

Mathematics - Year 5 Age Related Expectations (AREs)		Seen	Secure
Place Value	I know how to read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.		
	I know how to count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.		
	I know how to interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.		
	I know how to round any number up to 1,000,000 to the nearest 10 100 1,000 10,000 and 100,000.		
	I know how to solve number problems and practical problems that involve all of the above.		
	I know how to read Roman numerals to 1000 (M) and recognise years written in Roman numerals.		
Addition and Subtraction	I know how to add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).		
	I know how to add and subtract numbers mentally with increasingly large numbers.		
	I know how to use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.		
	I know how to solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why.		
Multiplication and Division	I know how to identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.		
	I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.		
	I know how to establish whether a number up to 100 is prime and recall prime numbers to 19.		
	I know how to multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.		
	I know how to multiply and divide numbers mentally drawing upon known facts.		
	I know how to divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.		
	I know how to multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.		
	I know how to recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).		
	I know how to solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.		

	I know how to solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.		
	I know how to solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.		
Fractions	I know how to compare and order fractions whose denominators are all multiples of the same number.		
	I know how to identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.		
	I know how to recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements.		
	I know how to add and subtract fractions with the same denominator and denominators that are multiples of the same number.		
	I know how to multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.		
	I know how to read and write decimal numbers as fractions [for example, 0.71 = 71/100].		
	I know how to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.		
	I know how to round decimals with two decimal places to the nearest whole number and to one decimal place.		
	I know how to read, write, order and compare numbers with up to three decimal places		
	I know how to solve problems involving number up to three decimal places.		
	I know how to recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', write percentages as a fraction with denominator 100, & as a decimal.		
	I know how to solve problems which require knowing the percentage and decimal equivalents of a quarter, a half, one fifth, two fifths, four fifths and those fractions with a denominator of a multiple of 10 or 25		

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Measurement	I know how to convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).		
	I understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.		

	I know how to measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.		
	I know how to calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes.		
	I know how to estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water].		
	I know how to solve problems involving converting between units of time.		
	I know how to use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.		
Geometry and Statistics	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.		
	I know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.		
	I know how to draw given angles and measure them in degrees (°).		
	I know how to identify: angles at a point and one whole turn (total 360°).		
	I know how to identify angles at a point on a straight line & 1/2 a turn (total 180°).		
	I know how to identify other multiples of 90°.		
	I know how to use the properties of rectangles to deduce related facts and find missing lengths and angles.		
	I know how to distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		
	I know how to identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.		
	I know how to solve comparison, sum and difference problems using information presented in a line graph.		
I know how to complete, read and interpret information in tables, including timetables.			