



### Progression of skills: Maths - Number and Place Value

#### **Curriculum intent:**

At Shawclough, our intent for Mathematics is to teach a rich, balanced and progressive curriculum using Maths to reason, problem solve and develop fluent conceptual understanding in each area. Our curriculum allows children to better make sense of the world around them by making connections between Mathematics and everyday life. Our policies, resources and schemes of work support our vision and clearly outline where Maths can be incorporated across different curriculum areas. The structure of the Mathematics curriculum across school shows clear progression in line with age related expectations. Teaching curriculum content in blocks allows children to explore skills and knowledge in depth and gain a secure understanding of particular subject matter. Key knowledge and skills are also revisited regularly allowing repetition to embed learning. A concrete, pictorial, abstract approach provides children with a clear structure in which they can develop their depth of understanding of mathematical concepts. We aim to ensure that Mathematics is a high profile subject which children view positively and with a 'Can do' attitude.

For the youngest children developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationship between and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding- such as using manipulative, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes

<b>Intended Experiences Nursery</b>	<b>Intended experiences Reception</b>	<b>Early Learning Goal</b>
<p>To be interested in and sing number songs.</p> <p>To refer to numbers in play e.g. 'I have one, you have two</p> <p>To say one number for each item in order: 1, 2,3,4,5 ·</p> <p>To begin to learn how to touch count and line up objects (one-one)</p> <p>To recite numbers past 5</p> <p>To recognise some numerals in the environment.</p> <p>To begin to recognise of up to 3 objects, without having to count them individually ('subitising')</p> <p>To begin to experiment with their own symbols and marks as well as numerals</p> <p>To show 'finger numbers' up to 5. To make comparisons between quantities.</p> <p>To match number to quantity</p> <p>To show numbers to 5 using concrete resources and say one number name for each item. To recognise numbers to 5, match numeral and quantity to 5 and quickly say how many there are (up to 3) · To solve some simple problems with numbers to 5. To compare quantities using the vocabulary greater, less, more, fewer and the same</p>	<p>To quickly say how many there are (up to 3) in different arrangements · To start to show how numbers can be made up e.g. 1 and 3 is 4 and know there is more than one way of doing this</p> <p>To count objects, claps, movements up to 10 · To match numeral and quantity (within 10). To quickly say how many there are (up to 5), recall number bonds to 5 and start to give some linked subtraction facts · To begin to recall some double facts e.g. 1 and 1 is</p>	<p>Have a deep understanding of number to 10, including the composition of each number. · 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.</p>

### COUNTING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.			Count backwards through zero to include negative numbers.	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	Use negative numbers in context, and calculate intervals across zero.
Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	Count from 0 in multiples of 4, 8, 50 and 100.	Count in multiples of 6, 7, 9, 25 and 1000.	Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.	
Given a number, identify one more and more less.		Find 10 or 100 more or less than a given number.	Find 1000 more or less than a given number.		

### COMPARING NUMBERS

Use the language of: equal to, more than, less than (fewer), most, least.	Compare and order numbers from 0 up to 100; use <, > and = signs.	Compare and order numbers up to 1000.	Order and compare numbers beyond 1000	Read, write, order and compare numbers to at least 1 000 000 and determine the value of	Read, write, order and compare numbers up to 10 000 000 and determine the value of
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			<i>Compare numbers with the same number of decimal places up to two decimal places (copied from Fractions).</i>	each digit (appears also in Reading and Writing Numbers)	each digit (appears also in Reading and Writing Numbers)
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**IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS**

Identify and represent numbers using objects and pictorial representations including the number line.	Identify, represent and estimate numbers using different representations, including the number line.	Identify, represent and estimate numbers using different representations.	Identify, represent and estimate numbers using different representations.		
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**READING AND WRITING NUMBERS (including Roman Numerals)**

Read and write numbers from 1 to 20 in numerals and words.	Read and write numbers to at least 100 in numerals and in words.	Read and write numbers up to 1000 in numerals and words	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.	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
		<i>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)</i>		Read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	

**UNDERSTANDING PLACE VALUE**

	Recognise the place value of each digit in a two-digit number (tens, ones)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
			<i>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 units, tenths and hundredths (copied from Fractions)</i>	<i>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions)</i>	<i>Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (copied from Fractions)</i>

**ROUNDING**

			Round any number to the nearest 10, 100 or 1000	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Round any whole number to a required degree of accuracy.
			<i>Round decimals with one decimal place to the nearest whole number (copied from Fractions)</i>	<i>Round decimals with two decimal places to the nearest whole number and to one decimal place (copied from Fractions)</i>	<i>Solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions)</i>

**PROBLEM SOLVING**

	Use place value and number facts to solve problems.	Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve number problems and practical problems that involve all of the above.	Solve number and practical problems that involve all of the above.
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<p>twenty, teens, numbers, eleven, twelve ...  twenty,  <b>Twenty-one, twenty-two ... one hundred</b>,  None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, <b>equal to, equivalent to</b>, is the same as, more, less, <b>most, least, many</b>, odd, even, <b>multiple of</b>, few, pattern, pair</p>	<p>twenty, teens, numbers, eleven, twelve ...  twenty,  Twenty-one, twenty-two ... one hundred, <b>two hundred ... one thousand</b>, None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, <b>threes, fours and so on</b>, equal to, equivalent to, is the same as, more, less, most, least, <b>tally</b>, many, odd, even, multiple of, <b>sequence, continue, predict</b>, few, pattern, pair, <b>rule, &gt; greater than, &lt; less than</b>.</p>	<p>twenty, teens, numbers, eleven, twelve ...  twenty,  Twenty-one, twenty-two ... one hundred, two hundred ... one thousand, None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, <b>threes, fours, eights, fifties</b> and so on <b>to hundreds</b>, equal to, equivalent to, is the same as, more, less, most, least, tally, many, odd, even, multiple of, <b>factor of</b>, sequence, continue, predict, few, pattern, pair, rule, <b>relationship, &gt; greater than, &lt; less than, Roman numerals</b>.</p>	<p>twenty, teens, numbers, eleven, twelve ...  twenty,  Twenty-one, twenty-two ... one hundred, two hundred ... one thousand, <b>ten thousand, hundred thousand, million</b>, None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, three, four, eights, fifties, <b>sixes, sevens, nines, twenty-fives</b> and so on to hundreds, equal to, equivalent to, is the same as, more, less, most, least, tally, many, odd, even, multiple of, factor of, sequence, continue, predict, few, pattern, pair, rule, relationship, <b>next, consecutive, &gt; greater than, &lt; less than, Roman numerals, integer, positive, negative, above/below zero, minus, negative numbers</b></p>	<p>twenty, teens, numbers, eleven, twelve ...  twenty,  Twenty-one, twenty-two ... one hundred, two hundred ... one thousand, ten thousand, hundred thousand, million, None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, three, four, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, equal to, equivalent to, is the same as, more, less, most, least, tally, many, odd, even, multiple of, factor of, <b>factor pair</b>, sequence, continue, predict, few, pattern, pair, rule, relationship, next, consecutive, &gt; greater than, &lt; less than, <b>≥ greater than or equal to, ≤ less than or equal to</b>, Roman numerals, integer, positive, negative, above/below zero, minus, negative numbers, <b>formula, divisibility, square number, prime number</b>,</p>	<p>twenty, teens, numbers, eleven, twelve ...  twenty,  Twenty-one, twenty-two ... one hundred, two hundred ... one thousand, ten thousand, hundred thousand, million, None, how many ... ?  Count, count (up) to, count on (from, to), count back (from, to)  <b>Forwards, backwards</b>, count in twos, twos, fives, tens, three, four, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, equal to, equivalent to, is the same as, more, less, most, least, tally, many, odd, even, multiple of, factor of, factor pair, sequence, continue, predict, few, pattern, pair, rule, relationship, next, consecutive, &gt; greater than, &lt; less than, <b>≥ greater than or equal to, ≤ less than or equal to</b>, Roman numerals, integer, positive, negative, above/below zero, minus, negative numbers, formula, divisibility, square number, prime number,</p>
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				ascending, descending order.	factorise, prime factor, ascending, descending order, digital total.
<p><b>Place Value</b></p> <p>Ones, tens, digit, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one less, ten less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, last, last but one, before, after, next, between, half-way between, above, below.</p>	<p>Ones, tens, hundreds, digit, one-, two- or three-digit number, place, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one less, ten less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, twenty-first, twenty-second ..., last, last but one, before, after, next, between, half-way between, above, below.</p>	<p>Ones, tens, hundreds, digit, one-, two- or three-digit number, place, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one hundred more, one less, ten less, one hundred less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, twenty-first, twenty-second ..., last, last but one, before, after, next, between, half-way between, above, below.</p>	<p>Ones, tens, hundreds, digit, one-, two- or three-digit number, place, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one hundred more, one thousand more, one less, ten less, one hundred less, one thousand less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, twenty-first, twenty-second ..., last, last but one, before, after, next, between, half-way between, above, below.</p>	<p>Ones, tens, hundreds, digit, one-, two- or three-digit number, place, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one hundred more, one thousand more, one less, ten less, one hundred less, one thousand less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, twenty-first, twenty-second ..., last, last but one, before, after, next, between, half-way between, above, below.</p>	<p>Ones, tens, hundreds, digit, one-, two- or three-digit number, place, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one hundred more, one thousand more, one less, ten less, one hundred less, one thousand less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third ... twentieth, twenty-first, twenty-second ..., last, last but one, before, after, next, between, half-way between, above, below.</p>
<p><b>Estimating</b></p> <p>Guess, how many ...?, estimate, nearly, roughly, close to, about the same as, just over,</p>	<p>Guess, how many ...?, estimate, nearly, roughly, close to, about the same as, just over,</p>	<p>Guess, how many ...?, estimate, nearly, roughly, close to, approximately,</p>	<p>Guess, how many ...?, estimate, nearly, roughly, close to, approximately,</p>	<p>Guess, how many ...?, estimate, nearly, roughly, close to, approximately,</p>	<p>Guess, how many ...?, estimate, nearly, roughly, close to, approximately,</p>



<p>just under, too many, too few, enough, not enough.</p>	<p>just under, <b>exact</b>, <b>exactly</b>, too many, too few, enough, not enough.</p>	<p><b>approximately</b>, about the same as, just over, just under, exact, exactly, too many, too few, enough, not enough, <b>round</b>, <b>nearest</b>, <b>round to the nearest</b> <b>ten</b>, <b>hundred</b>, <b>round up</b>, <b>round down</b>.</p>	<p>approximately, about the same as, just over, just under, exact, exactly, too many, too few, enough, not enough, round, nearest, round to the nearest ten, hundred, <b>thousand</b>, round up, round down.</p>	<p>approximately, about the same as, just over, just under, exact, exactly, too many, too few, enough, not enough, round, nearest, round to the nearest ten, hundred, thousand, <b>ten thousand</b>, round up, round down.</p>	<p>approximately, about the same as, just over, just under, exact, exactly, too many, too few, enough, not enough, round, nearest, round to the nearest ten, hundred, thousand, ten thousand, round up, round down.</p>
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