

Year 6 Maths Curriculum

Number and Place Value

- Work with numbers to up ten million (10,000,000) including negative numbers
- Round any number to any required number of digits or degree of accuracy
- Use negative numbers in context and calculate intervals across zero

Calculations

- Use a written method of multiplication for calculations of four-digit numbers by two-digit numbers (e.g 36×3456)
- Use a written method of division for calculations of four-digit numbers by two-digit numbers (e.g $2345 \div 15$) and interoperates remainders according to the context.
- Identify common factors, common multiples and prime numbers
- Carry out complex calculations according to the mathematical order of operations (BODMAS)
- Solve complex multistep problems using all four operations, and refers to estimations to check answers

NB: BODMAS- *The mathematical order of operations requires that where calculations are written out in long statements, first calculations in brackets are completed, then any multiplication or division calculations, and finally any addition or subtraction. So, for example, the calculation $4 + 3 \times (6 + 1)$ has a solution of 25, not 43 or 49.*

Fractions and Decimals

- Use common factors to simplify fractions, or to add fractions with different denominators
- Place any group of fractions into size order
- Multiply pairs of fractions together
- Divide fractions by whole numbers, for example $\frac{1}{3} \div 2 = \frac{1}{6}$
- Use division to calculate the decimal equivalent of a fraction
- Know and use common equivalences between fractions, decimals and percentages, such as $\frac{1}{2} = 0.5 = 50\%$ and to solve problems involving them in various contexts
- Solve problems which require answers to be rounded to a required degree of accuracy

Ratio and Proportion

- Solve problems involving the calculation of percentages e.g find 15% of £360
- Use ratio to explain relationships and solve problems including the sharing of unequal amounts by using knowledge of fractions (e.g $\frac{7}{8}$ cannot be shared between 2, but $\frac{14}{16}$ can)
- Use simple scale factors for drawings, shapes or diagrams

NB: *Ratio is represented using the colon symbol. For example, if £100 is shared in a ratio of 1:3 between two people, then the first person receives £25 (one part), with the other receiving £75 (three parts).*

Algebra

- Use simple formulae
- Describe sequences of numbers where the increase between values is the same each time
- Solve missing number problems using algebra
- Find possible solutions to problems with two variables, such as $a + b = 10$

Measurements

• Convert between any metric units and smaller or larger units of the same measure using notation up to three decimal places (e.g $2.456\text{ m} = 245.6\text{cm} = 2456\text{mm}$)

• Convert between miles and kilometres

• Use a given formula to find the area of a triangle or parallelogram

Shape and Position

• Draw 2-d shapes using given sizes and angles

• Use knowledge of 2-d shapes to find missing angles in triangles, quadrilaterals and other regular shapes

• Name and label the radius, diameter and circumference of a circle

• Find missing angles in problems where lines meet at a point or on a straight line

• Use a standard grid of coordinates including negative values to solve problems, and to draw and translate shapes.

Graphs and Data

• Construct and understand pie charts and line graphs

• Calculate the mean average of a set of data

NB: Mean average is calculated by adding up all the values and dividing by the number of items. For example, the mean average of 3, 5, 8, 9 and 10 is 7 ($3 + 5 + 8 + 9 + 10 = 35$, then $35 \div 5 = 7$)