

Yearly Overview

Subject: Year 7 Maths

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Prior knowledge: Understand and use place value. Multiply and divide numbers by 10, 100, 1000. Know the meaning of 'factor', 'multiple' and 'prime'. Approximate any number by rounding to one or two decimal places. Estimate addition and subtraction calculations with up to four digits. Recall multiplication facts for multiplication tables up to 12×12. Recall division facts. Understand the commutativity of multiplication and addition. Multiply a three-digit number by a two-digit number. Use column addition and subtraction.</p>	<p>Prior knowledge: Use knowledge of multiplication tables when dividing. Know how to use short division. Know the names of common 2D shapes. Know the names of common 3D shapes. Use a protractor to measure and draw angles. Know the properties of rectangles. Know the difference between a regular and an irregular polygon. Add and subtract numbers up to three digits.</p>	<p>Prior knowledge: Understand the concept of a fraction as a proportion. Understand the concept of equivalent fractions. Understand the concept of fractions, decimals and percentages being equivalent. Know that a percentage means 'out of 100'. Know the order of operations. Know the fact that area of rectangle = length \times width. Recall multiplication facts for multiplication tables up to 12×12. Recall division facts for multiplication tables up to 12×12. Find fractions of an amount. Find multiples of a given number.</p>	<p>Prior knowledge: Count forwards and backwards in tens (hundreds, thousands) from any positive number up to 10 000 (100 000, 1 000 000). Convert between adjacent metric units of length, mass, and capacity. Know rough equivalents between inches and cm, feet and cm, kg and lb, pint, and ml. Use decimal notation to two decimal places when converting between metric unit. Know that angles are measured in degrees, that angles in a full turn total 360°, and angle in half a turn must total 180°. Estimate the size of angles.</p>	<p>Prior knowledge: Calculate with fractions. Calculate with decimals. Calculate with percentages. Use symbols to represent variables in a formula. Know the meaning of perimeter (area, volume, capacity). Know that the area of a rectangle is given by the formula area = length \times width. Know that area can be measured using square centimetres or square metres, and the abbreviations cm^2 and m^2. Know that volume is measured in cubes.</p>	<p>Prior knowledge: Use coordinates in the first quadrant. Identify a translation. Carry out a translation in the first quadrant. Identify a reflection. Carry out a reflection in the first quadrant using mirror lines parallel to the axes. Know the meaning of 'congruent', 'congruence', 'object', 'image'. Measure and construct angles using a protractor. Interpret and construct a simple line graph. Approximate a number by rounding to a given number of decimal places.</p>

Term 1 knowledge	Term 2 knowledge	Term 3 knowledge	Term 4 knowledge	Term 5 knowledge	Term 6 knowledge
<p>This term: Write and read numbers. Compare and order numbers. Multiply and divide numbers by 10, 100 and 1000. Understand and use negative numbers. Calculate intervals across zero. Find common multiples and factors of two numbers. Round a number to the nearest 10, 100 and 1000. Round a number to the nearest whole number and decimal places. Understand estimating as the process of finding a rough value of an answer or calculation. Perform mental calculations, including with mixed operations and large numbers. Solve addition and subtraction multi-step problems in contexts, deciding which operations and</p>	<p>This term: Divide numbers up to 4 digits by a two-digit whole number, divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. Use written division methods in cases where the answer has up to two decimal places. Solve problems involving division use their knowledge of the order of operations. Draw 2-D shapes using given angles and dimensions. Recognise prisms and pyramids. Classify 3-D shapes including cylinders, cones and spheres. Build 3-D shapes from nets. Draw nets of 3-D shapes. Solve 3-D</p>	<p>This term: Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] recall and use equivalences between simple fractions, decimals, and percentages, including in different contexts. Use a simple one-step formula written in words. Use a simple two-step formula written in words. Use simple formula expressed in symbols. Convert between miles and kilometres. Solve simple problems</p>	<p>This term: Recognise and describe a linear sequence. Find the next terms in a linear sequence. Find a missing term in a linear sequence. Generate a linear sequence from its description. Solve problems involving linear sequences. Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. Find missing angles where they meet at a point. Find missing angles where they meet on a straight line.</p>	<p>This term: Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]. Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]. Multiply one-digit numbers with up to two decimal places by whole numbers. Solve problems involving the calculation of percentages [for example 15% of 360] and the use of percentages for comparison. Express and solve missing number problems algebraically. Know the basic rules of algebraic notation.</p>	<p>This term: Use coordinates to describe the position of a point in all four quadrants. Use coordinates to plot the position of a point in any of the four quadrants. Draw and translate simple shapes. Carry out a reflection using one of the axes as a mirror line. Interpret pie charts. Construct a pie chart by measuring angles. Interpret line graphs. Construct line graphs. Understand the meaning of 'average' as a typicality (or location). Calculate the mean of a set of discrete data. Interpret the mean of a set of discrete data. Use the mean to find a missing number in a set of data.</p>

<p>methods to use and why. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Solve problems involving addition, subtraction, and multiplication use their knowledge of the order of operations to carry out calculations.</p>	<p>problems using nets including visualising the edges (vertices) that will meet when folded. Classify 2D shapes. Find unknown angles in a triangle. Find unknown angles in an isosceles triangle when only one angle is known. Find unknown angles in a quadrilateral and regular polygon. Solve problems involving missing angles. Solve problems involving 2-D shapes. Know the names of the parts a circle.</p>	<p>involving ratio written in words. Solve problems involving ratio written in words. Use a scale factor to solve problems involving similar shapes. Find the scale factor of similar shapes. Solve problems involving unequal sharing or grouping problems using fractions. Solve problems involving unequal sharing or grouping problems using multiples.</p>	<p>Find missing angles where they are vertically opposite. Solve problems involving missing angles.</p>	<p>Use the basic rules of algebraic notation. Find pairs of numbers that satisfy an equation with two unknowns e.g. $a + b = 15$. Recognise that shapes with the same areas can have different perimeters and vice versa. Calculate the area of parallelograms and triangles. 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 [for example, mm^3 and km^3]. Recognise when it is possible to use formulae for area and volume of shape. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to</p>	
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<p>Future knowledge: Highest Common Factors and Lowest Common Multiples. Identifying prime numbers. Prime factor trees. Estimate answers to calculations. Rounding numbers to any given decimal places. Rounding to significant figures. Calculating answers to worded questions.</p>	<p>Future knowledge: Use long division to divide any numbers. Answer worded questions. Dividing decimals. Constructing triangles. Bisecting lines and angles. Use the formula to work out sum of interior angles. Calculate exterior angles of polygons.</p>	<p>Future knowledge: Calculating using fractions, decimals and percentages. Collecting like terms. Substitution into expressions and formulae. Sharing amounts into given ratio. Simplifying ratio with units. Using proportion to problem solve.</p>	<p>Future knowledge: Calculating nth terms of sequences. Using nth terms to find out if a number fits in the sequence. Convert metric and imperial units. Calculate using different units. Calculate angles in polygons. Calculate missing angles in special triangles.</p>	<p>Future knowledge: Adding, subtracting, multiplying and dividing mixed numbers. Calculating reverse and compound percentages. Solving worded problems using decimals. Using inequality symbols. Solving inequalities. Calculating area of compound shapes. Calculating areas of circles.</p>	<p>Future knowledge: Describe single transformations fully. Translate shapes using vectors. Reflect shapes using lines of reflection. Enlarge shapes using centre of enlargement as well as scale factors. Rotate shapes using centre of rotation. Drawing pie charts. Interpreting scatter graphs. Using 2-way tables. Calculating estimate mean.</p>