Year 6 Guidance

Ready-to-progress criteria

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Year 5 conceptual prerequesite	Year 6 ready-to-progress criteria	Key stage 3 applications
Understand the relationship between powers of 10 from 1 hundredth to 1,000 in terms of grouping and exchange (for example, 1 is equal to 10 tenths) and in terms of scaling (for example, 1 is ten times the size of 1 tenth).	6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).	Understand and use place value for decimals, measures, and integers of any size. Interpret and compare numbers in standard form $A \times 10^n 1 \leq A < 10$, where n is a positive or negative integer or zero.
Recognise the place value of each digit in numbers with units from thousands to hundredths and compose and decompose these numbers using standard and non-standard partitioning.	6NPV–2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.	Understand and use place value for decimals, measures, and integers of any size. Order positive and negative integers, decimals, and fractions. Use a calculator and other technologies to calculate results accurately and then interpret them appropriately.
Reason about the location of numbers between 0.01 and 9,999 in the linear number system. Round whole numbers to the nearest multiple of 1,000, 100 or 10, as appropriate. Round decimal fractions to the nearest whole number or nearest multiple of 0.01	6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.	Order positive and negative integers, decimals, and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, ≤, ≥ Round numbers and measures to an appropriate degree of accuracy (for example, to a number of decimal places or significant figures). Use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation $a < x \leq b$

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Divide 1000, 100 and 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines with 2, 4, 5 and 10 equal parts.	6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	Use standard units of mass, length, time, money, and other measures, including with decimal quantities. Construct and interpret appropriate tables, charts, and diagrams.
Be fluent in all key stage 2 additive and multiplicative number facts (see Appendix: number facts fluency overview) and calculation. Manipulate additive equations, including applying understanding of the inverse relationship between addition and subtraction, and the commutative property of addition. Manipulate multiplicative equations, including applying understanding of the inverse relationship between multiplication and division, and the commutative property of multiplication.	6AS/MD–1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	Understand that a multiplicative relationship between 2 quantities can be expressed as a ratio or a fraction. Express 1 quantity as a fraction of another, where the fraction is less than 1 and greater than 1. Interpret mathematical relationships both algebraically and geometrically. Interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning.
Make a given number (up to 9,999, including decimal fractions) 10, 100, 1 tenth or 1 hundredth times the size (multiply and divide by 10 and 100). Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10, 100, 1 tenth or 1 hundredth). Manipulate additive equations. Manipulate multiplicative equations.	6AS/MD–1 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	Recognise and use relationships between operations including inverse operations. Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships. Understand and use standard mathematical formulae; rearrange formulae to change the subject.

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Recall multiplication and division facts up to 12×12. Apply place-value knowledge to known additive and multiplicative number facts.	6AS/MD–3 Solve problems involving ratio relationships.	Use ratio notation, including reduction to simplest form. Divide a given quantity into 2 parts in a given part:part or part:whole ratio; express the division of a quantity into 2 parts as a ratio.
Be fluent in all key stage 2 additive and multiplicative number facts and calculation. Manipulate additive equations. Manipulate multiplicative equations. Find a fraction of a quantity.	6AS/MD–4 Solve problems with 2 unknowns.	Reduce a given linear equation in two variables to the standard form $y = mx + c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically. Use linear and quadratic graphs to estimate values of y for given values of x and vice versa and to find approximate solutions of simultaneous linear equations.
Recall multiplication and division facts up to 12×12. Find factors and multiples of positive whole numbers, including common factors and common multiples. Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	6F–1 Recognise when fractions can be simplified, and use common factors to simplify fractions.	Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property. Simplify and manipulate algebraic expressions by taking out common factors.

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The criteria are organised into 6 strands, each with their own code. These are listed below.

Criteria Strands	Code
Number and place value	**NPV**
Number facts	**NF**
Addition and subtraction	**AS**
Multiplication and division	**MD**
Fractions	**F**
Geometry	**G**