

### Key Stage 3 Assessment Framework - Mathematics

	NUMBER (Aspect 1)	ALGEBRA (Aspect 2)	RATIO, PROPORTION (Aspect 3)	GEOMETRY AND MEASURE (Aspect 4)	STATISTICS (Aspect 5)
<p><b>Excellent</b></p> <p>95%+ proficiency on every strand from 'good' plus some proficiency in these aspects.</p>	<p>EXCELLENCE IN NUMBER</p> <p>N1.7 Convert between base 10 numbers and other bases. N1.8 Add and subtract numbers in bases other than 10. N1.9 Work out the upper and lower bounds of rounded numbers.</p>	<p>EXCELLENCE IN ALGEBRA</p> <p>A2.1 Solve problems involving finding missing angles in a shape when variables are used to describe unknown angles (i.e. triangle's angles are <math>130</math>, <math>2x</math>, and <math>3x</math>, Find the missing angles) A3.7 Find the mean of algebraic expressions. A5.4 Explore non-linear sequences</p>	<p>EXCELLENCE IN RATIO AND PROPORTION</p> <p>R3.10 Understand the difference between terminating and recurring decimals; converting both types back and forth to fractions. R4.4 Use Egyptian fractions to represent proper fractions. R5.1 Solve problems involving sides / angles of similar shapes. R6.7 Solve density-mass-volume questions.</p>	<p>EXCELLENCE IN GEOMETRY AND MEASURE</p> <p>G2.13 Solve "more complicated" angle problems –problems which require several steps to reach the solution G5.8 Construct angle proofs G6.9 Work out the surface area of a cuboid. G6.10 Classify and identify platonic solids</p>	<p>EXCELLENCE IN STATISTICS</p> <p>S6.7 Read and construct histograms of equal width S6.8 Be able to apply various methods of statistical sampling</p>
<p><b>Good</b></p> <p>85%+ proficiency in these strands.</p>	<p>N1.1 Identify place values of digits. N1.2 Multiply and divide numbers by 10, 100, and 1000. N1.3 Round numbers to given place values. N1.4 Add and subtract integers using an appropriate method. N1.5 Add and subtract decimal numbers. N1.6 Solve worded problems involving addition, subtraction and estimation N2.1 Multiply a multi-digit number by a single digit number using an appropriate method. N2.2 Multiply a multi-digit number by a 2 or 3 digit</p>	<p>A3.1 Use algebraic shorthand to represent addition, subtraction, multiplication and/or division of an unknown quantity. A3.2 Simplify algebraic expressions involving addition and subtraction of like terms. A3.3 Multiply out brackets where a number or variable is multiplied over two or more terms. A3.4 Factorise expressions. A3.5 Substitute numbers into variables correctly.</p>	<p>R3.1 Identify a fraction of a shape. R3.2 Convert between mixed numbers and improper fractions R3.3 Find equivalent fractions including simplifying fractions. R3.4 Convert between fractions and decimals. R3.5 Find a fraction of an amount. R3.6 Multiply two fractions, including products which require simplification before multiplication. R3.7 Divide two fractions including quotients which require simplification before multiplication.</p>	<p>G1.1 Calculate the perimeter of a rectangular shape. G1.2 Calculate the perimeter of a compound shape. G2.1 Work out the area of a rectangle. G2.2 Work out the area of a triangle. G2.3 Work out the area of a parallelogram. G2.4 Work out the area of a trapezium G2.5 Solve problems involving perimeter and/or area. G2.6 Classify angles by type (acute, obtuse, reflex, right) G2.7 Measure and draw angles accurately G2.8 Solve problems involving</p>	<p>S2.1 Calculate the mean of a group of numbers. S3.1 Read information from a simple table or chart. S3.2 Analyse data from a pie chart. S.3 Create accurate pie charts S6.1 Understand the difference between the words: observation, experiment and questionnaire. S6.2 Identify and improve poorly written questionnaires. S6.3 Solve higher-level questions with pie charts.</p>
<p><b>Developing</b></p> <p>40%-84% proficiency in these strands</p>	<p>N1.1 Identify place values of digits. N1.2 Multiply and divide numbers by 10, 100, and 1000. N1.3 Round numbers to given place values. N1.4 Add and subtract integers using an appropriate method. N1.5 Add and subtract decimal numbers. N1.6 Solve worded problems involving addition, subtraction and estimation N2.1 Multiply a multi-digit number by a single digit number using an appropriate method. N2.2 Multiply a multi-digit number by a 2 or 3 digit</p>	<p>A3.1 Use algebraic shorthand to represent addition, subtraction, multiplication and/or division of an unknown quantity. A3.2 Simplify algebraic expressions involving addition and subtraction of like terms. A3.3 Multiply out brackets where a number or variable is multiplied over two or more terms. A3.4 Factorise expressions. A3.5 Substitute numbers into variables correctly.</p>	<p>R3.1 Identify a fraction of a shape. R3.2 Convert between mixed numbers and improper fractions R3.3 Find equivalent fractions including simplifying fractions. R3.4 Convert between fractions and decimals. R3.5 Find a fraction of an amount. R3.6 Multiply two fractions, including products which require simplification before multiplication. R3.7 Divide two fractions including quotients which require simplification before multiplication.</p>	<p>G1.1 Calculate the perimeter of a rectangular shape. G1.2 Calculate the perimeter of a compound shape. G2.1 Work out the area of a rectangle. G2.2 Work out the area of a triangle. G2.3 Work out the area of a parallelogram. G2.4 Work out the area of a trapezium G2.5 Solve problems involving perimeter and/or area. G2.6 Classify angles by type (acute, obtuse, reflex, right) G2.7 Measure and draw angles accurately G2.8 Solve problems involving</p>	<p>S2.1 Calculate the mean of a group of numbers. S3.1 Read information from a simple table or chart. S3.2 Analyse data from a pie chart. S.3 Create accurate pie charts S6.1 Understand the difference between the words: observation, experiment and questionnaire. S6.2 Identify and improve poorly written questionnaires. S6.3 Solve higher-level questions with pie charts.</p>
<p><b>Emerging</b></p> <p>Not yet meeting targets for 'developing'</p>	<p>N1.1 Identify place values of digits. N1.2 Multiply and divide numbers by 10, 100, and 1000. N1.3 Round numbers to given place values. N1.4 Add and subtract integers using an appropriate method. N1.5 Add and subtract decimal numbers. N1.6 Solve worded problems involving addition, subtraction and estimation N2.1 Multiply a multi-digit number by a single digit number using an appropriate method. N2.2 Multiply a multi-digit number by a 2 or 3 digit</p>	<p>A3.1 Use algebraic shorthand to represent addition, subtraction, multiplication and/or division of an unknown quantity. A3.2 Simplify algebraic expressions involving addition and subtraction of like terms. A3.3 Multiply out brackets where a number or variable is multiplied over two or more terms. A3.4 Factorise expressions. A3.5 Substitute numbers into variables correctly.</p>	<p>R3.1 Identify a fraction of a shape. R3.2 Convert between mixed numbers and improper fractions R3.3 Find equivalent fractions including simplifying fractions. R3.4 Convert between fractions and decimals. R3.5 Find a fraction of an amount. R3.6 Multiply two fractions, including products which require simplification before multiplication. R3.7 Divide two fractions including quotients which require simplification before multiplication.</p>	<p>G1.1 Calculate the perimeter of a rectangular shape. G1.2 Calculate the perimeter of a compound shape. G2.1 Work out the area of a rectangle. G2.2 Work out the area of a triangle. G2.3 Work out the area of a parallelogram. G2.4 Work out the area of a trapezium G2.5 Solve problems involving perimeter and/or area. G2.6 Classify angles by type (acute, obtuse, reflex, right) G2.7 Measure and draw angles accurately G2.8 Solve problems involving</p>	<p>S2.1 Calculate the mean of a group of numbers. S3.1 Read information from a simple table or chart. S3.2 Analyse data from a pie chart. S.3 Create accurate pie charts S6.1 Understand the difference between the words: observation, experiment and questionnaire. S6.2 Identify and improve poorly written questionnaires. S6.3 Solve higher-level questions with pie charts.</p>

<p>number using an appropriate method.</p> <p>N2.3 Divide a multi-digit number by a single digit number.</p> <p>N2.4 Divide a multi-digit number by a 2-3 digit number.</p> <p>N2.5 Multiply or divide decimal numbers.</p> <p>N2.6 Find multiples and factors of numbers.</p> <p>N2.7 Work out highest common factor and lowest common multiples of 2 numbers.</p> <p>N2.8 Solve worded problems involving multiplication, division, factors and/or multiples.</p> <p>N3.1 Add, subtract, multiply, divide, and apply indices to two or more numbers using the correct hierarchy of operations</p> <p>N4.1 Deduce all prime numbers up to at least 100.</p> <p>N4.2 Calculate squares and square roots of numbers.</p> <p>N4.3 Decompose a composite number into a product of its prime factors.</p> <p>N4.4 Find the LCM and HCF of two numbers using prime factors.</p> <p>N4.5 Solve problems involving HCF and/or LCM of two numbers</p> <p>N5.1 Put positive and negative numbers in ascending and descending order.</p> <p>N5.2 Add / subtract two or</p>	<p>A3.6 Use algebra to solve problems.</p> <p>A5.1 Express the position-to-term rule of a linear sequence as an algebraic rule (nth term).</p> <p>A5.2 Solve problems involving the nth term of a sequence.</p> <p>A5.3 Solve algebraic equations involving one or two steps.</p>	<p>R3.8 Work out a percentage of a quantity.</p> <p>R3.9 Solve problems involving percentages.</p> <p>R4.1 Add and subtract two proper fractions.</p> <p>R4.2 Add and subtract two mixed numbers.</p> <p>R4.3 Solve problems involving addition / subtraction of fractions.</p> <p>R6.1 Solve problems involving percentages.</p> <p>R6.2 Calculate the percentage increased or decreased between two values.</p> <p>R6.3 Solve reverse percentage problems</p> <p>R6.4 Solve basic problems involving ratio.</p> <p>R6.5 Solve problems involving dividing in a common ratio.</p> <p>R6.6 Solve distance-speed-time questions</p>	<p>angles on a straight line, around a point, vertically opposite angles, angle sum in a triangle, and angle sum in a quadrilateral..</p> <p>G2.9 Tessellate shapes.</p> <p>G2.10 Classify triangles (equilateral, isosceles, scalene).</p> <p>G2.11 Solve problems using properties of quadrilaterals.</p> <p>G2.12 Accurately construct a triangle given three pieces of information</p> <p>G3.1 Solve problems involving area and percentages</p> <p>G5.1 Construct a triangle given three side lengths using a ruler and a pair of compasses.</p> <p>G5.2 Construct a triangle given two angles and one side using a protractor.</p> <p>G5.3 Solve problems involving angles in special quadrilaterals.</p> <p>G5.4 Recognise properties of angles, equal sides, parallelness, line and rotational symmetry in all special quadrilaterals.</p> <p>G5.5 Solve problems involving parallel lines.</p> <p>G5.6 Convert between metric measures of area.</p> <p>G5.7 Solve problems involving area and change of measures.</p> <p>G6.1 Calculate the circumference of a circle or fraction of a circle.</p> <p>G6.2 Calculate the area of a circle or fraction of a circle.</p> <p>G6.3 Solve problems involving circumference or area of a circle.</p> <p>G6.4 Draw an accurate net of a</p>	<p>S6.4 Work out mode, median, mean and range of a set of data.</p> <p>S6.5 Solve problems involving mean, median, mode and range.</p> <p>S6.6 Find the mean of data from a table</p>
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	more integers. N5.3 Multiply / divide two or more integers			prism. G6.5 Solve problems involving nets of prisms. G6.6 Draw accurate plans, front, and side elevations of 3D geometrical figures. G6.7 Calculate the volume of any prism. G6.8 Solve problems involving volume of prisms	
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