

## Year 3 Planning grid

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### Introduction

This document is designed to help you to match activities from the *Mult-e-Maths* strand discs with the renewed *Primary Framework*.

The planning grid lists all the Year 3 learning objectives from the *Primary Framework* arranged in the seven Framework strands:

- Using and applying mathematics
- Counting and understanding number
- Knowing and using number facts
- Calculating
- Understanding shape
- Measuring
- Handling data

End-of-year expectations are given in **bold**.

Each *Mult-e-Maths* activity is matched to the Framework learning objective it links to most closely. In some cases a *Mult-e-Maths* activity now better matches a different year group from that given in its activity reference, e.g. the informal written method of division discussed in 'MD4L12: Dividing bigger numbers' is now better suited to the Year 3 learning objectives. Such activities are marked in the planning grid with an asterisk, e.g. \* **MD4L12 Dividing bigger numbers**.

*Mult-e-Maths* lessons and starters are referenced in the planning grid by the strand CD-ROM they were included on and by their activity number:

**FD** refers to the Fractions, Decimals, Percentages, Ratio and Proportion strand

**NS** refers to the Numbers and the Number System strand

**AD** refers to Additions and Subtraction strand

**MD** refers to Multiplication and Division strand

**SS** refers to Measures, Shape, Space and Handling Data strand

**SP** refers to the Solving Problems strand

**AS3S1** refers to Addition and Subtraction Year 3 Starter 1

**AS3L1** refers to Addition and Subtraction Year 3 Lesson 1

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

We are developing a fully revised edition of *Mult-e-Maths* matched to the renewed Primary Framework. For further information about this please call the Education Information Line on 01223 325013, or email [educustserve@cambridge.org](mailto:educustserve@cambridge.org)

<b>Using and applying</b>	
<b>Learning objectives</b>	<b>Mult-e-Maths Starters and Lessons</b>
Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations	<b>SP3L1 Domino puzzles</b> Investigating ways of arranging dominoes in a square or rectangle so that each side has the same number of spots
	<b>SP3L4 Sums and differences</b> Choosing and using operations to create sums and differences of 2-digit numbers
	<b>SP3L6 Money problems</b> Working out totals, change, and which coins to use to pay for items
	<b>SP3L9 Time problems</b> Solving one- and two-step word problems involving time
	<b>AS3L15 Calculating with money</b> Adding and subtracting in the context of money
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>SP3L3 Target games</b> Investigating ways of choosing two, three or four numbers to make a given total
	<b>SP3L10 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>SP3L2 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>SP3L5 Place value problems</b> Using knowledge of place value in strategic number games and puzzles
	<b>SP3L7 New shapes from old</b> Investigating the shapes that can be created by joining two identical shapes and making general statements about attributes
	<b>SP3L8 Symmetry investigation</b> Investigating the symmetry of shapes made up of squares (rectilinear shapes)
	<b>NS3L12 Adding odds and evens</b> Investigating odd and even totals
	<b>SS3L4 Patterns</b> Describing and making patterns
Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams	<b>All of the lessons above link to this objective</b>
<b>Counting and understanding number</b>	
<b>Learning objectives</b>	<b>Mult-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>NS3S2 Adding and subtracting 1, 10 and 100</b> Adding and subtracting 1, 10 and 100 to/from 2- and 3-digit numbers
	<b>NS3S3 Estimating using a number line</b> Estimating the position of a point on a 0 to 100 number line
	<b>NS3S4 Numbers in digits and in words</b> Matching numbers in words with their representation in digits
	<b>NS3S6 What's the position?</b> Using ordinal numbers to describe patterns

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>	<b>NS3S7 Comparing numbers</b> Saying which of two given 3-digit numbers is greater and identifying numbers between two given 3-digit numbers
	<b>NS3S8 Ordering numbers</b> Ordering 2- and 3-digit numbers
	<b>NS3S9 Counting on and back</b> Extending sequences by counting forwards and backwards in 3s, 4s and 5s
	<b>NS3S11 Changing digits</b> Identifying what to add or subtract to change one digit of a 3-digit number
	<b>NS3S14 Odd or even?</b> Sorting odd and even numbers
	<b>NS3S15 What's the sequence?</b> Identifying patterns in number sequences and extending the sequences
	<b>NS3L2 Numbers in figures and words</b> Investigating writing numbers to 1000 in figures and words
	<b>NS3L4 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>NS3L5 Number sequences</b> Extending and completing sequences of step size 3, 4 or 5
	<b>NS3L6 Comparing numbers</b> Using ordinal numbers and comparing 3-digit numbers
	<b>NS3L7 Ordering numbers</b> Ordering numbers to at least 1000
	<b>NS3L10 Counting in 1s, 10s, 100s</b> Investigating how the digits of a number change when you add or subtract 1, 10 or 100
	<b>NS3L11 Odd and even numbers</b> Counting in 2s and identifying odd and even numbers
	<b>FD3S8 Positioning numbers on a number line</b> Identifying the positions of whole numbers on a number line and fractional relationships between them
<b>FD3S9 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>Partition three-digit numbers into multiples of 100, 10 and 1 in different ways</b>	<b>NS3S12 What's my number?</b> Identifying a 3-digit number given information about its digits
	<b>NS3S13 Place value and ordering</b> Making numbers to 1000 using place value cards and ordering them
	<b>NS3L3 Understanding place value</b> Understanding the values of the digits in 3-digit numbers
Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences	<b>NS3S1 What's your estimate?</b> Developing strategies to effectively estimate a quantity
	<b>NS3S5 Positioning numbers</b> Positioning 2-digit numbers on a number line and rounding them to the nearest 10
	<b>NS3L1 Estimating</b> Estimating numbers of objects and positions of points on number lines
	<b>NS3L8 Rounding</b> Rounding numbers to the nearest 10 and 100

Read and write proper fractions (e.g. $\frac{3}{7}$ , $\frac{9}{10}$ ), 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	<b>FD3S1 Folding a square</b> Investigating ways of folding a square into quarters
	<b>FD3S2 Half of a square</b> Investigating ways of shading half of a square
	<b>FD3S4 Fractions of shapes</b> Identifying unit fractions of shapes
	<b>FD3S6 Simple equivalent fractions</b> Using fractions of shapes to identify equivalent fractions
	<b>FD3L1 Fractions in context</b> Identifying unit fractions of shapes and groups in an everyday context
	<b>FD3L2 Equal and unequal parts</b> Recognising what is not one half or one quarter
	<b>FD3L5 Fraction walls</b> Describing the lengths of rods using fraction vocabulary
	<b>FD3L6 Equal fractions</b> Investigating simple equivalent fractions
	<b>FD3L8 Estimating a fraction</b> Estimating simple fractions of shapes and quantities
<b>Knowing and using number facts</b>	
<b>Learning objectives</b>	<b>Multi-e-Maths Starters and Lessons</b>
<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>	<b>AS3S2 Missing numbers</b> Using addition and subtraction facts for numbers to 20 to complete missing number calculations
	<b>AS3S3 Matching additions and subtractions</b> Using knowledge of number facts to 20 to make additions and matching subtractions
	<b>AS3S4 Total 100</b> Using a 100 square to identify pairs of multiples of 5 that total 100
	<b>AS3S5 Making 19</b> Identifying pairs of numbers with a total of 19 and subtracting numbers to 10 from 19
	<b>AS3S7 Total 1000</b> Identifying pairs of multiples of 100 with a total of 1000 and using them to solve subtractions from 1000
	<b>AS3S14 Addition facts to 20</b> Adding pairs of numbers with totals up to 20
	<b>AS3S15 Subtraction facts to 20</b> Subtracting from numbers up to 20
	<b>* AS4S14 Using number facts</b> Practising and using addition and subtraction facts to 20
	<b>AS3L4 Multiples of 100 that total 1000</b> Finding and using pairs of multiples of 100 that total 1000
	<b>AS3L5 Addition facts to 20</b> Investigating addition facts for numbers to 20
	<b>AS3L6 Number facts to 20</b> Finding pairs of numbers with a given total up to 20 and identifying corresponding subtraction facts
	<b>AS3L11 Making 100 from multiples of 5</b> Finding pairs of multiples of 5 that total 100
	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
<b>MD3S1 2, 5 and 10 times-tables</b> Identifying numbers that are answers in the 2, 5 and 10 times-tables	

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 <b>(continued)</b>	<b>MD3S2 The 3 and 4 times-tables</b> Applying knowledge of the 3 and 4 times-tables
	<b>MD3S4 Dividing by 2, 5 and 10</b> Choosing three numbers to make a division sentence
	<b>MD3S8 Using multiplication and division facts</b> Using knowledge of multiplication and division facts to solve number puzzles
	<b>MD3L1 Order of multiplying</b> Making and describing arrays to reinforce that multiplication can be done in any order
	<b>NS3S10 Sorting multiples</b> Identifying and sorting multiples of 2, 5 and 10
	<b>NS3L9 Multiples</b> Recognising multiples of 2, 5, 10, 50, and 100
Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations	<b>MD3S7 Doubling multiples of 5</b> Identifying which multiples of 5 give specified answers when they are doubled
	<b>MD3S9 Halving</b> Finding halves and using partitioning and doubling methods to check answers
	<b>AS3L2 Using inverse operations</b> Using subtraction to find the missing numbers in addition problems
<b>Calculating</b>	
<b>Learning objectives</b>	<b>Mult-e-Maths Starters and Lessons</b>
<b>Add or subtract mentally combinations of one-digit and two-digit numbers</b>	<b>AS3S1 Multiples of 5 and ‘a bit’</b> Expressing 2-digit numbers as multiples of 5 and ‘a bit’
	<b>AS3S6 Partitioning</b> Finding the answers to additions where partitioning into tens and units might be a useful strategy
	<b>AS3S8 Using patterns</b> Spotting inconsistencies in patterns of calculations and using the patterns to find the answers to other calculations
	<b>AS3S9 Adding several numbers</b> Using pairs of numbers that total 9, 10 or 11 to make mental addition more efficient
	<b>AS3S10 Different addition strategies</b> Adding four numbers using a range of mental addition strategies
	<b>AS3S11 Larger number first</b> Adding a 2-digit number to a 1-digit number
	<b>AS3S13 Using tens and units</b> Adding pairs of 2-digit numbers by partitioning into tens and units
	<b>AS3S16 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>AS3S17 Counting back through multiples of 10</b> Subtracting 1-digit numbers from 2-digit numbers by bridging through multiples of 10
	<b>AS3S18 Counting on through multiples of 10</b> Adding 1-digit numbers to 2-digit numbers by bridging through multiples of 10
	<b>AS3S19 Adding and adjusting</b> Adding 9, 19, 29, ...99 to 2-digit numbers
	<b>AS3S20 Subtracting and adjusting</b> Subtracting 9, 19, 29, ...99 from 2-digit numbers
<b>AS3S21 Near doubles</b> Using known doubles to solve near doubles	

<b>Add or subtract mentally combinations of one-digit and two-digit numbers</b> (continued)	<b>AS3S22 Add and subtract mentally</b> Adding and subtracting mentally without crossing the tens boundary
	<b>AS3S23 Crossing the tens boundary</b> Adding and subtracting pairs of 2-digit numbers mentally crossing the tens boundary
	<b>AS3S24 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>AS4S7 Adding strings of numbers</b> Adding 3 or 4 numbers by finding pairs that total a multiple of 10
	* <b>AS4S8 Finding pairs</b> Adding several single-digit numbers by first finding pairs totalling 9, 10 or 11
	* <b>AS4S13 Missing number subtractions</b> Finding missing numbers in subtractions where a 1-digit number is subtracted from a 2-digit number
	<b>AS3L1 Adding multiples of 5 and ‘a bit’</b> Splitting numbers into a multiple of 5 and ‘a bit’ to make addition easier
	<b>AS3L3 Partitioning and addition</b> Partitioning numbers into tens and units to help with addition
	<b>AS3L7 Bridging through 10</b> Adding and subtracting single digits to or from 2-digit numbers by bridging through multiples of 10
	<b>AS3L8 Using near multiples of 10</b> Adding and subtracting mentally using near multiples of 10 and adjusting
	<b>AS3L9 Small differences</b> Using counting up from the smaller number to solve subtractions and deciding when this method is most appropriate
	<b>AS3L10 Changing the order</b> Finding the missing number in addition problems by changing the order of the numbers
	<b>AS3L12 Near doubles</b> Using near doubles when adding
	<b>AS3L13 Counting on from the larger number</b> Adding by putting the larger number first and counting on
	<b>AS3L14 Similar calculations</b> Identifying patterns of similar calculations and using them to solve other additions and subtractions
	<b>AS3L18 Number facts and place value</b> Using known number facts and place value to help mental calculation
* <b>AS4L7 Adding small numbers</b> Adding several numbers using mental strategies	
Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers	<b>AS3S12 Counting up</b> Solving subtractions by counting up
	<b>AS3L16 Adding larger numbers</b> Adding larger numbers by splitting them into their place value parts and with the aid of jottings
	<b>AS3L17 Finding larger differences</b> Using informal written methods to support the strategy of counting on to find larger differences
	<b>AS3L19 Adding in columns</b> Developing use of column addition for TU + TU and HTU + TU
	<b>AS3L20 Changing a ten</b> Developing use of column subtraction for TU – TU

Multiply one-digit and two-digit numbers by 10 or 100, and describe the effect	<b>MD3S3 Multiplying by 10 and 100</b> Using knowledge of multiplying by 10 and 100
	<b>MD3L2 Multiplying by 10</b> Using place value to multiply by 10
Use practical and informal written methods to multiply and divide two-digit numbers (e.g. $13 \times 3$ , $50 \div 4$ ); round remainders up or down, depending on the context	<b>FD3S3 Doubling and halving</b> Finding doubles of whole numbers to 20 and halves of even numbers to 40
	<b>MD3S5 Sharing and grouping</b> Using sharing and grouping methods to solve divisions
	<b>MD3S6 Doubling</b> Finding and using doubles of integers to 20
	<b>MD3S10 Multiplying multiples of 10</b> Using knowledge of times-table facts to multiply multiples of 10
	<b>MD3L4 Finding doubles</b> Finding doubles of numbers greater than 10
	<b>MD3L5 Multiplying 2-digit numbers</b> Multiplying 2-digit numbers by splitting them into their place value components
	<b>MD3L6 Remainders</b> Finding remainders using visual representations and knowledge of times-tables
	<b>MD3L7 Rounding after division</b> Deciding whether to round up or down after division
	<b>* MD4L12 Dividing bigger numbers</b> Beginning to use a 'chunking' method to solve divisions
Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences	<b>MD3L3 Getting back to the start number</b> Dividing to reverse the effect of multiplying and vice versa
Find unit fractions of numbers and quantities (e.g. $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ and $\frac{1}{6}$ of 12 litres)	<b>FD3S5 Fractions of amounts</b> Finding unit fractions of amounts of objects
	<b>FD3L3 Finding the whole</b> Working out the whole of a quantity given a half or a quarter, or another simple unit fraction
	<b>FD3L4 Fractions of a quantity</b> Recognising unit fractions of a quantity and simple fractions that are several parts of a quantity
	<b>FD3L9 Comparing fractions</b> Comparing simple fractions of quantities
<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>SS3S1 Odd shape out</b> Finding similarities and differences in 2-D shapes
	<b>SS3S2 Combining shapes</b> Combining shapes to make other shapes
	<b>SS3S3 3-D shape properties</b> Describing the properties of 3-D shapes
	<b>SS3L1 Properties of 2-D shapes</b> Sorting and classifying 2-D shapes according to their properties
	<b>SS3L2 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>SS3L1 links to this objective as well as to the objective above.</b>

Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid	<b>SS3S4 Directions and coordinates</b> Describing squares on a grid using compass directions and coordinates
	<b>SS3S15 Using coordinates</b> Using simple coordinates to identify the positions of squares on a grid
	<b>SS3L3 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>SS3S5 Right angles</b> Identifying right angles in 2-D shapes and pictures of everyday objects
	<b>SS3L5 Right-angled turns</b> Making right-angled turns on a 4-point compass and on a clock
	<b>SS3L12 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>Mult-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>SS3S8 How heavy?</b> Estimating masses, reading scales and calculating combined masses
	<b>SS3L8 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>SS3S9 What's the length?</b> Estimating, measuring and comparing lengths
	<b>SS3S10 How much water?</b> Reading from scales on measuring cylinders
	<b>SS3S13 What's the temperature?</b> Reading a thermometer scale
	<b>SS3L7 Measuring lengths</b> Measuring lengths to the nearest half centimetre
	<b>SS3L9 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>SS3S6 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>SS3S7 One minute countdown</b> Estimating and finding how many simple additions children can make and solve in one minute
	<b>SS3L6 Telling the time</b> Reading the time on an analogue clock and writing 12-hour digital clock times
<b>Handling data</b>	
<b>Learning objectives</b>	<b>Mult-e-Maths Starters and Lessons</b>
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	<b>SS3S14 Interpreting bar charts</b> Interpreting a bar chart in which each interval represents two
	<b>SS3L10 Organising information</b> Solving problems by organising and interpreting data in tally charts, pictograms and bar charts

<p><b>Use Venn diagrams or Carroll diagrams to sort data and objects using more than one criterion</b></p>	<p><b>SS3S11 Sorting numbers</b> Identifying how given numbers in a Venn diagram have been sorted</p>
	<p><b>SS3S12 Sorting 2-D shapes</b> Sorting 2-D shapes according to their properties</p>
	<p>* <b>SS4S11 Sorting numbers</b> Organising and interpreting data about numbers</p>
	<p>* <b>SS4S12 Sorting shapes</b> Sorting 2-D shapes into Carroll diagrams according to their properties</p>