

# Holy Trinity Maths Progression Map 2023-2024

Driven by the White Rose Maths SOW

NC objectives
RtP Criteria
ELG

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting	Verbally count beyond 20, recognising the pattern of the counting system	<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 numbers to 100 in numerals; count in multiples of twos, fives and tens</li> </ul>	<ul style="list-style-type: none"> <li>count in steps of 2, 5 and 10 from 0, and in tens from any number, forward and backward</li> </ul>	<ul style="list-style-type: none"> <li>count from 0 in multiples of 3, 4, 8, 50 and 100; find 10 or 100 more or less than a given number.</li> </ul>	<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>Count backwards through zero to include negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> </ul>	<ul style="list-style-type: none"> <li>use negative numbers in context, and calculate intervals across zero</li> </ul>
Place Value	<p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;</p> <ul style="list-style-type: none"> <li>compare numbers using vocabulary: 'more than', 'less than', 'fewer', 'the same as', 'equal to'</li> <li>understand the 'one more than/one less than' relationship between consecutive numbers</li> </ul>	<p><b>1NPV-1 Count within 100, forwards and backwards, starting with any number.</b></p> <p><b>1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using &lt; &gt; and =</b></p>	<p><b>2NPV-1 - recognise the place value of each digit in a two-digit number, and compose and decompose two-digit numbers using standard and non-standard partitioning. 2NPV-1</b></p> <p><b>2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10</b></p> <ul style="list-style-type: none"> <li>compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> </ul>	<ul style="list-style-type: none"> <li>compare and order numbers up to 1000</li> <li><b>3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10</b></li> <li><b>3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.</b></li> <li><b>3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.</b></li> <li><b>3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</b></li> </ul>	<ul style="list-style-type: none"> <li>order and compare numbers beyond 1000</li> <li>round any number to the nearest 10, 100 or 1000</li> <li><b>4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100</b></li> <li><b>4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.</b></li> <li><b>4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</b></li> <li><b>4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts.</b></li> </ul>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 1 000 000 and determine the value of each digit</li> <li>round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li><b>5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01</b></li> <li><b>5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.</b></li> <li><b>5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</b></li> <li><b>5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</b></li> <li><b>5NPV-5 Convert between units of measure, including using common decimals and fractions</b></li> </ul>	<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><b>6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).</b></li> <li><b>6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.</b></li> <li><b>6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</b></li> <li><b>6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</b></li> </ul>
Representing number	<ul style="list-style-type: none"> <li>Subitise (recognise quantities without counting) up to 5;</li> <li>link the number symbol (numeral) with its cardinal number value, up to 10</li> </ul>	<ul style="list-style-type: none"> <li>identify and represent numbers using objects and pictorial representations including the number line, &amp; use language of: equal to, more than, less than (fewer), most, least</li> <li>read and write numbers from 1 to 20 in numerals and words</li> <li>read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>read and write numbers to at least 100 in numerals and in words</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations</li> <li>read and write numbers up to 1000 in numerals and in words</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> <li>recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)</li> </ul>	
Representations	<ul style="list-style-type: none"> <li>Peg boards</li> <li>Numicon</li> <li>Rekenreks</li> <li>Counters</li> <li>Unifix blocks</li> <li>Part-whole model</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Tens frame</li> <li>Dienes</li> <li>Bead strings</li> <li>Rekenreks</li> <li>Cuisenaire rods</li> <li>Peg boards</li> <li>Numicon</li> <li>Rekenreks</li> <li>Counters</li> <li>Unifix blocks</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Bar model</li> <li>Tens frame</li> <li>Number lines</li> <li>Dienes</li> <li>Bead strings</li> <li>Rekenreks</li> <li>Cuisenaire rods</li> <li>Tables and graphs</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Bar model</li> <li>Tens frame</li> <li>Number lines</li> <li>Dienes</li> <li>Bead strings</li> <li>Place value counters</li> <li>Place value charts</li> <li>Column +, -, x and ÷</li> <li>Gattegno charts</li> <li>Cuisenaire rods</li> <li>Rekenreks</li> <li>Tables and graphs</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Bar model</li> <li>Tens frame</li> <li>Number lines</li> <li>Dienes</li> <li>Bead strings</li> <li>Place value counters</li> <li>Place value charts</li> <li>Column +, -, x and ÷</li> <li>Gattegno charts</li> <li>Cuisenaire rods</li> <li>Rekenreks</li> <li>Tables and graphs</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Bar model</li> <li>Tens frame</li> <li>Number lines</li> <li>Dienes</li> <li>Bead strings</li> <li>Place value counters</li> <li>Place value charts</li> <li>Column +, -, x and ÷</li> <li>Gattegno charts</li> <li>Cuisenaire rods</li> <li>Rekenreks</li> <li>Tables and graphs</li> </ul>	<ul style="list-style-type: none"> <li>Part-whole models</li> <li>Bar model</li> <li>Tens frame</li> <li>Number lines</li> <li>Dienes</li> <li>Bead strings</li> <li>Place value counters</li> <li>Place value charts</li> <li>Column +, -, x and ÷</li> <li>Gattegno charts</li> <li>Cuisenaire rods</li> <li>Rekenreks</li> <li>Tables and graphs</li> </ul>

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<b>Number facts (+/-)</b>	<p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</p> <p>Have a deep understanding of number to 10, including the composition of each number;</p> <p>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</p>	<p>*given a number, identify one more and one less</p> <p>*represent and use number bonds and related subtraction facts within 20</p> <p><b>1NF-1</b> Develop fluency in addition and subtraction facts within 10</p> <p><b>1NF-2</b> Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.</p>	<p>*use place value and number facts to solve problems</p> <p>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p><b>2NF-1</b> Secure fluency in addition and subtraction facts within 10, through continued practice.</p>	<p><b>3NF-1</b> Secure fluency in addition and subtraction facts that bridge 10, through continued practice</p> <p><b>3NF-2</b> Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.</p> <p><b>3NF-3</b> Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).</p>			
<b>Mental +/-</b>		<p>*add and subtract one-digit and two-digit numbers to 20, including zero</p> <p><b>IAS-1</b> Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.</p>	<p>*add and subtract numbers using concrete objects, pictorial representations, and mentally, including: TU+U, TU+T, TU+TU and U+U+U</p> <p>*show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</p> <p><b>2AS-1</b> Add and subtract across 10</p> <p><b>2AS-2</b> Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".</p>	<p>*add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H</p> <p><b>3AS-1</b> Calculate complements to 100</p>	<p>*add and subtract numbers mentally, including: ThHTU+U, ThHTU+T, ThHTU+H and ThHTU + Th</p>	<p>*add and subtract numbers mentally with increasingly large numbers</p>	<p>*perform mental calculations, including with mixed operations and large numbers</p>
<b>Written +/-</b>		<p><b>IAS-2</b> Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts</p>	<p><b>2AS-3</b> Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.</p> <p><b>2AS-4</b> Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.</p>	<p><b>3AS-2</b> Add and subtract up to three-digit numbers using columnar methods.</p> <p><b>3AS-3</b> Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.</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>*add and subtract whole numbers with more than 4 digits, including using formal written methods</p>	
<b>Problems +/-</b>	<p>* solve real world mathematical problems with numbers up to 10</p>	<p>*solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math>.</p>	<p>*solve problems with addition and subtraction, using concrete, pictorial and abstract representations</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>*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>*estimate and use inverse operations to check answers to a calculation</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>	
<b>Number facts (x/÷)</b>	<p>* explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally</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>*recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p>	<p><b>4NF-1</b> Recall multiplication and division facts up to <math>12 \times 12</math> and recognise products in multiplication tables as multiples of the corresponding number.</p> <p><b>4NF-2</b> Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.</p> <p><b>4NF-3</b> Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)</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 (non-prime) numbers</p> <p>*establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p><b>5NF-1</b> Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p> <p><b>5NF-2</b> Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).</p>	<p>*identify common factors, common multiples and prime numbers</p>
<b>Mental (x/÷)</b>			<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>*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 methods</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>*multiply and divide numbers mentally drawing upon known facts *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p>	<p>*perform mental calculations, including with mixed operations and large numbers</p>

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<b>Written (x/÷)</b>			<p>*show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</p> <p><b>2MD-1</b> Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.</p> <p><b>2MD-2</b> Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).</p>	<p>*Progress to informal written methods calculations as above</p> <p><b>3MD-1</b> Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.</p>	<p>*recognise and use factor pairs and commutativity in mental calculations</p> <p>*Progress to formal written methods calculations as above</p> <p>*multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p><b>4MD-1</b> Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</p> <p><b>4MD-2</b> Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.</p> <p><b>4MD-3</b> Understand and apply the distributive property of multiplication.</p>	<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>*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><b>5MD-1</b> Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</p> <p><b>5MD-2</b> Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.</p> <p><b>5MD-3</b> Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.</p> <p><b>5MD-4</b> Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.</p>	<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 context</p> <p><b>6AS/MD-1</b> Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</p>
<b>Problems (x/÷)</b>		<p>*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.</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>	<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> <p>Remainders are introduced +</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>	<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 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</p> <p>*use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</p> <p><b>6AS/MD-2</b> Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</p>
<b>Recognising fractions</b>		<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, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity</p>	<p>*count up and down in tenths;</p> <p>*recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</p> <p><b>3F-1</b> Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.</p> <p><b>3F-2</b> Find unit fractions of quantities using known division facts (multiplication tables fluency).</p>	<p>*count up and down in hundredths;</p> <p>*recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</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</p>	<p><b>6F-1</b> Recognise when fractions can be simplified, and use common factors to simplify fractions.</p>
<b>Comparing fractions</b>				<p>*compare and order unit fractions, and fractions with the same denominators</p> <p>*recognise and show, using diagrams, equivalent fractions with small denominators</p> <p><b>3F-3</b> Reason about the location of any fraction within 1 in the linear number system.</p>	<p>*recognise and show, using diagrams, families of common equivalent fractions</p> <p><b>4F-1</b> Reason about the location of mixed numbers in the linear number system.</p> <p><b>4F-2</b> Convert mixed numbers to improper fractions and vice versa.</p>	<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><b>5F-2</b> Find equivalent fractions and understand that they have the same value</p>	<p>*use common factors to simplify fractions</p> <p>*compare and order fractions, including fractions <math>&gt; 1</math></p> <p><b>6F-2</b> Express fractions in a common denomination and use this to compare fractions that are similar in value.</p>



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Finding fractions of quantities						and the same position in the linear number system.	6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denominator as a comparison strategy.
Fraction calculations			*write simple fractions for example, $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$ .	<p>3F-4 Add and subtract fractions with the same denominator, within 1</p> <p>4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.</p>	*add and subtract fractions with the same denominator	<p>*add and subtract fractions with the same denominator and denominators that are multiples of the same number</p> <p>*multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p> <p>5F-3 Recall decimal fraction equivalents for <math>1/4</math>, <math>1/2</math>, <math>1/5</math> and <math>1/10</math> and for multiples of these proper fractions.</p>	<p>*add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</p> <p>*multiply simple pairs of proper fractions, writing the answer in its simplest form</p> <p>*divide proper fractions by whole numbers</p>
Decimals as fractional amounts					<p>*recognise and write decimal equivalents of any number of tenths or hundredths</p> <p>*recognise and write decimal equivalents to <math>1/4</math>, <math>1/2</math> and <math>3/4</math></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>	<p>*read and write decimal numbers as fractions</p>	<p>*associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction</p> <p>*identify the value of each digit in numbers given to three decimal places</p>
Ordering decimals					<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>*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>*read, write, order and compare numbers with up to three decimal places</p>	
Calculating with decimals							<p>*multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</p> <p>*multiply one-digit number 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>
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 involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</p>
Fraction problems				*solve problems using all fraction knowledge	*solve simple measure and money problems involving fractions and decimals to two decimal places	<p>*solve problems involving number up to three decimal places</p> <p>*solve problems which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math> and those fractions with a denominator of a multiple of 10 or 25</p>	<p>*solve problems which require answers to be rounded to specified degrees of accuracy</p> <p>*recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p>
Ratio & Proportion							*solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

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	NC objectives	RtP Criteria	ELG				
							<ul style="list-style-type: none"> <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> <p>6AS/MD-3 Solve problems involving ratio relationships.</p>
<b>Algebra</b>		Note – although algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3					<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>•enumerate possibilities of combinations of two variables.</li> </ul> <p>6AS/MD-4 Solve problems with 2 unknowns.</p>
<b>Measures</b>	<ul style="list-style-type: none"> <li>• compare length, weight and capacity by making predictions and using vocabulary 'than' [for example, "This is heavier than that."]</li> </ul>	<ul style="list-style-type: none"> <li>•compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume &amp; time</li> <li>•measure and begin to record length/height, weight/mass, capacity/volume &amp; time</li> </ul>	<ul style="list-style-type: none"> <li>•choose and use appropriate standard units to estimate and measure length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>•compare and order lengths, mass, volume/capacity and record the results using &gt;, &lt; and =</li> </ul>	<ul style="list-style-type: none"> <li>•measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> </ul>	<ul style="list-style-type: none"> <li>•Convert between different units of measure, estimate, compare and calculate different measures, including money in pounds and pence</li> </ul>	<ul style="list-style-type: none"> <li>•convert between different units of metric measure</li> <li>•understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>•estimate volume and capacity</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 three decimal places convert between miles and kilometres</li> </ul>
<b>Mensuration</b>				<ul style="list-style-type: none"> <li>•measure the perimeter of simple 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>•measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares</li> </ul>	<ul style="list-style-type: none"> <li>•measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>•calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> </ul>	<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 cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units.</li> </ul>
<b>Money</b>		<ul style="list-style-type: none"> <li>•recognise and know the value of different denominations of coins and notes</li> </ul>	<ul style="list-style-type: none"> <li>•recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>•find different combinations of coins that equal the same amounts of money</li> <li>•solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> </ul>	<ul style="list-style-type: none"> <li>•add and subtract amounts of money to give change, using both £ and p in practical contexts</li> </ul>		<ul style="list-style-type: none"> <li>•use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> </ul>	
<b>Time</b>	<ul style="list-style-type: none"> <li>• begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' (3-4 Years)</li> </ul>	<ul style="list-style-type: none"> <li>•sequence events in chronological order using language 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 the hands on a clock face to show these times</li> </ul>	<ul style="list-style-type: none"> <li>•compare and sequence intervals of time</li> <li>•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</li> <li>•know the number of minutes in an hour and the number of hours in a day</li> </ul>	<ul style="list-style-type: none"> <li>•tell and write the time from an analogue clock,</li> <li>•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</li> <li>•know the number of seconds in a minute and the number of days in each month, year and leap year compare durations of events</li> </ul>	<ul style="list-style-type: none"> <li>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> <li>•Convert between different units of measure (e.g. Hours to minutes)</li> <li>•read, write and convert time between analogue and digital 12- and 24-hour clocks</li> </ul>	<ul style="list-style-type: none"> <li>•solve problems involving converting between units of time</li> </ul>	

# Holy Trinity Maths Progression Map 2023-2024

Driven by the White Rose Maths SOW

NC objectives
RtP Criteria
ELG

<b>Shape vocabulary</b>		<ul style="list-style-type: none"> <li>recognise and name common 2-D shapes (e.g. Square, circle, triangle)</li> <li>recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids &amp; spheres)</li> </ul>	(vertices, edges, faces, symmetry)	<ul style="list-style-type: none"> <li>identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li> </ul>	<ul style="list-style-type: none"> <li>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</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> </ul>
<b>Properties of 2-d shape</b>	<ul style="list-style-type: none"> <li>select, rotate and manipulate shapes in order to develop spatial reasoning skills</li> <li>compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can</li> <li>continue, copy and create repeating patterns [including AB, ABB and ABBC]</li> </ul>	<p><b>1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another</b></p> <p><b>1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</b></p>	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.</li> <li>compare and sort common 2-D and 3-D shapes and everyday objects.</li> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> </ul>	<ul style="list-style-type: none"> <li>draw 2-D shapes</li> <li>make 3-D shapes using modelling materials</li> <li>recognise 3-D shapes in different orientations and describe them</li> </ul> <p><b>3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.</b></p> <p><b>3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.</b></p>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes</li> <li>identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul> <p><b>4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</b></p> <p><b>4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.</b></p> <p><b>4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</b></p>	<ul style="list-style-type: none"> <li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units</li> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes based on their properties and sizes</li> <li>recognise, describe and build simple 3-D shapes, including making nets</li> <li>find unknown angles in any triangles, quadrilaterals, and regular polygons</li> </ul> <p><b>6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</b></p>
<b>Properties of 3-d shape</b>	<ul style="list-style-type: none"> <li>select, rotate and manipulate shapes in order to develop spatial reasoning skills</li> </ul>		<ul style="list-style-type: none"> <li>identify 2-D shapes on the surface of 3-D shapes. compare and sort common 2-D and 3-D shapes and everyday objects.</li> <li>2G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.</li> </ul>				
<b>Angles</b>				<ul style="list-style-type: none"> <li>recognise angles as a property of shape or a description of a turn</li> <li>identify right angles, recognise that two right angles make a halfturn, three make three quarters of a turn and four a complete turn</li> <li>identify whether angles are greater or less than right angle</li> </ul>	<ul style="list-style-type: none"> <li>identify acute and obtuse angles and compare and order angles up to two right angles by size</li> </ul>	<ul style="list-style-type: none"> <li>identify angles at a point and one whole turn (total 360°); at a point on a straight line and ½ a turn (total 180°)</li> <li>identify other multiples of 90°</li> <li>5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.</li> </ul>	<ul style="list-style-type: none"> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>
<b>Position &amp; Direction</b>		<ul style="list-style-type: none"> <li>describe position, direction and movement, including whole, half, quarter and three-quarter turns.</li> </ul>	<ul style="list-style-type: none"> <li>order and arrange combinations of mathematical objects in patterns and sequences.</li> <li>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 ¾ turns</li> </ul>		<ul style="list-style-type: none"> <li>describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>describe movements between positions as translations of a given unit to the left/right and up/down</li> <li>plot specified points and draw sides to complete a given polygon</li> </ul>	<ul style="list-style-type: none"> <li>identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</li> </ul>	<ul style="list-style-type: none"> <li>describe positions on the full coordinate grid (all four quadrants)</li> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul>
<b>Interpreting data</b>			<ul style="list-style-type: none"> <li>interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present data using bar charts, pictograms and tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li> </ul>	<ul style="list-style-type: none"> <li>complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs calculate and interpret the mean as an average</li> </ul>
<b>Extract info from data</b>			<ul style="list-style-type: none"> <li>ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>ask and answer questions about totalling and comparing categorical data</li> </ul>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</li> </ul>	<ul style="list-style-type: none"> <li>solve comparison, sum and difference problems using information presented in a line graph</li> </ul>	<ul style="list-style-type: none"> <li>use pie charts and line graphs to solve problems</li> </ul>

## Mathematics glossary for teachers (Key stage 1 – 3)

Provided by the National Centre for Excellence in the Teaching of Mathematics

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