

## Year 3 objective matching grid

### Introduction

This grid is designed to help you with your planning by showing how the *Mult-e-Maths* lessons and starters match the renewed *Primary Framework for mathematics* learning objectives for Year 3. It lists all the Year 3 learning objectives, arranged in the seven Framework strands. Matching *Mult-e-Maths* lessons and starters are shown beside each objective using their activity references:

**UA** refers to the **Using and applying mathematics** strand

**CN** refers to the **Counting and understanding number** strand

**NF** refers to the **Knowing and using number facts** strand

**CA** refers to the **Calculating** strand

**SH** refers to the **Understanding shape** strand

**ME** refers to the **Measuring** strand

**HD** refers to the **Handling data** strand

**UA3S1** refers to **Using and applying Year 3 Starter 1**

**UA3L1** refers to **Using and applying Year 3 Lesson 1**

For ease of reference, all lessons are highlighted in grey.

Using and applying	
Learning objectives (with end-of-year expectations in bold)	Mult-e-Maths Starters and Lessons
Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations	<b>UA3L1 Domino puzzles</b> Investigating ways of arranging dominoes in a square or rectangle so that each side has the same number of spots
	<b>UA3L2 Sums and differences</b> Choosing and using operations to create sums and differences of 2-digit numbers
	<b>UA3L3 Calculating with money</b> Adding and subtracting in the context of money
	<b>UA3L4 Money problems</b> Working out totals, change, and which coins to use to pay for items
	<b>UA3L5 Time problems</b> Solving one- and two-step word problems involving time
Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure	<b>UA3L6 Target games</b> Investigating ways of choosing two, three or four numbers to make a given total
	<b>UA3L7 Using diagrams to solve problems</b> Counting on and back in steps of 2, 3, 4, 5 and 10 from any number and using Venn and Carroll diagrams to sort numbers according to one criterion
Follow a line of enquiry by deciding what information is important; make and use lists, tables and graphs to organise and interpret the information	<b>UA3L8 Partitioning problems</b> Investigating ways of partitioning a number up to 30, given rules about the relationships between the parts
Identify patterns and relationships involving numbers or shapes, and use these to solve problems	<b>UA3L9 Place value problems</b> Using knowledge of place value in strategic number games and puzzles
	<b>UA3L10 Adding odds and evens</b> Investigating odd and even totals

Identify patterns and relationships involving numbers or shapes, and use these to solve problems <b>(continued)</b>	<b>UA3L11 Patterns</b> Describing and making patterns
	<b>UA3L12 New shapes from old</b> Investigating the shapes that can be created by joining two identical shapes and making general statements about attributes
	<b>UA3L13 Investigating symmetry</b> Investigating the symmetry of shapes made up of squares (rectilinear shapes)
Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams	<b>All of the 'Using and applying mathematics' lessons link to this objective</b>
<b>Counting and understanding number</b>	
<b>Learning objectives</b>	<b>Multi-e-Maths Starters and Lessons</b>
Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10	<b>CN3S1 Numbers in words and in digits</b> Matching numbers in words with their representation in digits
	<b>CN3S2 What's the position?</b> Using ordinal numbers to describe patterns
	<b>CN3S3 Estimating using a number line</b> Estimating the position of a point on a 0 to 1000 number line
	<b>CN3S4 Positioning numbers on a number line</b> Identifying the positions of whole numbers on a number line and fractional relationships between them
	<b>CN3S5 Identifying numbers on a number line</b> Identifying the numbers one quarter of the way along, three quarters of the way along and at the end of a number line, given the halfway value
	<b>CN3S6 Ordering numbers</b> Ordering 2- and 3-digit numbers
	<b>CN3S7 Comparing numbers</b> Saying which of two given 3-digit numbers is greater and identifying numbers between two given 3-digit numbers
	<b>CN3S8 Adding and subtracting 1, 10 and 100</b> Adding and subtracting 1, 10, and 100 and multiples of them
	<b>CN3S9 Changing digits</b> Identifying what to add or subtract to change one digit of a 3-digit number
	<b>CN3S10 Counting on and back</b> Extending sequences by counting forwards and backwards in single-digit steps
	<b>CN3S11 What's the sequence?</b> Identifying patterns in number sequences and extending the sequences
	<b>CN3S12 Odd or even?</b> Sorting odd and even numbers
	<b>CN3L1 Numbers in figures and words</b> Investigating writing numbers to 1000 in figures and words
	<b>CN3L2 1, 10 and 100 more or less</b> Recognising the effects on a number's digits when it is reduced or increased by 1, 10 or 100
	<b>CN3L3 Number sequences</b> Extending and completing sequences with step sizes less than 10
	<b>CN3L4 Comparing numbers</b> Comparing 3-digit numbers
<b>CN3L5 Ordering numbers</b> Ordering numbers to at least 1000	
<b>CN3L6 Counting in 1s, 10s, 100s</b> Investigating how the digits of a number change when you add or subtract 1, 10 or 100	

<p>Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10 <b>(continued)</b></p>	<p><b>CN3L7 Odd and even numbers</b> Counting in 2s and identifying odd and even numbers</p>
<p><b>Partition three-digit numbers into multiples of 100, 10 and 1 in different ways</b></p>	<p><b>CN3S13 What's my number?</b> Identifying a 3-digit number given information about its digits</p>
	<p><b>CN3S14 Place value and ordering</b> Making numbers to 1000 using place value cards and ordering them</p>
	<p><b>CN3L8 Understanding place value</b> Understanding the values of the digits in 3-digit numbers</p>
<p>Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences</p>	<p><b>CN3S15 Estimating and rounding</b> Estimating quantities and rounding 2-digit numbers to the nearest 10</p>
	<p><b>CN3S16 Rounding</b> Positioning 3-digit numbers on a number line and rounding them to the nearest 10 and 100</p>
	<p><b>CN3L9 Rounding</b> Rounding numbers to the nearest 10 and 100</p>
<p>Read and write proper fractions (e.g. <math>\frac{3}{7}</math>, <math>\frac{9}{10}</math>), interpreting the denominator as the parts of a whole and the numerator as the number of parts; identify and estimate fractions of shapes; use diagrams to compare fractions and establish equivalents</p>	<p><b>CN3S17 Folding a square</b> Investigating ways of folding a square into quarters</p>
	<p><b>CN3S18 Half of a square</b> Investigating ways of shading half of a square</p>
	<p><b>CN3S19 Fractions of shapes</b> Identifying unit fractions of shapes</p>
	<p><b>CN3S20 Simple equivalent fractions</b> Using fractions of shapes to identify equivalent fractions</p>
	<p><b>CN3L10 Fractions in context</b> Identifying unit fractions of shapes and groups in an everyday context</p>
	<p><b>CN3L11 Equal and unequal parts</b> Recognising what is not one half or one quarter</p>
	<p><b>CN3L12 Fraction walls</b> Describing the lengths of rods using fraction vocabulary</p>
	<p><b>CN3L13 Equal fractions</b> Investigating simple equivalent fractions</p>
	<p><b>CN3L14 Estimating a fraction</b> Estimating simple fractions of shapes and quantities</p>
<p><b>Knowing and using number facts</b></p>	
<p><b>Learning objectives</b></p>	<p><b>Multi-e-Maths Starters and Lessons</b></p>
<p><b>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100</b></p>	<p><b>NF3S1 Number facts to 20</b> Using number facts to 20 to complete missing number calculations and check answers</p>
	<p><b>NF3S2 Matching additions and subtractions</b> Using knowledge of number facts to 20 to make additions and matching subtractions</p>
	<p><b>NF3S3 Differences</b> Identifying pairs of numbers with a given difference</p>
	<p><b>NF3S4 Total 1000</b> Identifying pairs of multiples of 100 with a total of 1000 and using them to solve subtractions from 1000</p>
	<p><b>NF3S5 Addition facts to 20</b> Adding pairs of numbers with totals up to 20</p>
	<p><b>NF3S6 Subtraction facts to 20</b> Subtracting from numbers up to 20</p>

<p><b>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100</b> (continued)</p>	<p><b>NF3S7 Adding and subtracting multiples of 10</b> Finding the missing numbers in additions and subtractions involving pairs of multiples of 10 or pairs of multiples of 100</p>
	<p><b>NF3S8 Total 100</b> identifying pairs of numbers that total 100</p>
	<p><b>NF3L1 Addition facts to 20</b> Investigating addition facts for numbers to 20</p>
	<p><b>NF3L2 Number facts to 20</b> Finding pairs of numbers with a given total up to 20 and identifying corresponding subtraction facts</p>
	<p><b>NF3L3 Making 100</b> Finding pairs of numbers that total 100</p>
	<p><b>NF3L4 Multiples of 100 that total 1000</b> Finding and using pairs of multiples of 100 that total 1000</p>
<p>Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the corresponding division facts; recognise multiples of 2, 5 or 10 up to 1000</p>	<p><b>NF3S9 Sorting multiples</b> Identifying and sorting multiples of 2, 5 and 10</p>
	<p><b>NF3S10 2, 5 and 10 times-tables</b> Identifying numbers that are answers in the 2, 5 and 10 times-tables</p>
	<p><b>NF3S11 The 3 and 4 times-tables</b> Applying knowledge of the 3 and 4 times-tables</p>
	<p><b>NF3S12 The 6 times-table</b> Using multiplication facts for 2 and 4 to multiply by 6</p>
	<p><b>NF3S13 Dividing by 2, 3, 4, 5 and 10</b> Choosing three numbers to make a division sentence</p>
	<p><b>NF3S14 Multiplying and dividing by 4</b> Using doubling and halving to multiply and divide by 4 mentally</p>
	<p><b>NF3S15 Using multiplication and division facts</b> Using knowledge of multiplication and division facts to solve number puzzles</p>
	<p><b>NF3L5 Multiples</b> Recognising multiples of 2, 5 and 10</p>
	<p><b>NF3L6 Order of multiplying</b> Making and describing arrays to reinforce that multiplication can be done in any order</p>
<p>Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations</p>	<p><b>NF3S16 Doubling and halving</b> Practising doubling and halving and their inverse relationship</p>
	<p><b>NF3S17 Doubling multiples of 5</b> Identifying which multiples of 5 give specified answers when they are doubled</p>
	<p><b>NF3S18 Halving</b> Finding halves and using partitioning and doubling methods to check answers</p>
	<p><b>NF3L7 Estimating and checking</b> Estimating, calculating and checking answers to additions and subtractions of 3-digit numbers</p>
	<p><b>NF3L8 Using inverse operations</b> Using subtraction to find the missing numbers in addition problems</p>
<p><b>Calculating</b></p>	
<p><b>Learning objectives</b></p>	<p><b>Multi-e-Maths Starters and Lessons</b></p>
<p><b>Add or subtract mentally combinations of one-digit and two-digit numbers</b></p>	<p><b>CA3S1 Adding several numbers</b> Considering different methods for adding several one-digit numbers</p>
	<p><b>CA3S2 Larger number first</b> Adding a 2-digit number to a 1-digit number</p>
	<p><b>CA3S3 Partitioning</b> Finding the answers to additions where partitioning into tens and units might be a useful strategy</p>

<b>Add or subtract mentally combinations of one-digit and two-digit numbers</b> (continued)	<b>CA3S4 Different addition strategies</b> Adding four numbers using a range of mental addition strategies
	<b>CA3S5 Adding strings of number</b> Adding 3 or 4 numbers by finding pairs that totals a multiple of 10
	<b>CA3S6 Using tens and units</b> Adding pairs of 2-digit numbers by partitioning into tens and units
	<b>CA3S7 Counting on through multiples of 10</b> Adding 1-digit numbers to 2-digit numbers by bridging through multiples of 10
	<b>CA3S8 Counting back through multiples of 10</b> Subtracting 1-digit numbers from 2-digit numbers by bridging through multiples of 10
	<b>CA3S9 Multiples of 5 and 'a bit'</b> Expressing 2-digit numbers as multiples of 5 and 'a bit'
	<b>CA3S10 Adding and adjusting</b> Adding near multiples of 10 to 2-digit numbers
	<b>CA3S11 Subtracting and adjusting</b> Subtracting near multiples of 10 from 2-digit numbers
	<b>CA3S12 Near doubles</b> Using known doubles to solve near doubles
	<b>CA3S13 Adding and subtracting 2-digit numbers</b> Adding and subtracting pairs of 2-digit numbers mentally
	<b>CA3S14 Using known number facts</b> Finding the missing numbers in additions and subtractions and using one number fact to solve other additions and subtractions
	<b>CA3S15 Using patterns</b> Spotting inconsistencies in patterns of calculations and using the patterns to find the answers to other calculations
	<b>CA3S16 What's my number?</b> Identifying a 2-digit number given the total when a number is added to it and the difference when a number is subtracted from it
	<b>CA3L1 Adding multiples of 5 and 'a bit'</b> Splitting numbers into a multiple of 5 and 'a bit' to make addition easier
	<b>CA3L2 Partitioning and addition</b> Partitioning numbers into tens and units to help with addition
	<b>CA3L3 Bridging through 10</b> Adding and subtracting single digits to or from 2-digit numbers by bridging through multiples of 10
	<b>CA3L4 Using near multiples of 10</b> Adding and subtracting mentally using near multiples of 10 and adjusting
	<b>CA3L5 Small differences</b> Using counting up from the smaller number to solve subtractions and deciding when this method is most appropriate
	<b>CA3L6 Changing the order</b> Finding the missing number in addition problems by changing the order of the numbers
	<b>CA3L7 Counting on from the larger number</b> Adding by putting the larger number first and counting on
<b>CA3L8 Near doubles</b> Using near doubles when adding	
<b>CA3L9 Similar calculations</b> Identifying patterns of similar calculations and using them to solve other additions and subtractions	
<b>CA3L10 Number facts and place value</b> Using known number facts and place value to help mental calculation	

<p><b>Add or subtract mentally combinations of one-digit and two-digit numbers</b> (continued)</p>	<p><b>CA3L11 Adding small numbers</b> Adding several numbers using mental strategies</p>
<p>Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers</p>	<p><b>CA3S17 Counting up</b> Solving subtractions by counting up</p>
	<p><b>CA3L12 Adding larger numbers</b> Adding larger numbers by splitting them into their place value parts and with the aid of jottings</p>
	<p><b>CA3L13 Finding larger differences</b> Using informal written methods to support the strategy of counting on to find larger differences</p>
	<p><b>CA3L14 Adding in columns</b> Developing the use of the expanded written method for TU + TU, HTU + TU and HTU + HTU</p>
	<p><b>CA3L15 Changing a ten</b> Developing use of column subtraction for TU – TU</p>
	<p><b>CA3L16 Changing a hundred</b> Developing use of column subtraction for HTU – TU and HTU – HTU</p>
<p>Multiply one-digit and two-digit numbers by 10 or 100, and describe the effect</p>	<p><b>CA3S18 Multiplying by 10 and 100</b> Using knowledge of multiplying by 10 and 100</p>
	<p><b>CA3L17 Multiplying by 10</b> Using place value to multiply by 10</p>
<p>Use practical and informal written methods to multiply and divide two-digit numbers (e.g. <math>13 \times 3</math>, <math>50 \div 4</math>); round remainders up or down, depending on the context</p>	<p><b>CA3S19 Doubling</b> Finding doubles of whole numbers to 20</p>
	<p><b>CA3S20 Halving</b> Finding halves of even numbers to 40</p>
	<p><b>CA3S21 Multiplying multiples of 10</b> Using knowledge of times-table facts to multiply multiples of 10</p>
	<p><b>CA3S22 Sharing and grouping</b> Using sharing and grouping methods to solve divisions</p>
	<p><b>CA3L18 Finding doubles</b> Finding doubles of numbers greater than 10</p>
	<p><b>CA3L19 Multiplying 2-digit numbers</b> Multiplying 2-digit numbers by splitting them into their place value components</p>
	<p><b>CA3L20 Remainders</b> Finding remainders using visual representations and knowledge of times-tables</p>
	<p><b>CA3L21 Rounding after division</b> Deciding whether to round up or down after division</p>
	<p><b>CA3L22 Dividing bigger numbers</b> Beginning to use a 'chunking' method to solve divisions</p>
<p>Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences</p>	<p><b>CA3L23 Getting back to the start number</b> Dividing to reverse the effect of multiplying and vice versa</p>
<p>Find unit fractions of numbers and quantities (e.g. <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math> and <math>\frac{1}{6}</math> of 12 litres)</p>	<p><b>CA3S23 Fractions of amounts</b> Finding unit fractions of amounts of objects</p>
	<p><b>CA3L24 Finding the whole</b> Working out the whole of a quantity given a half or a quarter, or another simple unit fraction</p>
	<p><b>CA3L25 Fractions of a quantity</b> Recognising unit fractions of a quantity and simple fractions that are several parts of a quantity</p>
	<p><b>CA3L26 Comparing fractions</b> Comparing simple fractions of quantities</p>

<b>Understanding shape</b>	
<b>Learning objectives</b>	<b>Multi-e-Maths Starters and Lessons</b>
Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise, classify, draw and make the shapes	<b>SH3S1 Odd shape out</b> Finding similarities and differences in 2-D shapes
	<b>SH3S2 Combining shapes</b> Combining shapes to make other shapes
	<b>SH3S3 3-D shape properties</b> Identifying 3-D shapes from a view of one face and describing their properties
	<b>SH3L1 Properties of 2-D shapes</b> Sorting and classifying 2-D shapes according to their properties
	<b>SH3L2 Properties of 3-D shapes</b> Describing and sorting 3-D shapes according to their properties
<b>Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side</b>	<b>SH3L3 Symmetry and reflection</b> Identifying lines of symmetry and reflecting polygons in a mirror line along one side
Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid	<b>SH3S4 Directions and coordinates</b> Describing squares on a grid using compass directions and coordinates
	<b>SH3S5 Using coordinates</b> Using simple coordinates to identify the positions of squares on a grid
	<b>SH3L4 Giving positions</b> Giving instructions and finding positions on a grid of squares
Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles	<b>SH3S6 Right angles</b> Identifying right angles in 2-D shapes and pictures of everyday objects
	<b>SH3L5 Right-angled turns</b> Making right-angled turns on a 4-point compass and on a clock
	<b>SH3L6 Right angles</b> Identifying right angles, and saying whether a given angle is greater than or less than a right angle
<b>Measuring</b>	
<b>Learning objectives</b>	<b>Multi-e-Maths Starters and Lessons</b>
Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements	<b>ME3S1 How heavy?</b> Estimating masses, reading scales and calculating combined masses
	<b>ME3L1 Measuring mass</b> Measuring masses in kilograms, and in kilograms and grams, and using the masses to solve problems
<b>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy</b>	<b>ME3S2 What's the length?</b> Estimating, measuring and comparing lengths
	<b>ME3S3 How much water?</b> Reading from scales on measuring cylinders
	<b>ME3S4 What's the temperature?</b> Reading a thermometer scale
	<b>ME3L2 Measuring lengths</b> Measuring lengths to the nearest half centimetre
	<b>ME3L3 Finding capacities</b> Measuring capacities in litres and in millilitres, and solving problems involving capacities
Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval	<b>ME3S5 Telling the time</b> Reading the time on an analogue or digital clock, and making the matching time on the other type of clock
	<b>ME3S6 Time intervals</b> Solving problems involving digital times and time intervals

<p>Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval <b>(continued)</b></p>	<p><b>ME3L4 Telling the time</b> Reading the time on an analogue clock and writing 12-hour digital clock times</p>
<p><b>Handling data</b></p>	
<p><b>Learning objectives</b></p>	<p><b>Mult-e-Maths Starters and Lessons</b></p>
<p>Answer a question by collecting, organising and interpreting data; use tally charts, frequency tables, pictograms and bar charts to represent results and illustrate observations; use ICT to create a simple bar chart</p>	<p><b>HD3S1 Interpreting bar charts</b> Interpreting a bar chart in which each interval represents two</p>
	<p><b>HD3L1 Organising information</b> Solving problems by organising and interpreting data in tally charts, pictograms and bar charts</p>
<p><b>Use Venn diagrams or Carroll diagrams to sort data and objects using more than one criterion</b></p>	<p><b>HD3S2 Sorting 2-D shapes 1</b> Sorting 2-D shapes according to their properties</p>
	<p><b>HD3S3 Sorting 2-D shapes 2</b> Sorting 2-D shapes into Carroll diagrams according to their properties</p>
	<p><b>HD3S4 Sorting numbers 1</b> Identifying how given numbers in a Venn diagram have been sorted</p>
	<p><b>HD3S5 Sorting numbers 2</b> Organising and interpreting data about numbers</p>