

Newchurch Primary Curriculum Overview Mathematics Year 2

<u>Autumn Term</u>	<u>Spring Term</u>	<u>Summer Term</u>
<p><u>NRICH, MASTERY DOCS – the big ideas, building learning docs, TTS DIP and PIC, TTS Problem solving cards, challenges for able pupils, white rose maths hub, maths SATs tasks.</u></p> <p><u>Problem solving and reasoning</u></p> <ul style="list-style-type: none"> • select the mathematics they use in some classroom activities • discuss their work using mathematical language • begin to represent their work using symbols and simple diagrams predict what comes next in a simple number, shape or spatial pattern or sequence and give reasons for their opinions MA • explain why an answer is correct <p><u>Number and Place Value</u></p> <ul style="list-style-type: none"> • count in steps of 2, 3, and 5 from 0, and count in tens from any number, forward or backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems. 		
<p><u>Number and Place Value</u></p> <ul style="list-style-type: none"> • I can compare and order numbers from 0 – 100; use $>$, $<$ and $=$ • I can count in steps of 2 from 0 and in 10s from any number forward or backwards • I can identify, represent and estimate numbers using different representations including the number line • I can read and write numbers to at least 100 in numerals • I can recognise the place value of each digit in a 2-digit number (10s,1s) 	<p><u>Number and Place Value</u></p> <ul style="list-style-type: none"> • I can count in steps of 2 and 5 from 0, and in 10s from any number, forwards or backwards • I can read and write numbers to at least 100 in numerals and words • I can use place value and number facts to solve problems 	<p><u>Number and Place Value</u></p> <ul style="list-style-type: none"> • I can count in steps of 2,3 and 5 from 0 and in 10s from any number forward or backwards • I can read and write numbers to at least 100 in numerals and words • I can use place value and number facts to solve problems • The pupil can partition numbers into tens and ones to demonstrate an understanding of place value using apparatus to support if necessary. • The pupil can read and write numbers correctly in numerals up to 100. • The pupil can partition two digit numbers into different combinations of tens and ones, explaining verbally, using pictures or apparatus (23 is the same as 2 tens and 3 ones and 1 ten and 13 ones.

Addition and subtraction

- I can add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
- I can applying their increasing knowledge of mental and written methods
- I can add and subtract numbers using concrete objects and pictorial representations including those involving numbers
- I can recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100

Addition and subtraction

- I can add 3 1-digit numbers
- I can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- I can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity (statistics)
- I can use concrete objects and pictorial representations including those involving numbers and measure
- *BRIDGING THROUGH TEN*

Addition and subtraction

- I can add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - two two-digit numbers
- I can add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and tens
- I can recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100
- I can ask and answer questions about totalling and comparing categorical data (statistics)
- I can interpret and construct simple pictograms, tally charts and block diagrams and simple tables (statistics)
- I can use concrete objects and pictorial representations including those involving numbers, quantities and measures
- Recall at least four of the number bonds to 10 and reason about associated facts.
- The pupil can add and subtract a two digit number and ones and a two digit number and tens where no regrouping is required. They can demonstrate their method using apparatus or pictorial representations.
- The pupil can recall all number bonds to and within 10 and can use these to reason with and calculate bonds to and within 20, recognising any associative additive relationships.
- Add and subtract any two 2 digit numbers using an efficient strategy, explaining their method verbally, with pictures or with apparatus.
- Use reasoning about numbers and relationships to solve more complex problems and explain their thinking ($29 + 17 = 15 + 4 + ?$. Together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?)

Multiplication and division

- I can show that multiplication of two numbers can be done in any order (commutative)
- I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- I can solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
- *HALVING AND DOUBLING*

Multiplication and division

- I can calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (\times) and equals ($=$) signs
- I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Multiplication and division

- I can calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs
- I can solve one-step problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
- I can show that multiplication of two numbers can be done in any order (commutative) and division of one number by another number cannot
- The pupil can count in 2s, 5s and 10s from 0 and use counting strategies to solve problems (count the number of chairs in a diagram where the chairs are organised in 7 rows of 5 by counting in 5s)
- The pupil can recall and use multiplication and division facts for the 2, 5 and 10 \times tables demonstrating an understanding of commutativity as necessary (knowing they can make 7 groups of 5 from 35 blocks and writing $35 \div 5 = 7$; sharing 40 cherries between 10 people and writing $40 \div 10 = 4$; stating the value of six 5p coins).
- The pupil can use multiplication and division facts for 2x, 5x and 10x to make deductions outside known multiplication facts (knowing that multiples of 5 always end in 0 or 5 and therefore 18×5 cannot be 92 as it is not a multiple of 5).
- The pupil can solve unfamiliar word problems that have more than one step (which has the most biscuits, 4 packs with 5 biscuits in each or 3 packs with 10 in each packet?)

Fractions

- I can recognise, find, name and write fractions $\frac{1}{3}$ and $\frac{1}{4}$

Measures

- I can compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$
- I can compare and sequence intervals of time
- I can find different combinations of coins that equal the same amounts of money
- I can solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Geometry: properties of shapes

- I can identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line
- I can identify 2-D shapes on the surface of 3-D

Fractions

- I can recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity

Measures

- I can choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm);
- I can tell and write the time using quarter past/to the hour and draw the hands on a clock face to show these times
- I can recognise the number of minutes in an hour and the number of hours in a day
- I can recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- I can solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Geometry: properties of shapes

- I can identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

Fractions

- I can write simple fractions e.g $\frac{1}{2}$ of 6 = 3 and recognise the equivalents of $\frac{2}{4}$ and $\frac{1}{2}$
- The pupil can identify $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{2}{4}$ and $\frac{3}{4}$ and knows that all parts must be equal parts of the whole.

Measures

- I can choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- I can compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$
- I can 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
- The pupil knows the value of different coins
- The pupil can use different coins to make the same amount (pupil uses coins to make 50p in different ways; pupil can work out how many £2 coins can be used to exchange for £20 note)
- The pupil can read scales in divisions of 1s, 2s, 5s and 10s in a practical situation where all the numbers on the scale are given (pupil reads a thermometer or measures capacities using a measuring jug)
- The pupil can read the time on the clock to the nearest 15 mins
- The pupil can read scales and estimate points inbetween where not all the numbers on the scale are given.
- The pupil can read the time on the clock to the nearest 5 minutes

Geometry: properties of shapes

- I can compare and sort common 2-D and 3-D shapes and everyday objects
- The pupil can name and describe some common 2d and 3d shapes.

<p>shapes, for example a circle on a cylinder and a triangle on a pyramid</p> <p><u>Geometry: position and direction</u></p> <ul style="list-style-type: none"> I can order and arrange combinations of mathematical objects in patterns 	<p><u>Geometry: position and direction</u></p> <ul style="list-style-type: none"> I can use mathematical vocabulary to describe position, direction and movement including movement in a straight line 	<ul style="list-style-type: none"> The pupil can name and describe properties of 2d and 3d shapes (the pupil describes a triangle; it has 3 sides, 3 vertices and a line of symmetry. The pupil describes a pyramid; it has 8 edges, 5 faces, 4 of which are triangles and one is a square). The pupil can describe similarities and differences of shape properties (finds two different 2d shapes that have only one line of symmetry; that a cube and cuboid have the same number of edges, faces and vertices but can say what is different about them). <p><u>Geometry: position and direction</u></p> <ul style="list-style-type: none"> I can use mathematical vocabulary to describe position, direction and movement and distinguish between rotation as a term and in terms of right angles for quarter, half and three quarter turns (clockwise and anticlockwise) comparing categorical data <p><u>End of Key Stage 1 Assessments</u></p>
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GREEN = ALL HAVE BEEN TAUGHT

YELLOW = ONLY ARE AND GDS HAVE BEEN TAUGHT

RED = ONLY GDS HAVE BEEN TAUGHT