Mathematics Mastery

Year 2 Programme of Study - *'Term per page overview' 2018-2019*

Term		National Curriculum requirements
Autumn	**1. Number within 100** **(2 weeks)**	• use place value and number facts to solve problems • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers to 100 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 • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
	2. Addition and subtraction of 2-digit numbers **(2 weeks)**	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers
	3. Addition and subtraction word problems (2 weeks)	• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems • 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
	4. Measures: length (2 weeks)	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales • compare and order length and record the results using >, < and = • apply knowledge of numbers to 100 to read scales to the nearest appropriate standard unit in the context of length (m/cm)
	5. Graphs **(1 week)**	• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data
	6. Multiplication and division **2, 5 and 10** **(3 weeks)**	• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

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Spring	**7. Fractions** **(2 weeks)**	• 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 • write simple fractions for example, $\frac{1}{2}$ of 6 = 3 • recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
	8. Time **(2 weeks)**	• 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 • know the number of minutes in an hour and the number of hours in a day • compare and sequence intervals of time
	9. Addition and subtraction of 2-digit numbers (regrouping and adjusting) **(2 weeks)**	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers • 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
	10. Money **(2 weeks)**	• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
	11. Faces, shapes and patterns; lines and turns **(3 weeks)**	• identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • compare and sort common 2-D and 3-D shapes and everyday objects • order and arrange combinations of mathematical objects in patterns and sequences • 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 three-quarter turns (clockwise and anticlockwise)

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Summer	**12. Number within 1000** **(1 week)**	• use place value and number facts to solve problems • identify, represent and estimate numbers to 1000 using different representations (Y3) • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) (Y3) • compare and order numbers up to 1000 (Y3) • read and write numbers up to 1000 in numerals and in words (Y3) • count from 0 in multiples of 100; find 10 or 100 more or less than a given number (Y3)
	13. Measures: capacity and volume (2 weeks)	• choose and use appropriate standard units to estimate and measure capacity (litres/ml) and temperature (°C) to the nearest appropriate unit, using scales, thermometers and measuring vessels • compare and order volume and capacity and record the results using >, < and = • apply knowledge of numbers to 1000 to read scales to the nearest appropriate standard unit in the context of capacity (litres/ml) and temperature (°C) • using known facts to derive new facts (2ml + 2ml =4ml so 200ml + 200ml =400ml)
	14. Measures: mass (1 week)	• choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order mass and record the results using >, < and = • apply knowledge of numbers to 1000 to read scales to the nearest appropriate standard unit in the context of mass (kg/g) • using known facts to derive new facts (2g + 2g =4g so 200g + 200g =400g)
	15. Exploring calculation strategies **(2 weeks)**	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers mentally, including: a two-digit number and ones; a two-digit number and tens; adding three one-digit numbers • add and subtract numbers with up to two digits, using written methods
	16. Multiplication and division (3x and 4x tables) **(3 weeks)**	• recall and use multiplication and division facts for the 3 and 4 multiplication tables (Y3) • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot