Hampshire County Council

Hampshire Mathematics Team Assessment Model: Fluency, Reasoning and Problem Solving

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Year 2	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry: Properties of shape	Geometry: Position and direction
Milestone 1	• count in steps of 2, from 0,and 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	• solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers. • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently. • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: – a two-digit number and ones – a two-digit number and tens	• recall and use multiplication and division facts for the 2, and 10 multiplication tables, including recognising odd and even numbers • show that multiplication of two numbers can be done in any order (commutative) • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods,	• recognise, find, name and write fractions 1/3 and 1/4	• compare and order lengths, record the results using >, < and = • 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, • compare and sequence intervals of time	• identify and describe the properties of 2-D shapes, • including the number of sides and symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid	• order and arrange combinations of mathematical objects in patterns
Milestone 2	• count in steps of 5 from 0 forward or backward • read and write numbers to at least 100 in words • use place value • and number facts to solve problems.	• using concrete objects and pictorial representations, including those involving measures • adding three one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot **Statistics** • Statistics: ask and answer simple questions by counting the number of objects in each category and • sorting the categories by quantity	• recall and use multiplication and division facts for the 5 multiplication table, including recognising odd and even numbers • calculate mathematical statements for multiplication using the multiplication (×), and equals (=) signs	• recognise,, find, name and write fractions 2/4 and 3/4 of a length, shape, set of objects or quantity	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm);using rulers • recognise and use symbols for pounds (£) and pence (p); • combine amounts to make a particular value • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • tell and write the time 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	• identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	• use mathematical vocabulary to describe position, direction and movement, including movement in a straight line
Milestone 3	• count in steps of 3 from 0 forward or backward • **2NPV–1** Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. • **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.	• Solve problems involving addition and subtraction using concrete objects and pictorial representations, including those involving quantities • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: two-digit numbers • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. **Statistics** • statistics: interpret and construct simple pictograms, tally charts, block diagrams and simple tables • statistics: ask and answer questions about totalling and comparing categorical data	• calculate mathematical statements for division within the multiplication tables and write them using division (÷) • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division facts, including problems in contexts. • Solve problems involving multiplication and division, using materials, arrays and mental methods	• write simple fractions eg 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½ • Recognise, find, name and write fractions $\frac{1}{3}$; $\frac{1}{4}$; $\frac{2}{4}$; $\frac{3}{4}$ of a length, shape and quantity	• choose and use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using scales thermometers and measuring vessels • tell and write the time to 5 minutes • compare and order lengths, mass, volume/capacity and record the results using >, < and =	• compare and sort common 2-D and 3-D shapes and everyday objects. • **2G–1** Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	• 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).

		• recall and use addition and subtraction facts to 20 fluently, and derive related facts up to 100 • **2NF–1** Secure fluency in addition and subtraction facts within 10, through continued practice. • **2AS-1** Add and subtract across 10 • **2AS–2** Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". • **2AS–3** 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. • **2AS–4** Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	• **2MD–1** Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. • **2MD–2** Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).				