

**Maths
Learning
Ladders
Year 6.**

Multiplication 11.8.
I can multiply numbers with up to 2 decimal places by a whole number.

Multiplication 11.9
*I can use related facts to multiply multiples of 10 and 100 e.g. $2 \times 3 = 6$
 $200 \times 30 = 6000$*

Multiplication 12.1
I can use long multiplication to multiply THTPO or HTO x TO

Multiplication 12.2
I can identify common factors, common numbers and prime numbers.

Division 14.2
I can divide numbers up to 4 digits by a 2 digit whole number using expanded long division.

Division 14.3
I can express a quotient as a fraction, decimal or rounded according to context.

Division 14.4
I can divide numbers up to 4 digits by a 2 digit whole number using long division.

Fractions: 17.3
I can simplify fractions using common factors.

Fractions: 17.4
I can use common multiples to express fractions in the same denomination.

Fractions: 17.5
I can compare and order any set of fractions, proper or improper, or mixed numbers including those with different denominators.

Fractions: 17.6
I can add and subtract fractions and mixed numbers with different denominators using the idea of equivalence.

Fractions: 17.7
I can multiply simple pairs of proper fractions and write the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$.

Fractions: 17.8
I can divide proper fractions by a whole number e.g. $\frac{1}{3}$ divided by 2 = $\frac{1}{6}$

*** Fractions: 17.9**
I can recognise and explore the relationship between multiplying by a whole number and dividing by its reciprocal.

*** Fractions: 18.1**
I can multiply more complex pairs of proper fractions e.g. $\frac{3}{5} \times \frac{4}{7}$.

Decimals: 20.5
I can multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places.

Decimals 20.6
I can associate a fraction with division and calculate decimal equivalents of common fractions such as halves, quarters and fifths

Decimals 20.7
I can calculate more complex decimal equivalents such as $\frac{3}{8} = 0.375$ using my understanding of the equivalence between fractions and decimals.

Decimals 20.8
I can round answers with a specific degree of accuracy (where this has been specified)

***Decimals 20.9**
I can recognise what degree of accuracy is appropriate when rounding decimals.

***Decimals 21.1**
When using calculator to solve problems, I can round the answer appropriately in context.

Percentage and Ratio: 22.2
I can recall and use equivalence between fractions, decimals and % to solve problems e.g. 10% of £5.00 or 50% of the team.

Percentage and Ratio: 22.3
I can solve % problems in a variety of contexts such as comparing % (e.g. best buys)

Percentage and Ratio: 22.4
I can solve problems involving similar shapes where the scale factor is known or can be found.

Percentage and Ratio: 22.5
I can identify that a problem can be written as a ratio and solve problems using this relationship.

Percentage and Ratio: 22.6
I can divide a quantity in a given ratio (recognising the proportion as a fraction of the whole)

***Percentage and Ratio: 22.7**
I can solve more complex % problems in context such as % deduction.

***Percentage and Ratio: 22.8**
I can link % to calculating simple angles in a pie chart (e.g. recognise that 50% is 180 degrees)

***Percentage and Ratio: 22.9**
I can solve more complex problems using a unitary method (i.e. scaling down to 1 and then up again)

<u>Problem Solving: 26.2</u> I can solve addition and subtraction multi-step problems in context, with increasingly large numbers, deciding which operations to use and why.	<u>Problem Solving: 26.3</u> I consistently check the reasonableness of my answer in all calculations.	<u>Problem Solving: 26.4</u> I can round and estimate as a means of predicting and checking the order of magnitude of my answers to a decimal calculation.	<u>Problem Solving: 26.5</u> I can solve multi-step word problems and investigations involving all 4 operations from a large range of contexts.	<u>Problem Solving: 26.6</u> I can express missing number problems algebraically.
<u>Problem Solving: 26.7</u> I can find pairs of numbers that satisfy an equation with two unknowns.	<u>Problem Solving: 26.8</u> I can solve a variety of number problems using formulae and algebraic equations.	<u>*Problem Solving: 26.9</u> I can solve real life and financial problems e.g. comparing holiday packages or working out household bills.	<u>Properties of Number: 28.1</u> I can identify common factors, common multiples and prime numbers, with increasingly large numbers.	<u>Properties of Number: 28.2</u> I can explore the order of operations using brackets.
<u>Properties of Number: 28.3</u> I can generate and describe linear number sequences.	<u>Properties of Number: 28.4</u> I can make generalisations about number patterns and express them algebraically.	<u>* Properties of Number: 28.5</u> I can identify square roots and cube roots which give interger solutions (whole number answers)	<u>* Properties of Number: 28.6</u> I can identify the region for solutions of square roots (not square numbers) and use this as a starting point for trial and improvement.	<u>Measures 31.6</u> I can use, read, write and convert between standard units of measure using decimal notation up to 3 decimal places.
<u>Measures 31.7</u> I can solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places.	<u>Measures 31.8</u> I can calculate, estimate and compare volume of cubes and cuboids using standard units e.g. cm ³ .	<u>Measures 31.9</u> I can recognise when it is possible to use formulae to calculate volume.	<u>Measures 32.1</u> I can convert between miles and km.	<u>*Measures 32.2</u> I can understand compound units for speed and use them in context e.g. science experiments.
<u>Perimeter and Area: 37.1</u> I can investigate relationships between area and perimeter e.g. shapes with the same area can have different perimeters and vice versa.	<u>Perimeter and Area: 37.2</u> I can calculate the area of parallelograms and triangles.	<u>Perimeter and Area: 37.3</u> I can recognise when it is possible use formulae to calculate area.	<u>*Perimeter and Area: 37.4</u> I can calculate area and perimeter of compound shapes including parallelograms and triangles.	<u>Statistics: 40.1</u> I can construct a pie chart.
<u>Statistics: 40.2</u> I can solve problems using the data from line graphs (including conversion graphs) and pie charts including ones I have constructed myself.	<u>Statistics: 40.3</u> I can calculate the mean as an average and understand when it is appropriate to find the mean of a set of data.	<u>Statistics: 40.4</u> I can read and interpret linear proportional graphs (e.g. speed)	<u>* Statistics: 40.5</u> I can interpret continuous data in the form of time (line) graphs recognising that it is recoding a change over time.	<u>*Statistics: 40.6</u> I can calculate the probability of an independent event.

<u>Shape: 43.7</u> I can accurately draw 2D shapes using given angles and dimensions.	<u>Shape: 43.8</u> I can recognise, describe and build simple 3D shapes including making nets.	<u>Shape: 43.9</u> I can compare and classify geometric shapes based on their size and properties and can find unknown angles in any triangle, quadrilateral or regular polygon.	<u>Shape: 44.1</u> I can illustrate and name parts of a circle including radius, diameter and circumference and know that diameter is twice the radius.	<u>Shape: 44.2</u> I can recognise vertically opposite angles and use this to calculate missing angles.
<u>* Shape: 44.3</u> I can solve problems using my knowledge of circle properties.	<u>Position and Direction: 46.2</u> I can label the axes of a grid in all 4 quadrants and describe a position on the grid.	<u>Position and Direction: 46.3</u> I can draw and translate simple shapes on a 4 quadrant grid.	<u>Position and Direction: 46.4</u> I can reflect simple shapes in the axes.	<u>Position and Direction: 46.5</u> I can predict missing co-ordinates using the properties of shapes.
<u>* Position and Direction: 46.6</u> I can express missing co-ordinates algebraically.	<u>Place value: 49.5</u> I can read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.	<u>Place Value: 49.6</u> I can round any whole number to a required degree of accuracy.	<u>Place value: 49.7</u> I can use negative numbers in context and calculate intervals across zero.	