

# Waterville Primary School Progression of Skills and Vocabulary in MATHS

## Year 2

### KS1 National Curriculum

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the 4 operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

### By the end of Year 2 pupils should:

- \* Recognise the place value of each digit in two-digit numbers.
- \*Secure fluency in addition and subtraction fact within 10, through practice.
- \*Recognise the subtraction structure of 'difference' and answer "How many more..."
- \*Add and subtract any 2-digit numbers within 100.
- \*Use precise language to describe the properties of 2-D and 3-D shapes.
- \*Reason about the location of any two-digit number in a linear number system.
- \*Add and subtract across 10.
- \*Add and subtract within 100 by applying one-digit addition and subtraction facts.
- \*Recognise repeated addition contexts, representing them with multiplication equations.

## TEACH – MODEL – USE MANIPULATIVES – RECORD – INVESTIGATE – MASTER - REPEAT

## Year 2 Maths Skills

	Number – Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division	Number – Fractions	Algebra
	<p><b>Counting</b> To count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward.</p> <p><b>Comparing Numbers</b> To compare and order number from 0 up to 100; use &lt;, &gt; and = signs.</p> <p><b>Identifying, Representing and Estimating Numbers</b> To identify, represent and estimate numbers using different representations, including the number line.</p> <p><b>Reading and Writing Numbers</b> To read and write numbers to at least 100 in numerals and words.</p> <p><b>Understanding Place Value</b> To recognise the place value of each digit in a two-digit number (10s, 1s).</p> <p><b>Problem Solving</b> To use place value and number facts to solve problems.</p>	<p><b>Number Bonds</b> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p><b>Problem Solving</b> To solve problems with addition and subtraction: -using concrete objects and pictorial representations, including those involving numbers, quantities and measures. -applying their increasing knowledge of mental and written methods.</p> <p><b>Number Bonds</b> To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p><b>Mental Calculation</b> Add and subtract numbers using concrete objects.</p> <p><b>Inverse Operations, Estimating and Checking Answers</b> To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>	<p><b>Multiplication and Division Facts</b> To count in steps of 2, 3 and 5 from 0 and in 10s from any number, forward and backward.</p> <p><b>Mental Calculation</b> To show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p><b>Written Calculation</b> To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (/) and equal (=) signs.</p> <p><b>Problem Solving</b> To solve problems involving multiplication and division, mental methods, and multiplication and division facts, including problems in contexts.</p>	<p><b>Counting in Fractional Steps</b> To count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line.</p> <p><b>Recognising Fractions</b> To 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><b>Equivalence</b> To write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.</p>	<p><b>Equations</b> To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and <b>missing number</b> problems.</p> <p>To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p><b>Sequences</b> To compare and sequence intervals of time.</p> <p>To order and arrange combinations of mathematical objects in patterns.</p>
	<b>Vocabulary</b>				
	Count in steps, count in multiples, place value, estimate, compare.	Sum, 3-digit number, commutative.	Multiplication tables, commutative, repeated addition.	Three quarters, third, equivalent fractions, unit fractions, non-unit fractions, numerator, denominator, one whole.	

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**TEACH – MODEL – USE MANIPULATIVES – RECORD – INVESTIGATE – MASTER - REPEAT**

<b>Year 2 Maths Skills</b>	<b>Measurement</b>	<b>Geometry – Properties of Shape</b>	<b>Geometry – Position and Direction</b>	<b>Statistics</b>
	<p><b>Comparing and Estimating</b> To compare and order lengths, mass, volume/capacity and record the results using &lt;, &gt; and =.</p> <p>To compare and sequence intervals of time.</p> <p><b>Measuring and Calculating</b> To choose and use appropriate standard units to estimate and measure <b>length/height</b> in any direction (m/cm); <b>mass</b>(Kg/g); <b>temperature</b> (C); <b>capacity</b> (litres /mls) to the nearest appropriate unit, using rulers scales, thermometers and measuring vessels.</p> <p>To recognise and use symbols for pounds (£) and pence (p): combine amounts to make a particular value.</p> <p>To find different combinations of coins that equal the same amounts of money.</p> <p>To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p><b>Telling the Time</b> To tell and write the time to 5 minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</p> <p>To know the number of minutes in an hour and the number of hours in a day.</p> <p><b>Converting</b> To know the number of minutes in an hour and the number of hours in a day.</p>	<p><b>Identifying Shapes and their Properties</b> To identify and describe the properties of 2-D shapes, including the number of sides and line of symmetry in a vertical line.</p> <p>To identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</p> <p>To identify 2-D shapes on the surface of 3-D shapes.</p> <p><b>Comparing and Classifying</b> To compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<p><b>Position, Direction and Movement</b> To use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).</p> <p><b>Pattern</b> To order and arrange combinations of mathematical objects in patterns and sequences.</p>	<p><b>Interpreting, Constructing and Presenting Data</b> To interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p> <p>To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>To ask and answer questions about totalling and comparing categorical data.</p>
	<b>Vocabulary</b>			
<p><b>Measure and Length</b> Standard units, estimate, order, record results, centimetres cm, metres m.</p> <p><b>Height, Weight and Capacity</b> Kilogram kg, gram g, quarter full, three quarters full, litres l, millilitres ml, temperature, Celsius.</p> <p><b>Time</b> Intervals of time, quarter past, quarter to, duration.</p> <p><b>Money</b> Value, change.</p>	<p>Pentagon, hexagon, line of symmetry, properties, cylinder, edges, vertices, vertex.</p>	<p>Clockwise, anti-clockwise, straight line, rotation, arrange, sequences.</p>	<p>Pictograms, tally chart, block diagram, category, sorting, totalling, comparing, horizontal, vertical.</p>	

