



## Mathematics Subject Overview

### Preschool Autumn

<b>Colours!</b> Learning about different primary colours. Noticing colours in our world.	<b>Matching &amp; Sorting</b> Make comparisons and comparing amounts due to size, colour and weight.	<b>Number 1 &amp; Number 2</b> Introducing numbers, noticing numbers 1 and 2 in the environment. Linking numerals and amounts up to 2.	<b>Patterns</b> Notice patterns and arrange objects into patterns.
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### Preschool Spring

<b>Number 3 &amp; Number 4</b> Introducing numbers, noticing numbers 3 and 4 in the environment. Linking numerals and amounts up to 4.	<b>Number 5 &amp; Number 6</b> Introducing numbers, noticing numbers 5 and 6 in the environment. Linking numerals and amounts up to 6.	<b>Height &amp; Length</b> Compare the height of 2 objects. Identify which is taller and which is shorter. Explore measuring equipment such as tape measures within provision to notice height in our environment.	<b>Capacity</b> Compare the weight of 2 objects. Identify which is lighter and which is heavier. Explore measuring equipment such as scales within provision to notice weight in our environment.
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### Preschool Summer

<b>Sequencing</b> Begin to describe a sequence of events, real or fictional. Using terms such as first and last. Discuss routes and locations, and describe a familiar route.	<b>Position</b> Understand positional language such as on, under, over and through and use these within provision.	<b>More than/fewer</b> To compare quantities using language such as more than and fewer.	<b>2D/3D shapes</b> Learn all about different shapes. Use shapes in our environment to make different models, constructions. Matching objects due to shape.
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Reception	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p><b>Getting to Know You</b> Settling in Baseline</p> <p><b>Match, Sort and Compare</b> Match Objects Match pictures and objects Identify a set Sort objects to a type Explore sorting techniques Create sorting rules Compare amounts</p> <p><b>Mastery Number weeks 1-5</b> Subitising within 3 Counting skills Explore how all numbers are made of 1's Composition of 3 and 4 Subitise objects and sounds Comparison of sets- "just by looking"</p>	<p><b>Talk about Measure and Pattern</b> Compare Size Compare Mass Compare Capacity Explore Simple Patterns Copy and Continue Patterns Create Simple Patterns</p> <p><b>Circles and Triangles</b> Identify and name circles and triangles. Compare circles and triangles describe Shapes in the environment position</p> <p><b>Mastery Number weeks 6-10</b> Counting skills, the "five-ness of 5"</p>	<p><b>Shapes with 4 Sides</b> identify and name shapes with 4 sides combine shapes with 4 sides shapes in the environment my day and night</p> <p><b>Mass and Capacity</b> compare mass find a balance explore capacity compare capacity</p> <p><b>Mastery Number weeks 11-15</b> Subitise within 5 Match numerals to quantities within 5 Counting/ ordinality- the staircase pattern One more than Focus on 5</p>	<p><b>Length, Height and Time</b> explore and compare length explore and compare height talk about time order and sequence time</p> <p><b>Explore 3D Shapes</b> recognise and name 3D shapes find 2D shapes within 3D shapes 3D shapes in the environment identify more complex patterns copy and continue patterns in the environment</p> <p><b>Mastery Number weeks 16-20</b> Staircase pattern- ordering numbers Ordering numbers to 8</p>	<p><b>Manipulate, compose and decompose</b> select shapes for a purpose rotate and manipulate shapes explain shape arrangements compose and decompose shapes find 2D shapes within 3D shapes</p> <p><b>Mastery Number weeks 21-25</b> Counting larger sets and things that cannot be seen Subitising to 6 Composition- 5 and a bit Composition of 10 Composition linked to ordinality Play track games</p>	<p><b>Visualise, build and map</b> identify units of repeating patterns create and explore own pattern rules describe positions explore mapping</p> <p><b>Make connections</b> Deepen understanding patterns and relationships <b>Consolidation</b></p> <p><b>Mastery Number weeks 26</b> Subitise to 5 Introduce the rekenrek</p> <p><b>Mastery Number weeks 27-31</b> <b>Review and assess</b> Automatic recall of bonds to 5 Composition of numbers to 10 Comparison</p>



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	Use the language more than and fewer than.	Comparison of sets by matching The language of comparison: more than, fewer, than and an equal number Explore the concept of whole and part Composition of 3,4 and 5 Counting objects Match numerals to quantities within 10 Verbal counting beyond 20.	Focus on 6 and 7 as "5 and a bit" Compare sets and use the language of comparison Make unequal sets equal	Use language of less than Focus on 7 Doubles/ 2 equal parts Sorting numbers/ odd and even numbers		Number Patterns Counting
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By the end of the Reception Year the children will be able to:

Number

ELG: Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; 14 - Subitise (recognise quantities without counting) up to 5; - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns

ELG: Children at the expected level of development will: - Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.



## Year 1 Autumn

### Number: Place Value

- Count to 10 forwards and backwards beginning with 0 or 1 or from any given number
- Count, read and write numbers to 10 in numerals; count in multiples of twos, fives and tens.
- Given a number, identify one more or one less
- Identify and represent numbers using objects and pictorial representation including a number line and use the language of equal to, more than, less than, (fewer) most, least
- Read and write numbers from 1 to 10 in numerals and words.

### Number: Addition and Subtraction

- Read, write and interpret mathematical statements involving addition, subtraction and equal signs
- Represent and use number bonds and related subtraction facts within 10
- Add and subtract one-digit numbers to 10 including 0
- Solve one step problems that involve addition and subtraction using concrete objects and pictorial representation and missing number problems.

### Properties of Shapes

- Recognise and name common 2-D shapes e.g. square, circle and triangles
- Recognise and name common 3-D shapes e.g. Cuboids, cubes, pyramids and spheres



## Year 1 Spring

### Place Value within 20

- Count to 20 forwards and backwards, beginning with 0 or 1, or from any given number
- Count, read and write numbers to 20 in numerals; count in multiples of twos, fives and tens.
- Given a number identify one more or one less
- Identify and represent numbers using objects and pictorial representation including a number line and use the language of equal to, more than, less than, (fewer) most, least
- Read and write numbers to 20 in numerals and words.

### Number: Addition and Subtraction

- Represent and use number bonds and related subtraction facts within 20.
- Read, write and interpret mathematical statements involving addition, subtraction and equal signs
- Add and subtract one-digit and two-digit numbers to 20 including 0
- Solve one step problems that involve addition and subtraction using concrete objects and pictorial representations, and missing number problems such as  $7 = ? - 9$

### Place Value within 50

- Count to 50 forwards and backwards beginning with 0 or 1 or from any given number
- Count, read and write numerals to 50 in numerals and words
- Given a number, identify one more or one less
- Identify and represent numbers using objects and pictorial representation including a number line
- Use the language of equal to, more than, less than, (fewer) most, least
- Count in multiples of 2's, 5's and 10's

### Measurement: Length and Height

- Measure and begin to record lengths and heights
- Compare, describe and solve practical problems for lengths and heights e.g. long/short, longer/shorter, tall/short, double/half

### Measurement: Mass and Volume

- Measure and begin to record mass/weight, capacity and volume
- Compare, describe and solve practical problems for mass/weight e.g. heavy/light, heavier than/lighter than, capacity and volume e.g. full/empty, more than/less than, half, half full, quarter



Year 1 Summer					
<b>Number: Multiplication and Division</b> <ul style="list-style-type: none"><li>• Solve one step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</li></ul>	<b>Fractions</b> <ul style="list-style-type: none"><li>• Recognise, find and name a half as one of two equal parts of an object, shape or quantity</li><li>• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</li></ul>	<b>Geometry: Position and Direction</b> <ul style="list-style-type: none"><li>• Describe position, direction and movement including whole, half, quarter and three-quarter turns</li></ul>	<b>Place Value to 100</b> <ul style="list-style-type: none"><li>• -Count to and across 100 forwards and backwards beginning with 0 or 1 or from any given number</li><li>• -Count, read and write numerals to 100 in numerals and words</li><li>• -Given a number, identify one more or one less</li><li>• Identify and represent numbers using objects and pictorial representation including a number line</li><li>• -Use the language of equal to, more than, less than, (fewer) most, least</li></ul>	<b>Measurement: Money</b> <ul style="list-style-type: none"><li>• -Recognise and know the value of different denominations of coins and notes</li></ul>	<b>Measurement: Time</b> <ul style="list-style-type: none"><li>• -Sequence events in chronological order using language eg before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</li><li>• -Recognise and use language relating to dates including days of the week, weeks, months and years</li><li>• Tell the time to the hour and half past the hour and draw hands on a clock face to show these times</li><li>• -Compare, describe and solve practical problems for time e.g. quicker, slower, earlier, later</li><li>• -Measure and begin to record</li></ul>



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					time e.g. hours, minutes seconds
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<b>Year 2 Autumn</b>			
<b>Place Value</b>	<b>Number: Addition and Subtraction</b>	<b>Measurement: Money</b>	<b>Number: Multiplication and Division</b>
<p>-Read and write numbers to at least 100 in numerals and words.</p> <p>-Recognise the place value of each digit in a 2-digit number (tens &amp; ones) Identify, represent and estimate numbers using different representations including the number line.</p> <p>-Compare and order numbers from 0 – 100; use &lt; &gt; and = signs.</p> <p>-Use place value and number facts to solve problems</p> <p>-Count in steps of 2,3, 5 and tens from any number forwards and backwards</p>	<p>-Recall and use addition &amp; subtraction facts to 20 fluently. Derive and use related facts up to 100.</p> <p>-Add &amp; subtract numbers using concrete objects, pictorial representations and mentally, including two digit numbers and ones, two digit numbers and tens.</p> <p>-Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>-Solve problems with addition and subtraction: using concrete objects and pictorial representations. Include problems involving numbers, quantities and measures.</p> <p>-Recognise and use the inverse relationship between addition and subtraction.</p> <p>-Use this to check calculations and solve missing number problems</p>	<p>-Recognise and use symbols for pounds and pence (£/p) Combine amounts to make a particular value</p> <p>-Find different combinations of coins that make the same amount of money</p> <p>-Solve simple problems practically, including addition and subtraction and giving change.</p>	<p>-Recall and use multiplication facts for 2, 5 and 10 times tables including recognising odd and even numbers</p> <p>-Calculate mathematical statements for 2, 5 and 10's using multiplication and division using <math>\times</math>, <math>\div</math> and =</p> <p>-Solve problems using multiplication and division using, materials, arrays, repeated addition and mental methods.</p> <p>-Show that multiplication of two numbers can be done in any order (commutative) but division cannot.</p>





Year 2 Spring				
Number: Multiplication and Division	Number: Addition and Subtraction	Geometry: Properties of shape	Fractions	Measurement: Length & Weight
<p>-Recall and use multiplication facts for 2, 5 and 10-times tables including recognising odd and even numbers</p> <p>-Calculate mathematical statements for 2, 5 and 10's using multiplication and division using <math>\times</math>, <math>\div</math> and <math>=</math></p> <p>-Solve problems using multiplication and division using, materials, arrays, repeated addition and mental methods.</p> <p>-Show that multiplication of two numbers can be done in any order (commutative) but division cannot.</p>	<p>-Add &amp; subtract numbers using concrete objects, pictorial representations and mentally, including two-digit number and two-digit number and adding 3 one digit numbers.</p> <p>-Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>-Solve problems with addition and subtraction: using concrete objects and pictorial representations. Include problems involving numbers, quantities and measures.</p> <p>-Recognise and use the inverse relationship between addition and subtraction. Use this to check calculations and solve missing number problems</p>	<p>-Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line</p> <p>-Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.</p> <p>-Identify 2D shapes on the surface of 3D shapes e.g a circle on a cylinder and a triangle on a pyramid.</p> <p>-Compare and sort common 2D and 3D shapes and everyday objects.</p>	<p>-Recognise, find, name and write fractions of a length, shape, set of objects or quantity <math>\frac{1}{2}</math> <math>\frac{1}{3}</math> <math>\frac{1}{4}</math> <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math></p> <p>-Write simple fractions for example <math>\frac{1}{2}</math> of 6 = 3</p> <p>Recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></p>	<p>-Choose and use appropriate standards of units to estimate and measure length/height (m/cm) in any direction; mass (kg/g), temperature (<math>^{\circ}</math>C), capacity (l/ml).</p> <p>-Use rulers, scales thermometers and measuring vessels to the nearest unit.</p> <p>-Compare and order lengths, mass, volume/capacity and record the results using <math>&lt;</math> <math>&gt;</math> and <math>=</math></p>



<b>Year 2 Summer</b>			
<b>Geometry: Position and Direction</b>	<b>Measurement: Time</b>	<b>Statistics</b>	<b>Measurement: Mass, Capacity &amp; Temperature</b>
<p>-Use mathematical vocabulary to describe position, direction and movement including in a straight line.</p> <p>-Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)</p> <p>-Order and arrange combinations of mathematical objects in patterns and sequences.</p>	<p>-Tell and write the time to five minutes, including quarter past/to the hour.</p> <p>-Draw hands on a clock to show these times</p> <p>-Know the number of minutes in an hour and the number of hours in a day</p> <p>-Compare and sequence intervals of time</p>	<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>	<p>-Choose and use appropriate standards of units to estimate and measure length/height (m/cm) in any direction; mass (kg/g), temperature (°C), capacity (l/ml).</p> <p>-Use rulers, scales thermometers and measuring vessels to the nearest unit.</p> <p>-Compare and order lengths, mass, volume/capacity and record the results using &lt; &gt; and =</p>



<b>Year 3 Autumn</b>		
<b>Number: Place Value</b>	<b>Number: Addition and Subtraction</b>	<b>Number: Multiplication and Division</b>
<ul style="list-style-type: none"><li>-Recognise the place value of each digit in a three-digit number</li><li>-Identify, represent and estimate using different representations</li><li>-Find 10 or 100 more or less than a given number</li><li>-Compare and order numbers up to 1000</li><li>-Read and write numbers in numerals and words up to 1000</li><li>-Solve number problems and practical problems involving these ideas.</li><li>-Count from 0 in multiples of 4, 8, 50 and 100.</li></ul>	<ul style="list-style-type: none"><li>-Add and subtract numbers mentally including: 3 digits and ones, 3 digits and tens, 3 digits and hundreds.</li><li>-Estimate the answer to a calculation and use inverse operations to check answers</li><li>-Solve problems, including missing numbers, using number facts, place value and more complex addition and subtraction.</li></ul>	<ul style="list-style-type: none"><li>-Count from 0 in multiples of 4, 8, 50 and 100</li><li>-Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</li></ul>



<b>Year 3 Spring</b>			
<b>Number: Multiplication and Division</b>	<b>Measurement: Length and Perimeter</b>	<b>Number: Fractions</b>	<b>Measurement: Mass &amp; Capacity</b>
<p>-Write and calculate multiplication and division statements for the tables known including 2 digits times 1-digit numbers using mental and formal written methods</p> <p>-Solve problems, including missing numbers involving multiplication and division.</p> <p>-Solve problems including positive integer scaling and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects</p>	<p>-Measure, compare, add and subtract lengths (m/cm/mm), mass (kg/g) and volume/capacity (l/ml)</p> <p>-Measure the perimeter of simple 2D shapes.</p>	<p>-Recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>-Compare and order unit fractions, and fractions with the same denominators</p> <p>-Solve problems that involve all the above</p>	<p>-Measure, compare, add and subtract lengths (m/cm/mm), mass (kg/g) and volume/capacity (l/ml)</p>



Year 3 Summer				
Number: Fractions	Measurement: Money	Measurement: Time	Geometry: Properties of Shape	Statistics
<p>-Compare and order unit fractions, and fractions with the same denominators</p>	<p>-Add and subtract amounts of money to give change using £ and p in practical contexts.</p>	<p>-Tell and write the time from an analogue clock -Tell and write the time from an analogue clock with Roman Numerals I to XII -Tell the 12 hour and 24-hour time -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, am/pm, morning, afternoon, noon and midnight -Know the number of seconds in a minute -Know the number of days in each month -Know the number of days in a year and leap year <b>-Compare durations of events (time taken by particular events or tasks)</b></p>	<p>-Recognise angles as a property of shape or a description of a turn -Identify right angles -Recognise that 2 right angles make a half turn, 3 make three quarters of a turn, and 4 make a complete turn -Identify whether angles are greater than or less than a right angle -Identify horizontal and vertical lines. Identify pairs of perpendicular and parallel lines -Draw 2D shapes and make 3D shapes using modelling material -Recognise 3D shapes in different orientations and describe them</p>	<p>-Interpret and present data using bar charts, pictograms and tables -Using information presented in scaled bar charts, pictograms and tables, solve one step and two step questions e.g. How many more? How many fewer?</p>



<b>Year 4 Autumn</b>			
<b>Number: Place Value</b>	<b>Number: Addition and Subtraction</b>	<b>Measurement: Area</b>	<b>Number: Multiplication and Division</b>
<ul style="list-style-type: none"><li>-Count in multiples of 6, 7, 9, 25 and 1000</li><li>-Find 1000 more or less than a given number</li><li>-Recognise the place value of each digit in a 4-digit number</li><li>-Order and compare numbers beyond 1000</li><li>-Identify, represent and estimate numbers using different representations</li><li>-Round any number to the nearest 10, 100 and 1000</li><li>-Count backwards through zero to negative numbers</li><li>-Solve number and practical problems will all of the above.</li></ul>	<ul style="list-style-type: none"><li>-Add and subtract numbers with up to 4 digits using the formal written method of columnar addition and subtraction where appropriate</li><li>-Estimate and use inverse operations to check answers to a calculation</li><li>-Solve addition and subtraction two step problems in context, deciding which operations and methods to use and why.</li></ul>	<ul style="list-style-type: none"><li>-Find the area of rectilinear shapes by counting squares</li></ul>	<ul style="list-style-type: none"><li>- Recall and use multiplication and division facts for multiplication tables up to 12 X 12</li><li>-Count in multiples of 6, 7, 9, 25 and 1000</li><li>-Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1</li><li>-Multiplying together 3 numbers</li><li>-Solve problems involving multiplying and adding including using the distributive law to multiply 2-digit numbers by 1 digit; integer scaling problems and correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li></ul>



<b>Year 4 Spring</b>			
<b>Number: Multiplication and Division</b>	<b>Measurement: Length and Perimeter</b>	<b>Number: Fractions</b>	<b>Number: Decimals</b>
<ul style="list-style-type: none"><li>-Recognise and use factor pairs and commutativity in mental calculations</li><li>-Multiply 2 digit and 3-digit numbers by a one-digit number using formal written layout</li><li>-Solve problems involving multiplying and adding including using the distributive law to multiply 2-digit numbers by 1 digit; integer scaling problems and correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li></ul>	<ul style="list-style-type: none"><li>-Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m</li><li>-Convert between different units of measure e.g. km to m</li></ul>	<ul style="list-style-type: none"><li>-Recognise and show, using diagrams, families of common equivalent fractions</li><li>-Count up and down in hundredths</li><li>-Recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10</li><li>-Add and subtract fractions with the same denominator</li><li>-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</li></ul>	<ul style="list-style-type: none"><li>-Recognise and write decimal equivalents of any number of tenths or hundredths.</li><li>-Find the effect of dividing a one- or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li><li>-Solve simple measure and money problems involving fractions and decimals to two decimal places.</li><li>-Convert between different units of measure [for example, kilometre to metre]</li></ul>



<b>Year 4 Summer</b>					
<b>Number: Decimals</b> -Compare numbers with the same number of decimal places up to two decimal places. -Round decimals with one decimal place to the nearest whole number. -Recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ and $\frac{3}{4}$ -Understand the effect of dividing a one- or two-digit number by 10 or 100. -Identifying the value of the digits in the answer as ones, tenths and hundredths.	<b>Measurement: Money</b> -Estimate, compare and calculate different measures, including money in pounds and pence. -Solve simple measure and money problems involving fractions and decimals to two decimal places.	<b>Measurement: Time</b> -Read, write and convert time between analogue and digital 12- and 24-hour clocks. -Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	<b>Geometry: Properties of shape</b> -Identify acute and obtuse angles -Compare and order angles up to 2 right angles by size -Compare and classify geometric shapes including quadrilaterals and triangles, based on their properties and size -Identify lines of symmetry in 2D shapes presented in different orientations	<b>Statistics</b> -Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. -Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	<b>Geometry: Position and Direction</b> -Describe on a 2D grid as coordinates in the first quadrant -Plot specified points and draw sides to complete a given polygon -Describe movements between positions as translations of a given unit to the left/right and up/down.





## Year 5 Autumn

### Number: Place Value

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
- Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000
- Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000
- Solve number and practical problems that involve all the above
- Read Roman numerals up to 1,000 (M) and recognise years written in Roman numerals

### Number: Addition and Subtraction

- Add and subtract numbers mentally with increasingly large numbers
- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar)
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- Solve addition and subtraction multi-step problems in contexts, deciding with operations and methods to use and why.

### Number: Multiplication and Division

- Multiply and divide numbers mentally drawing upon known facts
- Multiply and divide whole numbers by 10, 100 and 1000
- Identify multiples and factors
- Find all factor pairs of a number and common factors of 2 numbers
- Recognise and use square numbers and cube numbers using the notations (*e.g.*  $3^2$  and  $4^3$ )
- Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes
- Know and use vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- Establish whether a number up to 100 is a prime and recall prime numbers up to 19

### Number: Fractions

- Compare and order fractions whose denominators are multiples of the same number.
- Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements  $>1$  as a mixed number  
e.g.  $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.



Year 5 Spring				
Number: Multiplication and Division	Number: Fractions	Number: Decimals and Percentages	Measurement: Perimeter and Area	Statistics
<p>-Multiply and divide numbers mentally drawing upon known facts.</p> <p>-Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for 2-digit numbers.</p> <p>-Divide numbers up to 4 digits by a 1- digit number using the formal written method of short division and interpret remainders appropriately for the context.</p> <p>-Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.</p>	<p>-Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p>	<p>-Read, write, order and compare numbers with up to three decimal places.</p> <p>-Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</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>-Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred',</p> <p>-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</p>	<p>-Measure and calculate the perimeter of composite rectilinear shapes in cm and m</p> <p>-Calculate and compare the area of rectangles (including squares) using standard units cm<sup>2</sup>/m<sup>2</sup></p> <p>-Estimate the area of irregular shapes</p>	<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>



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		fractions with a denominator of a multiple of 10 or 25		
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Year 5 Summer					
<b>Geometry: Shape</b> -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.	<b>Geometry: Position and Direction</b> -Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. -Use the properties of rectangles to deduce related facts and find missing lengths and angles. -Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. -Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. -Draw given angles and measure them in degrees. -Identify: angles at a point and one whole turn (total $360^\circ$ ), angles at a point on a straight line and $\frac{1}{2}$ a turn	<b>Number: Decimals</b> -Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. -Multiply 1-digit numbers with up to 2 decimal places by whole numbers. -Use written division methods in cases where the answer has up to 2 decimal places. -Solve problems which require answers to be rounded to specified degrees of accuracy.	<b>Negative numbers</b> -Interpret negative numbers in context -Count forwards and backwards with positive and negative whole numbers including through zero	<b>Measurement: Converting Units</b> -Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml] -Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. -Solve problems involving converting between units of time.	<b>Measurement: Volume</b> -Estimate volume (e.g. using $1\text{ cm}^3$ blocks to build cuboids, including cubes) and capacity (e.g. using water) -Use all 4 operations to solve problems involving measure



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	(total 180°) other multiples of 90°				
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<b>Year 6 Autumn</b>			
<b>Place Value</b>	<b>Number: Four Operations</b>	<b>Fractions</b>	<b>Measurement: Converting Units</b>
<ul style="list-style-type: none"><li>-Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit</li><li>-Round any whole number to a required degree of accuracy</li><li>-Use negative numbers in context and calculate intervals across zero</li><li>-Solve number and practical problems that involve all the above</li></ul>	<ul style="list-style-type: none"><li>-Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why</li><li>-Multiply multi-digit numbers up to 4 digits by a 2-digit number using the formal written method of long multiplication</li><li>-Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division.</li><li>-Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division</li></ul>	<ul style="list-style-type: none"><li>-Use common factors to simplify fractions</li><li>-Use common multiples to express fractions in the same denomination</li><li>-Compare and order fractions, including fractions <math>&gt;1</math></li><li>-Generate and describe linear number sequences (with fractions)</li><li>-Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions</li><li>-Multiply simple pairs of proper fractions writing the</li></ul>	<ul style="list-style-type: none"><li>-Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</li><li>-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 3 dp.</li><li>-Convert between miles and kilometres.</li></ul>



# St Jude's Catholic Primary School

	<ul style="list-style-type: none"><li>-Interpret remainders as whole number remainders, fractions or by rounding as appropriate for the context</li><li>-Perform mental calculations, including with mixed operations and large numbers</li><li>-Identify common factors, common multiples and prime numbers</li><li>-Use their knowledge of the order of operations to carry out calculations involving the four operations</li><li>-Solve problems involving addition, subtraction, multiplication and division</li><li>-Use estimation to check answers to calculations and determine in context of a problem, an appropriate degree of accuracy</li></ul>	<p>answer in its simplest form e.g. <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math></p> <ul style="list-style-type: none"><li>-Divide proper fractions by whole numbers e.g. <math>\frac{1}{3} \div 2 = \frac{1}{6}</math></li><li>-Associate a fraction with division and calculate decimal fraction equivalents</li><li>-Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li></ul>	
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Year 6 Spring					
Ratio	Algebra	Decimals	Fractions, decimals and percentages	Measurement: Perimeter, Area & Volume	Statistics
<ul style="list-style-type: none"><li>-Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</li><li>-Solve problems involving similar shapes where the scale factor is known or can be found.</li><li>-Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</li></ul>	<ul style="list-style-type: none"><li>-Use simple formulae.</li><li>-Generate and describe linear number sequences.</li><li>-Express missing number problems algebraically.</li><li>-Find pairs of numbers that satisfy an equation with two unknowns.</li><li>-Enumerate possibilities of combinations of two variables.</li></ul>	<ul style="list-style-type: none"><li>-Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places.</li><li>-Multiply 1-digit numbers with up to 2 decimal places by whole numbers.</li><li>-Use written division methods in cases where the answer has up to 2 decimal places.</li><li>-Solve problems which require answers to be rounded to specified degrees of accuracy.</li></ul>	<ul style="list-style-type: none"><li>-Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.</li><li>-Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.</li></ul>	<ul style="list-style-type: none"><li>-Recognise that shapes with the same areas can have different perimeters and vice versa.</li><li>-Recognise when it is possible to use formulae for area and volume of shapes.</li><li>-Calculate the area of parallelograms and triangles.</li><li>-Calculate, estimate and compare volume of cubes and cuboids using standard units, including <math>\text{cm}^3</math>, <math>\text{m}^3</math> and extending to other units (<math>\text{mm}^3</math>, <math>\text{km}^3</math>)</li></ul>	<ul style="list-style-type: none"><li>-Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</li><li>-Interpret and construct pie charts and line graphs and use these to solve problems.</li><li>-Calculate the mean as an average.</li></ul>





## Year 6 Summer SATS

### Properties of Shape

- Draw 2-D shapes using given dimensions and angles.
- Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
- Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

### Geometry: Position and Direction

- Describe positions on the full co-ordinate grid (all 4 quadrants)
- Draw and translate simple shapes on the co-ordinate plane and reflect them in the axes

### Transition

Complete transition units