

Year 4 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 4. It lists all the Year 4 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

UA4S1 refers to **Using and applying Year 4 Starter 1**

UA4L1 refers to **Using and applying Year 4 Lesson 1**

For ease of reference, all lessons are highlighted are 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; choose and carry out appropriate calculations, using calculator methods where appropriate	UA4L1 Money problems Working out amounts that can be made from given coins
	UA4L2 'Real life' money problems Solving money problems involving addition and subtraction using a structured approach
	UA4L3 Capacity problems Solving capacity problems involving one or more steps
Represent a puzzle or problem using number sentences, statements or diagrams; use these to solve the problem; present and interpret the solution in the context of the problem	UA4L4 Grouping sets of numbers Grouping sets of numbers according to given rules
Suggest a line of enquiry and the strategy needed to follow it; collect, organise and interpret selected information to find answers	UA4L5 Pick three numbers Investigating ways of choosing two or three numbers to make a total of 10, 20, 50 or 100
Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples	UA4L6 Odd and even numbers Investigating odd and even totals and differences
	UA4L7 Odd and even properties Investigating odd and even numbers in sequences and statements about odd and even totals
	UA4L8 Making numbers from digits Using knowledge of place value to investigate the numbers that can be made from given digits

Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples (continued)	UA4L9 Grid problems Investigating what numbers to cover on a grid to fulfil given conditions
	UA4L10 Investigating prisms Investigating a general statement about prisms
	UA4L11 Using diagrams to solve problems Answering questions about numbers by sorting them in Venn and Carroll diagrams and identifying multiples of 2, 3, 4, 5 and 10
Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols	UA4L12 Direction investigations Investigating possible routes between two points on a grid using compass directions
Counting and understanding number	
Learning objectives	Mult-e-Maths Starters and Lessons
Recognise and continue number sequences formed by counting on or back in steps of constant size	CN4S1 Applying counting in 1s, 10s and 100s Counting in repeated steps of 1, 10 and 100 to solve additions and subtractions
	CN4S2 Counting in 10s, 100s and 1000s Counting on and back in tens, hundreds and thousands from numbers with different numbers of digits
	CN4S3 Odd and even numbers Identifying odd and even numbers up to 1000 from a given description
	CN4S4 Counting on and back Making predictions about number sequences
	CN4S5 Number sequences Identifying patterns in number sequences and extending the sequences
	CN4S6 Number sequence puzzles Completing number sequences where no consecutive entries are given
	CN4S7 Subtracting 1s, 10s and 100s Playing a game where a number is reduced to zero by subtracting multiples of 1, 10 and 100
	CN4L1 Steps of 10, 100 and 1000 Counting in repeated steps of 10, 100 and 1000 to solve additions and subtractions
	CN4L2 Number sequences Recognising and extending number sequences
Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols < and > (e.g. $-3 > -5$, $-1 < +1$)	CN4S8 What's the largest number? Trying to make the largest 4-digit number using 4 random digits that are revealed one at a time
	CN4S9 Estimating using a number line Making and justifying estimates of positions of numbers on number lines
	CN4S10 Inequalities Identifying calculations to complete number sentences containing the symbols <, > and =
	CN4S11 Comparing temperatures Using a thermometer scale to compare negative numbers in the context of temperature
	CN4S12 Ordering whole numbers Creating and ordering 4-digit numbers with the same thousands digit
	CN4S13 Negative numbers Adding and subtracting to/from positive and negative numbers using a number line
CN4S14 Estimating and rounding Positioning 4-digit numbers on a number line and rounding them to the nearest 10, 100 and 1000	

<p>Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols < and > (e.g. $-3 > -5$, $-1 < +1$) (continued)</p>	<p>CN4S15 Using place value to add and subtract Using understanding of place value to add and subtract multiples of 10, 100 and 1000 to/from integers</p>
	<p>CN4L3 Understanding place value Understanding the place value of numbers to at least 10 000</p>
	<p>CN4L4 Comparing numbers Comparing 4-digit numbers and recording comparisons using < and > symbols</p>
	<p>CN4L5 Negative numbers Recognising and comparing negative numbers</p>
	<p>CN4L6 Ordering numbers Ordering 4-digit numbers</p>
	<p>CN4L7 Rounding Rounding 4-digit numbers to the nearest 1000, 100 and 10</p>
<p>Use decimal notation for tenths and hundredths and partition decimals; relate the notation to money and measurement; position one-place and two-place decimals on a number line</p>	<p>CN4S16 Pence to pounds and ordering Converting amounts of money less than £10 from pence to £ notation and ordering them</p>
	<p>CN4S17 Decimal notation and money Expressing money amounts represented by collections of notes and coins in pounds and in pence</p>
	<p>CN4S18 Lengths as decimals Converting lengths written in centimetres to metres using decimal notation</p>
	<p>CN4S19 Rounding money amounts Rounding amounts of money expressed using decimal notation to the nearest pound</p>
	<p>CN4S20 Ordering amounts of money Ordering amounts of money less than £10 written using decimal notation</p>
	<p>CN4L8 One-place decimals Reading, writing and ordering one-place decimals</p>
	<p>CN4L9 Money amounts in pounds and pence Relating money amounts to decimal notation</p>
	<p>CN4L10 Two-place decimals Reading, writing and partitioning two-place decimals and positioning them on a number line</p>
<p>Recognise the equivalence between decimal and fraction forms of one half, quarters, tenths and hundredths</p>	<p>CN4L11 Reading scales Writing measurements using fractions and decimal fractions</p>
<p>Use diagrams to identify equivalent fractions (e.g. $\frac{6}{8}$ and $\frac{3}{4}$, or $\frac{70}{100}$ and $\frac{7}{10}$); interpret mixed numbers and position them on a number line (e.g. $3\frac{1}{2}$)</p>	<p>CN4S21 What is the fraction? Identifying fractional parts of groups and representing objects using mixed numbers</p>
	<p>CN4S22 Fractions that are the same Identifying equivalent fractions</p>
	<p>CN4S23 Comparing fractions Comparing fractions to decide whether they are greater or less than one half</p>
	<p>CN4S24 Halves and quarters on a number line Identifying the positions of mixed numbers on a number line</p>
	<p>CN4L12 Equal fractions Recognising simple fractions that are several parts of a whole, then equivalences, such as $\frac{1}{2}$, $\frac{2}{4}$...</p>
	<p>CN4L13 Fraction order Comparing fractions, one of which is a half</p>
	<p>CN4L14 Fractions on a number line Ordering fractions on a number line</p>

Use the vocabulary of ratio and proportion to describe the relationship between two quantities (e.g. 'There are 2 red beads to every 3 blue beads, or 2 beads in every 5 beads are red'); estimate a proportion (e.g. 'About one quarter of the apples in the box are green')	CN4S25 Tile patterns Making repeating patterns with a given proportion of tiles of one colour
	CN4S26 Estimating a fraction of an amount Estimating what fraction of a jar is filled
	CN4S27 What is the proportion? Identifying the fractions of various grids that are coloured
	CN4S28 Estimating proportions Estimating the proportion of fuel used/remaining using a fuel gauge
	CN4L15 Proportion Exploring simple ideas of proportion, using language such as 'one in every'
	CN4L16 Describing ratios and proportions Describing and investigating ratios and proportions in repeating patterns
	CN4L17 Estimating proportions Using estimates of proportions to estimate numbers of objects and positions of numbers on a number line
Knowing and using number facts	
Learning objectives	Multi-e-Maths Starters and Lessons
Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000	NF4S1 Make 1000 Finding how many need to be added to a given multiple of 50 to make 1000
	NF4S2 Adding several multiples of 10 Using a range of mental strategies to add several 2-digit multiples of 10
	NF4S3 Adding multiples of 100 Adding pairs of 3-digit and 4-digit multiples of 100
	NF4L1 Using addition and subtraction facts Applying number facts to additions and subtractions involving multiples of 10, 100 and 1000
Identify the doubles of two-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves	NF4S4 Doubles of numbers to 20 and halves Practising giving doubles of whole numbers to 20 and their corresponding halves
	NF4S5 Doubles of numbers to 100 and halves Practising finding doubles of whole numbers to 100 and the corresponding halves
	NF4S6 Doubles of multiples of 10 and halves Doubling and halving multiples of 10 and applying this to solving puzzles
	NF4S7 Doubles of multiples of 100 and halves Solving puzzles by doubling and halving multiples of 100
	NF4S8 Doubles of multiples of 10 and 100 Practising finding doubles of multiples of 10 and 100 and the corresponding halves
	NF4L2 Doubles of 2-digit numbers and halves Doubling and halving by partitioning first, and using doubles and halves to multiply and divide
	NF4L3 Applying doubling and halving Reinforcing how partitioning can help with doubling and halving, and solving problems involving doubling and halving
Derive and recall multiplication facts up to 10×10, the corresponding division facts and multiples of numbers to 10 up to the tenth multiple	NF4S9 Multiples Recognising multiples and relationships between them
	NF4S10 Using multiplication facts Using multiplication facts and related division facts, to solve number puzzles
	NF4S11 Times-tables, doubles and halves Solving problems using knowledge of multiplication facts, and doubling and halving
	NF4S12 Making a product Finding all the multiplications involving pairs of whole numbers that have a product of 24

<p>Derive and recall multiplication facts up to 10×10, the corresponding division facts and multiples of numbers to 10 up to the tenth multiple (continued)</p>	<p>NF4S13 Remainders and money Using times-tables facts to solve divisions with remainders, and relating remainders to money amounts</p>
	<p>NF4S14 Multiplying by 8 Using strategies to multiply by 8, to help develop knowledge of the 8 times-table</p>
	<p>NF4S15 Times-tables recall Multiplying pairs of single-digit numbers and deducing answers given one single-digit number in a pair</p>
	<p>NF4S16 Finding multiplications Identifying multiplications from given products</p>
	<p>NF4L4 Identifying multiples Identifying and investigating multiples of numbers to 10</p>
	<p>NF4L5 Patterns of multiples Identifying patterns in sequences of multiples and relationships between them</p>
	<p>NF4L6 Dividing money amounts Applying understanding of division and remainders in the context of money</p>
	<p>NF4L7 Rounding up or down after division Using division to solve word problems involving remainders, and rounding up or down depending on the context</p>
<p>Use knowledge of rounding, number operations and inverses to estimate and check calculations</p>	<p>NF4L8 Calculating and checking Solving multiplication and division problems and checking the results using an inverse operation</p>
	<p>NF4L9 Estimating and checking Estimating, calculating and checking answers to multiplications and divisions of 2-digit numbers by 1-digit numbers</p>
<p>Identify pairs of fractions that total 1</p>	<p>NF4S17 Fraction wall Identifying what fraction needs to be added to a given fraction to make a whole</p>
	<p>NF4L10 Fractions making 1 Identifying pairs of fractions that total one whole</p>
<p>Calculating</p>	
<p>Learning objectives</p>	<p>Multi-e-Maths Starters and Lessons</p>
<p>Add or subtract mentally pairs of two-digit whole numbers (e.g. $47 + 58$, $91 - 35$)</p>	<p>CA4S1 Finding differences Finding small differences by counting up through multiples of 10</p>
	<p>CA4S2 Partitioning and addition Using partitioning to help with the addition of pairs of 2-digit numbers</p>
	<p>CA4S3 Near doubles Identifying near doubles and using doubles to find their totals</p>
	<p>CA4S4 Related number facts Using understanding of addition and subtraction and the relationship between them to give related number facts</p>
	<p>CA4S5 Different totals Using numbers from a given set to create as many different totals as possible</p>
	<p>CA4S6 Two-digit pairs Choosing and using appropriate mental methods to add and subtract pairs of 2-digit numbers</p>
	<p>CA4S7 Near multiples of 10 Adding and subtracting near multiples of 10 to and from 2-digit numbers</p>
	<p>CA4S8 Addition bingo Choosing and using appropriate mental addition strategies</p>
	<p>CA4S9 Subtraction bingo Choosing and using appropriate mental subtraction strategies</p>

<p>Add or subtract mentally pairs of two-digit whole numbers (e.g. 47 + 58, 91 – 35) (continued)</p>	<p>CA4L1 Finding differences Finding differences, focusing on counting up</p>
	<p>CA4L2 Adding tens first Adding by partitioning 2-digit numbers and adding the tens first</p>
	<p>CA4L3 Near doubles Using doubles to find near doubles</p>
	<p>CA4L4 Related number facts Using one number fact to find related number facts</p>
	<p>CA4L5 Addition and subtraction strategies Consolidating a range of mental methods for addition and subtraction</p>
<p>Refine and use efficient written methods to add and subtract two-digit and three-digit whole numbers and £.p</p>	<p>CA4S10 Column subtraction Identifying missing numbers in column subtractions involving HTU –TU</p>
	<p>CA4L6 Written methods for addition Developing the use of the standard written method for TU + TU and HTU + HTU</p>
	<p>CA4L7 Written methods for subtraction Developing the use of the standard written method for TU – TU and HTU – HTU</p>
	<p>CA4L8 Money calculations Consolidating using expanded written methods for HTU + HTU and HTU – HTU, and applying it in the context of money</p>
<p>Multiply and divide numbers to 1000 by 10 and then 100 (whole-number answers), understanding the effect; relate to scaling up or down</p>	<p>CA4S11 Multiplying by 10 Applying understanding of the effect of multiplying by 10</p>
	<p>CA4L9 Multiplying and dividing by 10 Investigating the effect of multiplying and dividing by 10</p>
<p>Develop and use written methods to record, support and explain multiplication and division of two-digit numbers by a one-digit number, including division with remainders (e.g. 15 × 9, 98 ÷ 6)</p>	<p>CA4S12 Multiplying by partitioning Partitioning the 2-digit number in a TU × U multiplication to make multiplying easier</p>
	<p>CA4S13 Informal written method for division Consolidating the informal written method of division that involves subtracting multiples of the divisor</p>
	<p>CA4L10 Informal method for multiplication Approximating answers to multiplications and solving them using the grid method</p>
	<p>CA4L11 Multiplying by partitioning Partitioning numbers so that multiplications can be solved using known facts</p>
	<p>CA4L12 Standard written method of multiplication Developing a standard written method of solving TU × U from the grid method</p>
	<p>CA4L13 Informal method of written division Using a ‘chunking’ method to divide, and beginning to record the method systematically</p>
<p>Find fractions of numbers, quantities or shapes (e.g. $\frac{1}{5}$ of 30 plums, $\frac{3}{8}$ of a 6 by 4 rectangle)</p>	<p>CA4S14 Fractions of numbers Using division to find unit fractions of numbers</p>
	<p>CA4S15 Finding fraction relationships Finding what fraction a smaller shape is of a larger shape</p>
	<p>CA4L14 Non-unit fractions of numbers Using unit fractions of numbers to find non-unit fractions of numbers</p>
	<p>CA4L15 Comparing quantities Comparing 2 shapes, amounts of money, measures... in order to make a statement about what fraction of the larger the smaller is</p>
<p>Use a calculator to carry out one-step and two-step calculations involving all four operations; recognise negative numbers in the display, correct mistaken entries and interpret the display correctly in the context of money</p>	<p>CA4S16 Using a calculator Using a calculator to identify missing money amounts in additions</p>
	<p>CA4L16 Using a calculator Using a calculator for a range of 1-step and 2-step calculations, including in the context of money</p>

Understanding shape	
Learning objectives	Multi-e-Maths Starters and Lessons
Draw polygons and classify them by identifying their properties, including their line symmetry	SH4S1 Odd shape out Finding similarities and differences in 2-D shapes
	SH4S2 2-D shapes Sketching 2-D shapes based on descriptions
	SH4L1 Investigating polygons Sorting polygons according to their properties
	SH4L2 Symmetry Sorting polygons according to their lines of symmetry and creating symmetrical polygons
Visualise 3-D objects from 2-D drawings; make nets of common solids	SH4S3 Properties of 3-D shapes Identifying 3-D shapes from a view of one face and describing their properties
	SH4S4 Nets Identifying which arrangements of joined squares are nets of an open cube
	SH4L3 Properties of 3-D shapes Identifying the properties of 3-D shapes from 2-D images and sorting 3-D shapes
Recognise horizontal and vertical lines; use the eight compass points to describe direction; describe and identify the position of a square on a grid of squares	SH4S5 Directions and coordinates Describing points on a grid using compass directions and coordinates
	SH4S6 Using coordinates Using coordinates to identify the positions of points on a grid of squares
	SH4L4 Compass points and coordinates Describing routes using compass directions, and points using coordinates
Know that angles are measured in degrees and that one whole turn is 360°; compare and order angles less than 180°	SH4S7 Angles Comparing and ordering angles
	SH4L5 Angles Relating turns to their measurements in degrees and comparing angles less than 180°
Measuring	
Learning objectives	Multi-e-Maths Starters and Lessons
Choose and use standard metric units and their abbreviations when estimating, measuring and recording length, weight and capacity; know the meaning of 'kilo', 'centi' and 'milli' and, where appropriate, use decimal notation to record measurements (e.g. 1.3 m or 0.6 kg)	ME4S1 Balancing items Finding items with the same mass
	ME4S2 What is the length? Measuring lengths and finding objects that would make a total length of 1 metre
	ME4S3 Capacities Comparing the capacities of cylindrical containers visually and then by measuring
	ME4L1 How heavy? Using the relationship between kilograms and grams
	ME4L2 Capacity Using measuring cylinders to find capacities and applying the relationship between litres and millilitres
Interpret intervals and divisions on partially numbered scales and record readings accurately, where appropriate to the nearest tenth of a unit	ME4S4 How hot is it? Estimating temperatures and using the scale on a thermometer
Draw rectangles and measure and calculate their perimeters; find the area of rectilinear shapes drawn on a square grid by counting squares	ME4L3 Perimeter Measuring perimeters of rectangles and finding rectangles with a given perimeter
	ME4L4 Measuring area Counting squares to find the areas of simple shapes

Read time to the nearest minute; use am, pm and 12-hour clock notation; choose units of time to measure time intervals; calculate time intervals from clocks and timetables	ME4S5 Telling the time Reading the time on an analogue clock and saying how the same time would be shown on a digital clock, and vice versa
	ME4S6 Choosing units of time Choosing appropriate units of time to measure the duration of activities
	ME4S7 Time intervals Calculating the lengths of flights from London to various cities around the world
	ME4L5 Time Reading the time to the nearest minute from analogue and digital clocks, and solving problems involving time
Handling data	
Learning objectives	Mult-e-Maths Starters and Lessons
Answer a question by identifying what data to collect; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts, using ICT where appropriate	HD4S1 Interpreting data Interpreting data in tally charts and bar charts
	HD4L1 Transport survey Collecting, organising and interpreting data about how children travel to school
Compare the impact of representations where scales have intervals of differing step size	Compare children's bar charts from the group activity in HD4L1