

Year 6

By the end of Year 6, children are expected to be able to do all of the following in Mathematics

All the statements in red must be achieved for a child to be working at the expected standard.

Interim Standards – Expected in Maths for Teacher Assessment Year 6

Number and Calculation

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Identify the value of each digit in numbers given to three decimal places

Add and subtract whole numbers with more than four digits and decimal numbers using formal written methods.

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Multiply one-digit numbers with up to two decimal places by whole numbers

To be able to divide numbers up to 4 digits by a two-digit number using a formal written method and interpret remainders as whole numbers, fractions or by rounding as appropriate to the context.

Perform mental calculations, including with mixed operations and large numbers

Can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Solve multiplication and division multi step problems in context, deciding which operations and methods to use and why.

Fractions, Ratio and Proportion

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Solve problems involving the calculation of percentages and the use of percentages for comparison

Calculate a fraction of an amount.

Algebra

Use simple formulae in words and express missing number problems algebraically

Measures

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

Solve problems involving converting units of time, including problems involving the duration of events.

Recognise when it is possible to use formulae for area and volume of shapes

Calculate the area of parallelograms and triangles

Geometry

Find unknown angles in any triangles, quadrilaterals, and regular polygon

To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

The pupil can demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,541?; find the difference between the largest and smallest whole numbers that can be made from using three digits; $8.09 = 8 + 9?$; $28.13 = 28 + + 0.03$).

The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation

(e.g. $53 - 82 + 47 = 53 + 47 - 82 = 100 - 82 = 18$;

$20 \times 7 \times 5 = 20 \times 5 \times 7 = 100 \times 7 = 700$;

$53 \div 7 + 3 \div 7 = (53 + 3) \div 7 = 56 \div 7 = 8$).

The pupil can use formal methods to solve multi-step problems (e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?).

The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as $\frac{1}{5}$ or 0.2 or 20% of the whole cake).

The pupil can calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as $\frac{7}{21}$ and that this is equal to $\frac{1}{3}$; 15% of 60; $112 + 34$; 79 of 108; 0.8×70).

The pupil can substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle).

The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).

The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles).