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
<p>Place Value (working within and through 1000)</p>	<p>Count in multiples of 6, 7, 9, 25 and 1000.</p> <p>Find 1000 more or less than a given number.</p> <p>Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).</p> <p>Order and compare numbers beyond 1000.</p> <p>Identify, represent and estimate numbers using different representations.</p> <p>Round any number to the nearest 10, 100 or 1000.</p> <p>Solve number and practical problems that involve all of the above and with increasingly large positive numbers.</p>	<ul style="list-style-type: none"> <li>• Read and write numbers in digits and words</li> <li>• Identify the value of a digit in a given number</li> <li>• Use symbols <math>&lt;</math> <math>&gt;</math> to compare numbers</li> <li>• Explain the value of numbers using representations</li> <li>• Solve problems involving place value</li> </ul>	<ul style="list-style-type: none"> <li>• Verbally rehearsing counting to 1000 forwards and backwards from any given number below 10s</li> <li>• Use and understand place value charts</li> <li>• Understanding partitioning</li> <li>• Write numerals to match objects and numbers within 1000</li> <li>• Use number squares and number lines to 10,000</li> <li>• Use language equal to, more than, less than, most and least, when talking about numbers</li> <li>• Find 1, 10, 100, 1000 more or less than</li> <li>• Count in 10s, 20s, 25s, 50s and 100s</li> </ul>
<p>4 Operations</p>	<p>Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.</p> <p>Estimate and use inverse operations to check answers to a calculation.</p> <p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p> <p>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math>.</p> <p>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.</p> <p>Recognise and use factor pairs and commutativity in mental calculations.</p> <p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</p> <p>Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects.</p>	<ul style="list-style-type: none"> <li>• Calculate addition, subtraction, multiplication and division calculations</li> <li>• Notice and explain errors in given problems</li> <li>• Modify calculations to ensure they are accurate</li> <li>• Provide guidance for estimations in calculations off all four operations</li> <li>• Solve problems, including those with 2 steps, using all four operations</li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract in 100s and 1000s (mentally)</li> <li>• Use equipment to support column and bus shelter method</li> <li>• Estimate answers to calculations, then check</li> <li>• Compare number sentences following calculations</li> <li>• Multiply and divide by 6, 7 and 9</li> <li>• Rehearse and practise all times tables</li> <li>• Use arrays to support representations</li> <li>• Multiply 3 numbers</li> <li>• Use language: factor pairs, multiples, prime</li> </ul>





## Year 5: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working within and through 10,000)	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</p> <p>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</p> <p>Solve number problems and practical problems that involve all of the above.</p>	<ul style="list-style-type: none"> <li>Identify the value of a digit in a given number</li> <li>Write the number in figures/words</li> <li>Follow methods to round to the nearest 10, 100, 1000, 10 000 and 100 000.</li> <li>Use symbols <math>&lt;</math> <math>&gt;</math> to compare numbers</li> <li>Explain the value of digits</li> <li>Prove value of numbers</li> <li>Solve problems involving place value.</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting to 1000 forwards and backwards from any given number below 10s</li> <li>Use and understand place value charts</li> <li>Understanding partitioning</li> <li>Write numerals to match objects and numbers within 10,000</li> <li>Use number squares and number lines to 10,000, greater than,</li> <li>Find 1, 10, 100, 1000, 10,000 more or less than</li> </ul>
Place Value (Negative Numbers)	<p>Interpret negative numbers in context.</p> <p>Count forwards and backwards with positive and negative whole numbers, including through zero.</p>	<ul style="list-style-type: none"> <li>Show negative numbers on number line</li> <li>Infer missing negative numbers</li> <li>Apply knowledge to solve number problems</li> <li>Create negative number problems</li> </ul>	<ul style="list-style-type: none"> <li>Understand numbers below 0</li> <li>Count through zero</li> <li>Compare with temperature scales</li> </ul>
Addition and Subtraction	<p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).</p> <p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Follow methods to add and subtract with a formal written method</li> <li>Use a mental method to add and subtract</li> <li>Apply knowledge to solve problems</li> <li>Explain errors in addition and subtraction methods</li> <li>Show the process to add and subtract</li> <li>Investigate problems involving addition and subtraction</li> <li>Apply inverse to check answers</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract in 100s, 1000s, 10,000s (mentally)</li> <li>Use column method</li> <li>Estimate answers to calculations, then check</li> <li>Compare number sentences following calculations</li> <li>Complements to 100 and 1000</li> </ul>
Measurement (Perimeter)	<p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Use the given method to find perimeter</li> <li>Apply knowledge to solve perimeter problems</li> <li>Prove accuracy when finding perimeter</li> <li>Create shapes with a given perimeter</li> </ul>	<ul style="list-style-type: none"> <li>Look at perimeter on a grid, of a rectangle, of rectilinear and composite shapes</li> </ul>



## Year 5: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Multiplication & Division	<p>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.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>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.</p> <p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</p> <p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Use formal methods to multiply and divide</li> <li>Find the division or multiplication fact</li> <li>Calculate division with remainders</li> <li>Calculate multiplication and division questions mentally</li> <li>Estimate answers</li> <li>Solve number problems including all operations</li> <li>Explain the process of formal methods</li> <li>Justify answers by using the inverse</li> </ul>	<ul style="list-style-type: none"> <li>Count in multiples of 2–12</li> <li>Count in 20s, 25s, 50s, 100s, 1000s and 10,000s</li> <li>Multiply by 6, 7 and 9</li> <li>Rehearse and practise the 3, 4 and 8 times table</li> <li>Use arrays to support representations</li> <li>Multiply 3 numbers</li> <li>Use language: factor pairs, multiples, prime</li> </ul>
Multiplication & Division	<p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 .</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers.</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared ( <math>2</math> ) and cubed ( <math>3</math> ).</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Follow methods to multiply and divide by 10, 100, 1000</li> <li>Match multiples and factor pairs of a number</li> <li>Identify common factors</li> <li>Find examples of prime numbers, prime factors and composite numbers</li> <li>Recall prime numbers</li> <li>Investigate multiples, factors and prime numbers</li> <li>Hypothesise rules related to multiples, factors and prime numbers</li> <li>Solve problems including squared and cubed numbers</li> </ul>	<ul style="list-style-type: none"> <li>Use language: factor pairs, multiples, prime, square numbers, cube numbers</li> <li>Use and understand a place value chart to support multiplying and dividing by 10, 100 and 1000</li> <li>Use equipment to support place value</li> <li>Use language: factor pairs, multiples, prime, cubed, squared, non-prime</li> </ul>
Statistics	<p>Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>Complete, read and interpret information in tables, including timetables.</p> <p>Measurement (Time) Solve problems involving converting between units of time.</p>	<ul style="list-style-type: none"> <li>Complete data in a table</li> <li>Find information from graph</li> <li>Compare information</li> <li>Apply knowledge to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>Make, draw and read line graphs</li> <li>Solve problems using line graphs</li> <li>Reading and interpreting tables</li> <li>Timetables</li> <li>Two way tables</li> </ul>



## Year 5: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Measurement (Area)	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.	<ul style="list-style-type: none"> <li>Follow methods to calculate area.</li> <li>Solve problems including area</li> <li>Estimate area of irregular shapes</li> <li>Investigate area of shapes</li> </ul>	<ul style="list-style-type: none"> <li>Area of rectangles, compound shapes and irregular shapes using a grid</li> <li>Estimating and approximating area</li> <li>Exploring area using shapes, concrete objects, cubes etc</li> </ul>
Fractions	<p>Compare and order fractions whose denominators are all multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</p> <p>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>].</p>	<ul style="list-style-type: none"> <li>Match equivalent fractions</li> <li>Compare fractions</li> <li>Compare and convert mixed number and improper fractions</li> <li>Create problems including fraction equivalents</li> </ul>	<ul style="list-style-type: none"> <li>Simplifying fractions</li> <li>Show fractions in both ways</li> <li>Understand fractions as numbers</li> <li>Understand equivalent fractions</li> <li>Explore fractions greater than 1 with objects, pictures and shapes</li> <li>Count in fractions</li> </ul>
Fractions	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	<ul style="list-style-type: none"> <li>Follow methods to add and subtract fractions</li> <li>Explain process of adding and subtracting fractions</li> </ul>	<ul style="list-style-type: none"> <li>Understand adding fractions with the same denominator (using pictures, objects and numerals)</li> <li>Add 2 or more fractions</li> </ul>
Fractions	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	<ul style="list-style-type: none"> <li>Follow methods to multiply fractions and whole numbers</li> <li>Explain process of multiplying fractions and whole numbers</li> <li>Solve problems including multiplication of fractions</li> </ul>	<ul style="list-style-type: none"> <li>Understand multiplying and dividing fractions with strategies to support (KFC etc)</li> <li>Explore multiplying and dividing fractions by each other and by whole numbers.</li> </ul>
Fractions	<p>Read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>].</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p>	<ul style="list-style-type: none"> <li>Identify fractions and equivalent decimals</li> <li>Match fractions and equivalent decimals</li> <li>Compare decimals and fractions</li> <li>Solve decimal and fraction problems</li> </ul>	<ul style="list-style-type: none"> <li>Use comparison and ordering charts</li> <li>Place value cards</li> <li>Understand thousandths</li> </ul>



## Year 5: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Decimals	<p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"><li>• Complete number lines</li><li>• Follow methods to round</li><li>• Compare decimal values</li><li>• Reason ideas relating to decimals</li></ul>	<ul style="list-style-type: none"><li>• Understand thousandths</li><li>• Thousands as decimals</li><li>• Know the concept of 'decimal place' reading and rounding to dp</li><li>• Rounding decimals to 2 dp</li><li>• Order and compare decimals</li><li>• Opportunities to apply decimal understanding with adding and subtracting</li><li>• Decimal complements to 100</li></ul>



## Year 5: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Decimals	<p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Infer missing decimals on number line</li> <li>Follow methods to round</li> <li>Compare decimal values using <math>&lt;</math> <math>&gt;</math></li> <li>Prove statements related to decimals</li> <li>Explain understanding of decimal places</li> </ul>	<ul style="list-style-type: none"> <li>Understand thousandths</li> <li>Thousands as decimals</li> <li>Know the concept of 'decimal place' reading and rounding to dp</li> <li>Rounding decimals to 2 dp</li> <li>Order and compare decimals</li> <li>Opportunities to apply decimal understanding with adding and subtracting</li> <li>Use decimals in measurement within problems.</li> </ul>
Percentages	<p>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.</p> <p>Solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</p>	<ul style="list-style-type: none"> <li>Match decimals, percentages and fractions</li> <li>Show percentages as part of 100</li> <li>Compare decimals, percentages and fractions</li> <li>Solve problems with equivalent fractions, decimals and percentages</li> </ul>	<ul style="list-style-type: none"> <li>Compare fractions, decimals and percentages</li> <li>Show on place value cards</li> <li>Place percentages on a number line</li> </ul>
Geometry (Properties of Shapes)	<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</p> <p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p>	<ul style="list-style-type: none"> <li>Name 3D and 2D shapes</li> <li>Recall properties</li> <li>Label regular and irregular polygons</li> <li>Explain reasoning</li> <li>Infer missing lengths or angles</li> <li>Create problems including regular and irregular polygons</li> </ul>	<ul style="list-style-type: none"> <li>Regular and irregular</li> <li>Identify, draw and label 2D and 3D shapes based on facts</li> </ul>
Geometry (Angles)	<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles, and measure them in degrees (<math>^{\circ}</math>).</p> <p>Identify: angles at a point and one whole turn (total <math>360^{\circ}</math>) angles at a point on a straight line and <math>2 \times 1</math> a turn (total <math>180^{\circ}</math>) other multiples of <math>90^{\circ}</math>.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p>	<ul style="list-style-type: none"> <li>Recall acute, obtuse and reflex angles</li> <li>Measure angles</li> <li>Identify turns</li> <li>Solve problems</li> <li>Infer missing angles or lengths</li> <li>Explain concepts</li> </ul>	<ul style="list-style-type: none"> <li>Measure and draw angles</li> <li>Use vocabulary: angle, right angle, obtuse, acute, reflex, straight line, protractor, <math>180^{\circ}</math>, <math>360^{\circ}</math> etc</li> <li>Explore angles within shapes</li> </ul>



## Year 5: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Geometry (Position & Direction)	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.	<ul style="list-style-type: none"> <li>Describe reflection and translation</li> <li>Follow methods to reflect and translate a shape</li> <li>Explain errors</li> <li>Create own translation and reflections</li> </ul>	<ul style="list-style-type: none"> <li>Look at the 1st quadrant</li> <li>Understand the transformations - translation and reflection</li> <li>Understand coordinates and axis</li> <li>Use vocabulary: transformations, translation, reflection, quadrant, symmetry, parallel, perpendicular, axis, mirror line, reflect and including direction language.</li> </ul>
Measure- ment (converting Measures)	<p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<ul style="list-style-type: none"> <li>Match units of measure</li> <li>Identify appropriate unit of measure</li> <li>Compare units of measure</li> <li>Estimate measures</li> <li>Apply knowledge to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>Explore and know the importance and purpose of metric and imperial measures</li> <li>Compare metric and imperial units</li> <li>Know which measure is used for its purpose</li> <li>Consolidate the 4 operations using measures</li> <li>Measure, draw and weigh with a variety of equipment</li> </ul>
Measure- ment (Volume)	<p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water].</p>	<ul style="list-style-type: none"> <li>Match units of measure</li> <li>Estimate volume</li> <li>Apply knowledge to solve problems</li> <li>Create problems including volume</li> </ul>	<ul style="list-style-type: none"> <li>Explore and know the importance and purpose of metric and imperial measures</li> <li>Compare metric and imperial units</li> <li>Know which measure is used for its purpose</li> <li>Consolidate the 4 operations using measures</li> <li>Measure capacity variety of equipment</li> <li>Use objects and representations to understand volume</li> </ul>



## Year 6: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Place Value (working Up to 10 million)	<p>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</p> <p>Round any whole number to a required degree of accuracy.</p> <p>Solve number and practical problems that involve all of the above.</p>	<ul style="list-style-type: none"> <li>Identify value of given digits</li> <li>Recognise numbers in words and figures</li> <li>Follow instructions to round</li> <li>Solve problems</li> <li>Categorise numbers on given criteria</li> <li>Solve non routine problems</li> </ul>	<ul style="list-style-type: none"> <li>Verbally rehearsing counting forwards and backwards from any given number below</li> <li>Use and understand place value charts</li> <li>Understanding partitioning</li> <li>Write numerals to match objects and numbers up to 10million</li> <li>Use number squares and number lines to 10,000, greater than,</li> <li>Find 1, 10, 100, 1000, 10,000, 100,000 more or less than</li> </ul>
Place Value (Negative Numbers)	<p>Use negative numbers in context, and calculate intervals across zero.</p>	<ul style="list-style-type: none"> <li>Label number line with negative numbers</li> <li>Infer missing numbers</li> <li>Justify statements including negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>Understand numbers below 0</li> <li>Count through zero</li> <li>Compare and solve problems with temperature scales</li> </ul>
Addition and Subtraction	<p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p>	<ul style="list-style-type: none"> <li>Follow methods for addition and subtraction formal written methods.</li> <li>Explain errors in formal written methods</li> <li>Choose appropriate methods to answer addition and subtractions</li> <li>Estimate answers</li> <li>Calculate using the inverse</li> <li>Solve problems including addition and subtractions</li> <li>Justify statements including negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract in 100s, 1000s, 10,000s (mentally)</li> <li>Use column method</li> <li>Estimate answers to calculations, then check</li> <li>Compare number sentences following calculations</li> <li>Complements to 100 and 1000</li> </ul>



## Year 6: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Multiplication & Division	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</p> <p>Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context .</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p> <p>Identify common factors, common multiples and prime numbers.</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p>	<ul style="list-style-type: none"> <li>Follow methods to use formal methods to multiply and divide</li> <li>Calculate division with remainders</li> <li>Modify remainders into context</li> <li>Identify common factors, multiples and prime number</li> <li>Calculate multiplication and division questions mentally</li> <li>Estimate answers</li> <li>Solve number problems including all operations</li> <li>Explain the process of formal methods</li> <li>Justify answers by using the inverse</li> </ul>	<ul style="list-style-type: none"> <li>Multiply up to a 4-digit by 1-digit number</li> <li>Use short division method</li> <li>Division using factors</li> <li>Use long division method</li> <li>Understand common factors</li> <li>Understand common multiples</li> <li>Order of operations</li> <li>Mental calculations and estimation</li> <li>Reasoning from known facts</li> </ul>
Multiplication & Division	<p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places multiply one-digit numbers with up to two decimal places by whole numbers.</p> <p>Use written division methods in cases where the answer has up to two decimal places.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p>	<ul style="list-style-type: none"> <li>Follow methods to multiply and divide by 10, 100, 1000</li> <li>Recall process for multiplying and dividing by 10, 100, 1000</li> <li>Identify the value of a given digit in a number</li> <li>Solve problems including multiplication and division rounding answers</li> <li>Justify accuracy of methods used</li> </ul>	<ul style="list-style-type: none"> <li>Using place value charts</li> <li>Understanding decimal places</li> <li>Rounding accurately</li> <li>Show value of given numbers</li> </ul>
Fractions	<p>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.</p> <p>Compare and order fractions, including fractions <math>&gt; 1</math>.</p>	<ul style="list-style-type: none"> <li>Follow instructions to simplify fractions</li> <li>Classify fractions of same equivalence</li> <li>Solve multi step problems involving equivalent fractions</li> </ul>	<ul style="list-style-type: none"> <li>Read write order compare fractions</li> <li>Use concrete resources</li> <li>Simplify fractions</li> <li>Fractions on a number line</li> <li>Compare and order fractions by the denominator</li> <li>Compare and order fractions by the numerator</li> </ul>





## Year 6: Autumn Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Fractions (Operations)	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	<ul style="list-style-type: none"> <li>Follow methods to convert fraction to same denominator</li> <li>Follow methods to convert fraction to add and subtract fractions</li> <li>Explain methods to add and subtract fractions</li> <li>Create problems involving adding and subtracting fractions</li> </ul>	<ul style="list-style-type: none"> <li>Adding fractions</li> <li>Subtracting fractions</li> <li>Representing fractions</li> <li>Mixed addition and subtraction problems</li> <li>Understand adding fractions (using pictures, objects and numerals)</li> <li>Add 2 or more fractions</li> </ul>
Fractions (Operations)	<p>Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>4 \frac{1}{2} \times 2 \frac{1}{2} = 8 \frac{1}{2}</math>].</p> <p>Divide proper fractions by whole numbers [for example, <math>3 \frac{1}{2} \div 2 = 6 \frac{1}{2}</math>].</p> <p>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>].</p>	<ul style="list-style-type: none"> <li>Recall process for multiplying pairs of fractions</li> <li>Match questions with answers</li> <li>Explain concepts</li> <li>Solve multiplication and division problems</li> </ul>	<ul style="list-style-type: none"> <li>Use concrete resources</li> <li>Multiply fractions by fraction</li> <li>Divide a fraction by a whole number</li> <li>Understand multiplying and dividing fractions with strategies to support</li> <li>Explore multiplying and dividing fractions by each other and by whole numbers</li> </ul>



## Year 6: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
FDP	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	<ul style="list-style-type: none"> <li>Recall equivalent fractions, decimals and percentages</li> <li>Infer missing values</li> <li>Compare values</li> <li>Solve non-routine problems</li> <li>Hypothesise theories</li> </ul>	<ul style="list-style-type: none"> <li>Understand fractions, decimals and percentages are equivalent</li> <li>Use concrete resources to represent</li> <li>Solve problems involving fractions, decimals and percentages</li> <li>Order and compare</li> </ul>
Measurement (Area, Perimeter & Volume)	<p>Recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>Recognise when it is possible to use formulae for area and volume of shapes.</p> <p>Calculate the area of parallelograms and triangles.</p> <p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [for example, mm<sup>3</sup> and km<sup>3</sup>].</p>	<ul style="list-style-type: none"> <li>Follow methods to calculate area</li> <li>Modify shapes to certain area</li> <li>Recognise shapes with equivalent areas</li> <li>Decide to use appropriate formulae</li> <li>Prove statements regarding area</li> </ul>	<ul style="list-style-type: none"> <li>Understand different shapes can have the same area</li> <li>Find area and perimeter</li> <li>Find area of a triangle</li> <li>Area of a parallelogram</li> <li>Volume – counting cubes</li> <li>Volume of a cuboid</li> </ul>
Measurement (Converting Measures)	<p>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.</p> <p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</p> <p>Convert between miles and kilometres.</p>	<ul style="list-style-type: none"> <li>Identify appropriate unit of measure</li> <li>Classify measures</li> <li>Compare units of measure</li> <li>Estimate measures</li> <li>Solve problems including measure</li> <li>Create measures problems</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use metric measures</li> <li>Convert metric measures</li> <li>Calculate with metric measures</li> <li>Understand and convert miles and kilometres</li> <li>Understand and use imperial measures</li> <li>Solve problems including measures</li> </ul>
Geometry (Properties of Shape)	<p>Draw 2-D shapes using given dimensions and angles.</p> <p>Recognise, describe and build simple 3-D shapes, including making nets.</p> <p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.</p> <p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</p>	<ul style="list-style-type: none"> <li>Draw 2D shapes accurately</li> <li>Label parts of a circle</li> <li>Recall properties of 2D and 3D shapes</li> <li>Classify shapes</li> <li>Compare shapes</li> <li>Justify statements related to shape</li> </ul>	<ul style="list-style-type: none"> <li>Memorise the properties of shapes</li> <li>Use concrete examples of shapes</li> <li>Use language: radius, diameter, circumference</li> <li>Opportunities to apply knowledge</li> <li>Demonstrate understanding of nets for 3D shapes</li> </ul>



## Year 6: Spring Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Geometry (Position & Direction)	<p>Describe positions on the full coordinate grid (all four quadrants).</p> <p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes</p>	<ul style="list-style-type: none"><li>• Describe position of shape on coordinate grid</li><li>• Modify shapes by reflecting and translating</li><li>• Create shapes in quadrants with certain criteria</li></ul>	<ul style="list-style-type: none"><li>• Plot coordinates in the first quadrant</li><li>• Plotting coordinates in all quadrants</li><li>• Translations and reflections</li><li>• Reasoning about shapes with coordinates</li></ul>
Geometry (Angles)	<p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p>	<ul style="list-style-type: none"><li>• Label angles</li><li>• Name angles</li><li>• Estimate angles</li><li>• Create angles with criteria</li><li>• Justify statements relating to angles</li></ul>	<ul style="list-style-type: none"><li>• Measure with a protractor within 1 degree accuracy</li><li>• Calculate angles within shapes or on line</li><li>• Vertically opposite angles</li><li>• Calculate angles in triangles</li><li>• Find missing angles</li><li>• Calculate angles in quadrilaterals</li></ul>



## Year 6: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
Statistics	<p>Interpret and construct pie charts and line graphs and use these to solve problems.</p> <p>Calculate and interpret the mean as an average.</p>	<ul style="list-style-type: none"> <li>● Label pie charts</li> <li>● Follow methods to calculate mean</li> <li>● Explain methods for using pie charts</li> <li>● Modify pie charts</li> <li>● Solve multi– step problems</li> </ul>	<ul style="list-style-type: none"> <li>● Read and interpret pie charts</li> <li>● Use and understand pie charts with percentages</li> <li>● Draw pie charts</li> <li>● Calculate the mean as an average</li> </ul>
Ratio & Proportion	<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</p> <p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>	<ul style="list-style-type: none"> <li>● Arrange ratio and proportion using objects</li> <li>● Categorise into given ratios</li> <li>● Choose an appropriate ratio</li> <li>● Hypothesis statements with ratio</li> </ul>	<ul style="list-style-type: none"> <li>● Using ratio language</li> <li>● Ratio and fractions</li> <li>● Introducing the ratio symbol</li> <li>● Calculating ratio</li> <li>● Using scale factors</li> <li>● Calculating scale factors</li> <li>● Ratio and proportion problems</li> </ul>
Algebra	<p>Use simple formulae.</p> <p>Generate and describe linear number sequences and express missing number problems algebraically.</p> <p>Find pairs of numbers that satisfy an equation with two unknowns.</p> <p>Enumerate possibilities of combinations of two variables. missing numbers, lengths, coordinates and angles.</p> <p>Formulae in mathematics and science.</p> <p>Equivalent expressions (for example, <math>a + b = b + a</math>).</p> <p>Generalisations of number patterns.</p> <p>Number puzzles (for example, what two numbers can add up to).</p>	<ul style="list-style-type: none"> <li>● Follow instructions to use simple formulae</li> <li>● Solve problems including formulae</li> <li>● Decide on methods to solve algebra problems</li> <li>● Prove statements involving formulae</li> </ul>	<ul style="list-style-type: none"> <li>● Find a rule in algebra</li> <li>● Use an algebraic rule</li> <li>● Substitution</li> <li>● Understanding formulae</li> <li>● Solve simple one step and two step equations</li> <li>● Find pairs of values</li> <li>● Enumerate possibilities</li> </ul>



## Year 6: Summer Term Scheme of Learning

Area of Maths	National Curriculum Objectives	Pre/Post Assessment	Essential Coverage
4 Operations	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</p> <p>Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p> <p>Identify common factors, common multiples and prime numbers.</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. solve problems involving addition, subtraction, multiplication and division.</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of</p>	<ul style="list-style-type: none"> <li>• Match answers to questions</li> <li>• Use mental methods to calculate</li> <li>• Decide on appropriate methods</li> <li>• Solve problems including all operations</li> <li>• Solve non-routine problems</li> <li>• Design questions including all operations</li> </ul>	<ul style="list-style-type: none"> <li>• Use formal written methods</li> <li>• Practise mental strategies</li> <li>• Solve a variety of problems including four operations</li> <li>• Use language alternatives for addition, subtraction multiplication and division</li> </ul>