# Key Learning Coverage – Year 6

This table shows where the Key Learning is explicitly taught.

Teachers should take every opportunity to combine the learning from different areas of the mathematics curriculum, for example, using a measurement context when calculating and also to revisit learning on a regular basis through Starter sessions.

| Key Learning: Number and Place Value | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • *Count forwards or backwards in steps of integers, decimals, powers of 10* | Wk 1 | | Wk 1 | | Wk 1 | Wk 4 |
| • Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit | Wk 1 | Ongoing | | | | |
| • Identify the value of each digit to three decimal places | Wk 1 | Ongoing particularly when ordering and calculating | | | | |
| • *Identify, represent and estimate numbers using the number line* | Wks 1, 2 and 5 | | | Wk 1 | Wks 1 and 2 | |
| • *Order and compare numbers including integers, decimals and negative numbers* | Wk 1 | | Wk 3 | | Wk 1 | Wk 4 |
| • *Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number* | Wk 1 | Applied when calculating | | | Wk 1 | Wk 4 |
| • Round any whole number to a required degree of accuracy | Wk 1 | Ongoing when estimating calculations | | | | |
| • *Round decimals with three decimal places to the nearest whole number or one or two decimal places* | Wk 1 | Ongoing when estimating calculations | | | Wk 1 | Wk 4 |
| • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places | Applied when converting between metric units of measure | | | | | |
| • Use negative numbers in context, and calculate intervals across zero | Wk 1 | | Wk 3 | | | Wk 4 |
| • *Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal* | | | Wk 1 | | Wk 5 | Wk 4 |
| • Solve number and practical problems that involve all of the above | Wk 1 | Ongoing | | | | |
| **Key Learning: Number - Addition and Subtraction** | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)* | Wk 2 + Wk 5 - | | | Wk 1 | Wk 2 | Wk 2 |
| • *Select a mental strategy appropriate for the numbers in the calculation* | Wk 2 + Wk 5 - | | | Wk 1 | Wk 2 | Wk 2 |
| • *Recall and use addition and subtraction facts for 1 (with decimals to two decimal places)* | Wk 1 | Ongoing in Starters and also applied when calculating mentally | | | | |
| • Perform mental calculations including with mixed operations and large numbers *and decimals* | Wk 2 + Wk 5 - | Ongoing in calculation units | | | Wk 1 | Wk 2 |
| • *Add and subtract whole numbers and decimals using formal written methods (columnar addition and subtraction)* | Wk 2 + Wk 5 - | | | Wk 1 | Wk 2 | Wk 2 |
| • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy | Wk 2 + Wk 5 - | Ongoing when calculating | | | Wk 2 | |
| • Use knowledge of the order of operations to carry out calculations | | | | Wk 1 | Wk 2 | Wk 2 |
| • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | Wk 2 + Wk 5 - | | | Wk 1 | Wk 2 | Wk 2 |
| • Solve problems involving all four operations, *including those with missing numbers* | Wk 2 + Wk 5 - | | | Wk 1 + - | Wk 2 | Wk 2 |

| Key Learning: Number - Multiplication and Division | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)* | Wk 3 x<br>Wk 6 ÷ | | Wk 5 ÷<br>Wk 6 x | | | Wk 2 |
| • *Select a mental strategy appropriate for the numbers in the calculation* | Wk 3 | | Wk 6 x | | | Wk 2 |
| • Identify common factors, common multiples and prime numbers | | Wk 1 | Wk 4 | | | |
| • *Use partitioning to double or halve any number* | Ongoing in Starters and also applied when calculating mentally | | | | | |
| • Perform mental calculations, including with mixed operations and large numbers | Wk 3 x<br>Wk 6 ÷ | | Wk 5 ÷<br>Wk 6 x | | Wk 1 | Wk 2 |
| • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication | Wk 3 | | Wk 6 | | Wk 2 | Wk 2 |
| • Multiply one-digit numbers with up to two decimal places by whole numbers | Wk 3 | | Wk 6 | Ongoing when calculating | | |
| • Divide numbers up to 4 digits by a two-digit whole number using the formal written methods of short or long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context | Wk 6 | | Wk 5 | | Wk 2 | Wk 2 |
| • Use written division methods in cases where the answer has up to two decimal places | Wk 6 | | Wk 5 | Ongoing when calculating | | |
| • Use estimation *and inverse* to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy | Wk 3 x<br>Wk 6 ÷ | Ongoing when calculating | | | Wk 2 | Wk 2 |
| • Solve problems involving all four operations, *including those with missing numbers* | Wk 3 x<br>Wk 6 ÷ | | Wk 5 ÷<br>Wk 6 x | Ongoing | | |
| **Key Learning: Number – Fractions, Decimals and Percentages** | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| • Compare and order fractions, including fractions > 1 *(including on a number line)* | | Wk 1 | | | Wk 1 | Wk 3 |
| • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination | | | Wk 4 | | Wk 1 | Wk 3 |
| • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts | | Wks 1 and 2 | Ongoing in Starters | | | |
| • Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 and $\frac{3}{8}$) | | Wk 1 | Wk 4 | | Wk 1 | |
| • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions | | Wk 1 | Wk 4 | | Wk 1 | Wk 3 |
| • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) | | | Wk 4 | | Wk 3 | Wk 3 |
| • Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$) | | | Wk 4 | | Wk 3 | Wk 3 |
| • *Find simple percentages of amounts* | | Wk 2 | | Wk 2 | | |
| • *Solve problems involving fractions* | | Wk 1 | Ongoing | | | |
| • Solve problems which require answers to be rounded to specified degrees of accuracy | | Wks 2, 3, 5 and 6 | Wks 5 and 6 | Ongoing | | |
| • Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 260) and the use of percentages for comparison | | Wk 2 | | Wk 2 | Wk 3 | |

| Key Learning: Number - Ratio and Proportion | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication/division facts | | Wk 2 | | Wk 2 | Wk 3 | |
| • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples | | Wk 2 | | Wk 2 | Wk 3 | |
| • Solve problems involving similar shapes where the scale factor is known or can be found | | Wk 2 | | Wk 2 | Wk 3 | |

| Key Learning: Number – Algebra | | | | | | |
|---|---|---|---|---|---|---|
| • Use simple formulae | | | Wk 1 | | Wk 5 | |
| • Generate and describe linear number sequences | | | Wk 1 | | Wk 5 | |
| • Express missing number problems algebraically | Wks 2, 3 and 5 | Ongoing when solving calculation word problems | | | | |
| • Find pairs of numbers that satisfy an equation with two unknowns | Wks 2, 3 and 5 | Ongoing when calculating | | | | |
| • Enumerate possibilities of combinations of two variables | | | Wk 6 | Ongoing when solving problems | | |

| Key Learning: Measurement | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • Use, read and write standard units of length, mass, volume and time using decimal notation to three decimal places | Wk 3 time | Wk 4 length and mass Wk 5 area and volume | | Wk 2 | Wk 6 length and time | Wk 1 – mass, volume and capacity |
| • Convert between standard units of length, mass, volume and time using decimal notation to three decimal places | Wk 3 time | Wk 4 length and mass | | Wk 2 | Wk 6 length and time | Wk 1 – mass, volume and capacity |
| • Convert between miles and kilometres | | Wk 4 | | Wk 5 | Wk 5 | |
| • Recognise that shapes with the same areas can have different perimeters and vice versa | | Wk 5 | | Wk4 | | |
| • Calculate the area of parallelograms and triangles | | Wk 5 | | Wk 4 | | |
| • Recognise when it is possible to use formulae for area and volume of shapes | | Wk 5 | | Wk 4 | | |
| • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ($cm^3$) and cubic metres ($m^3$), and extending to other units (e.g. $mm^3$ and $km^3$) | | Wk 5 | | Wk 4 | | Wk 1 |
| • *Calculate differences in temperature, including those that involved a positive and negative temperature* | Wk 1 | | Wk 3 | | | Wk 4 |
| • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate | Wk 3 time | Wk 4 | | Wk 2 | Wk 6 | Wk 1 |

| Key Learning: Geometry - Properties of Shape | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • Compare/classify geometric shapes based on the properties and sizes | Wk 4 | | | Wk 3 | | Wk 5 |
| • Draw 2-D shapes using given dimensions and angles | Wk 4 | | | Wk 3 | Wk 4 | Wk 5 |
| • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius | | | | Wk 3 | | Wk 5 |

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| • Recognise, describe and build simple 3-D shapes, including making nets | Wk 4 | | | Wk 3 | | Wk 5 |
| • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles | | Wk 3 | | Wk 3 | | Wk 5 |
| • Find unknown angles in any triangles, quadrilaterals, regular polygons | | Wk 3 | | Wk 3 | | Wk 5 |
| **Key Learning: Geometry - Position and Direction** | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| • Describe positions on the full coordinate grid (all four quadrants) | | | Wks 1 and 2 | | Wk 4 | |
| • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes | | | Wk 2 | | Wk 4 | |
| **Key Learning: Statistics** | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| • *Continue to complete and interpret information in a variety of sorting diagrams (including sorting properties of numbers and shapes)* | Wk 4 | | | Wk 3 | | Wk 5 |
| • Interpret and construct pie charts and line graphs and use these to solve problems | | Wk 3 | | Wk 5 | | |
| • *Solve comparison, sum and difference problems using information presented in all types of graph* | | Wk 3 | | Wk 5 | Wk 6 | |
| • Calculate and interpret the mean as an average | | | Wk 3 | | Wk 6 | |