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| Number | Geometry | Ratio & proportion | Algebra | Statistics |
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| Topic name | Term | Skills developed | Link to NC subject Content | Prior learning | Next link in curriculum |
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| SEQUENCES | Autumn | <ul style="list-style-type: none"> Begin to reason deductively in geometry, number and algebra, including using geometrical constructions Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships | <ul style="list-style-type: none"> Move freely between different numerical, algebraic, graphical and diagrammatic representations Make and test conjectures about patterns and relationships Generate sequences from a term-to-term rule Recognise arithmetic and geometric sequences | <ul style="list-style-type: none"> Y6 work on ‘finding a rule’ and types of sequences Y6 NC link - generate and describe linear number sequences | <ul style="list-style-type: none"> Year 7 Autumn - Understand algebraic notation |
| UNDERSTAND AND USE ALGEBRAIC NOTATION | Autumn | <ul style="list-style-type: none"> Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships | <ul style="list-style-type: none"> Recognise and use relationships between operations including inverse operations Substitute values in expressions, rearrange and simplify expressions Use and interpret algebraic notation | <ul style="list-style-type: none"> Y6 work on introduction to simple expressions and solving equations using part-whole diagrams and bar models | <ul style="list-style-type: none"> Year 7 Autumn – Equality and equivalence |
| EQUALITY AND EQUIVALENCE | Autumn | <ul style="list-style-type: none"> Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems | <ul style="list-style-type: none"> Simplify and manipulate algebraic expressions to maintain equivalence by collecting like terms Use algebraic methods to solve linear equations in one variable | <ul style="list-style-type: none"> Y6 – pupils may have been introduced to equivalent expressions | <ul style="list-style-type: none"> Year 7 Spring - Directed Number |



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| PLACE VALUE AND ORDERING INTEGERS AND DECIMALS | Autumn | <ul style="list-style-type: none"> Extend understanding of the number system and place value to include decimals, fractions, powers and roots | <ul style="list-style-type: none"> Understand and use place value for decimals, measures and integers of any size Round numbers to an appropriate degree of accuracy Interpret and compare numbers in standard form | <ul style="list-style-type: none"> Y6 NC link - read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Y6 NC link - round any whole number to a required degree of accuracy | <ul style="list-style-type: none"> Year 7 Autumn - Fraction, Decimal and Percentage Equivalence |
| FRACTION, DECIMAL AND PERCENTAGE EQUIVALENCE | Autumn | <ul style="list-style-type: none"> Extend their understanding of the number system; make connections between number relationships, and their algebraic and graphical representations | <ul style="list-style-type: none"> Move freely between different numerical representations Express one quantity as a fraction of another, where the fraction is less than one and greater than one Compare two quantities using percentages Work with percentages greater than 100% | <ul style="list-style-type: none"> Y5 NC link - recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal Y6 NC link - use common factors to simplify fractions; use common multiples to express fractions in the same denomination | <ul style="list-style-type: none"> Year 7 Spring - Fractions and Percentages of Amounts |
| SOLVING PROBLEMS WITH ADDITION AND SUBTRACTION | Spring | <ul style="list-style-type: none"> Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems | <ul style="list-style-type: none"> Derive and apply formulae to calculate and solve problems involving perimeter Construct and interpret appropriate tables, charts and diagrams for ungrouped numerical data | <ul style="list-style-type: none"> Y6 NC link - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Y5 NC link - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | <ul style="list-style-type: none"> Year 7 Spring - Solving problems with multiplication and division |
| SOLVING PROBLEMS WITH MULTIPLICATION AND DIVISION | Spring | <ul style="list-style-type: none"> Select and use appropriate calculation strategies to solve increasingly complex problems | <ul style="list-style-type: none"> Derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms and trapezia | <ul style="list-style-type: none"> Y6 NC link - recognise that shapes with the same areas can have different perimeters and vice versa Y6 NC link - recognise when it is possible to use formulae | <ul style="list-style-type: none"> Year 7 Summer - Developing Geometric Reasoning |



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| | | | <ul style="list-style-type: none"> Substitute numerical values into formulae and expressions, including scientific formulae | <p>for area and volume of shapes</p> <ul style="list-style-type: none"> Y6 NC link - calculate the area of parallelograms and triangles | |
| FRACTIONS AND PERCENTAGES OF AMOUNTS | Spring | <ul style="list-style-type: none"> Select and use appropriate calculation strategies to solve increasingly complex problems | <ul style="list-style-type: none"> Use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions Interpret integers and fractions as operators | <ul style="list-style-type: none"> Y6 NC link - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Y6 NC link - multiply simple pairs of proper fractions, writing the answer in its simplest form Y6 NC link - divide proper fractions by whole numbers | <ul style="list-style-type: none"> Year 8 Spring - Fractions and Percentages |
| DIRECTED NUMBER | Spring | <ul style="list-style-type: none"> Extend their understanding of the number system; make connections between number relationships, and their algebraic and graphical representations | <ul style="list-style-type: none"> Use four operations, including formal written methods, applied to integers both positive and negative Understand and use the concepts of vocabulary of expressions, equations, inequalities, terms and factors Forming and solving linear equations, including two-step equations | <ul style="list-style-type: none"> Y6 NC link - use negative numbers in context, and calculate intervals across zero | <ul style="list-style-type: none"> Year 8 Spring - Brackets, equations and inequalities |
| FRACTIONAL THINKING | Spring | <ul style="list-style-type: none"> Move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] | <ul style="list-style-type: none"> Order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, > Use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative | <ul style="list-style-type: none"> Y6 NC link - use negative numbers in context, and calculate intervals across zero Y6 NC link - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts | <ul style="list-style-type: none"> Year 8 Spring - Fractions and Percentages |



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| CONSTRUCTING, MEASURING AND USING GEOMETRIC NOTATION | Summer | <ul style="list-style-type: none"> • Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. | <ul style="list-style-type: none"> • Begin to reason deductively in geometry including using geometrical constructions • Use the standard conventions for labelling sides and angles • Identify and construct triangles | <ul style="list-style-type: none"> • Y6 NC link - draw 2-D shapes using given dimensions and angles • Y6 NC link - recognise, describe and build simple 3-D shapes, including making nets | <ul style="list-style-type: none"> • Year 7 Summer - Geometric Reasoning |
| GEOMETRIC REASONING | Summer | <ul style="list-style-type: none"> • Begin to reason deductively in geometry, number and algebra, including using geometrical constructions | <ul style="list-style-type: none"> • Apply the properties of angles at a point, angles at a point on a straight line and vertically opposite angles • Understand and use the relationship between parallel lines and alternate and corresponding angles | <ul style="list-style-type: none"> • Y6 NC link - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • Y6 NC link - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles | <ul style="list-style-type: none"> • Year 8 Summer - Angles in parallel lines and polygons |
| DEVELOPING NUMBER SENSE | Summer | <ul style="list-style-type: none"> • Select and use appropriate calculation strategies to solve increasingly complex problems | <ul style="list-style-type: none"> • Begin to reason deductively in number and algebra | <ul style="list-style-type: none"> • Y7 Spring term – solving problems involving addition, subtraction, multiplication and division. | <ul style="list-style-type: none"> • Year 8 Spring - Number Sense |
| SETS AND PROBABILITY | Summer | <ul style="list-style-type: none"> • Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems | <ul style="list-style-type: none"> • Understand that the probabilities of all possible outcomes sum to 1 • Enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams | <ul style="list-style-type: none"> • Pupils have not met probability before but can draw upon their understanding of fractions to simplify answers. | <ul style="list-style-type: none"> • Year 8 Autumn - Tables and Probability |



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| <p>PRIME NUMBERS AND PROOF</p> | <p>Summer</p> | <ul style="list-style-type: none"> • Begin to reason deductively in geometry, number and algebra, including using geometrical constructions | <ul style="list-style-type: none"> • Use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4 and 5 • Make and test conjectures about patterns and relationships; look for proofs or counterexamples | <ul style="list-style-type: none"> • Y7 Autumn term and Spring term – understanding of constructions and using algebra to generalise findings. | <ul style="list-style-type: none"> • Year 8 Spring - Number Sense |
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* Throughout the entire curriculum, content and skills are revisited and reused continuously. The colour code refers to the main strand each topic falls under.