

Mathematics Year 11 Foundation

| Term | 1 | | 2 | | 3 | | 4 | | 5 | 6 |
|----------------|--|--|--|---|--|--|--|--|--|--|
| Topic | Geometry 1 | Number 1 | Geometry 2 | Algebra 1 | Top 14 topics to get a Grade 5 | UNPACK Problem solving | Exam Paper practise | Exam Paper practise | Exam Paper practise | Exam Paper practise |
| Detail | Recall and use the formulae for area and circumference of a circle and how it connects to finding the volume and surface area of a cylinder. Recall and use the formulae for calculating the surface area and volume of spheres, cones and pyramids. | Multiplication and division of fractions and mixed numbers. Understand and use the laws of indices to calculate with standard form. | Know, use and represent vectors and find resultant vectors. Perform vector arithmetic. Use congruency to solve problems involving lengths of shapes. | Plot and use non-linear graphs to solve problems. Solve simultaneous equations both graphically and algebraically including in context. Rearrange scientific formulae | Unit 1: HCF, LCM, Primes, BIDMAS Unit 2: Area and Perimeter Unit 3: Sequences and Forming Equations Unit 4: Brackets and Factorising Unit 5: Decimals Unit 6: Averages Unit 7: Scatter graphs Unit 8: Percentages and Ratio Unit 9: Probability Unit 10: Transformations Unit 11: Angles Unit 12: Formulae Unit 13: Volume and Measure Unit 14: Best Buys | Problem solving questions on: Area and circumference of a circle Best Deal Comparing length and area Compound Area and Perimeter Compound Measure problems Exchange rates Forming and Solving equations Fractions, Decimals and Percentages Frequency Tree Diagrams HCF, LCM Money Percentage Increase and Decrease Percentage - Simple and Compound Interest Proportion Ratio Ratio Recipe Scale factor diagrams and map Standard form Theoretical probability | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers |
| Grade 8-9 | | | | | | | | | | |
| Grade 6-7 | | | | | | | | | | |
| Grade 5 | Use and calculate the perimeter and area of sectors. Calculate and solve problems with the area of composite shapes including circles. Find and use the surface and volume of | Evaluate negative indices and reciprocals including on a calculator. | Use congruency to find missing lengths. Add and subtract vectors. Find resultant vectors. Multiply a vector by a scalar. | Plot graphs of cubic and reciprocal functions. Use non-linear graphs to solve problems. Solve simultaneous equations algebraically. Proof using algebra. | Percentages - Compound Interest/Depreciation Probability tree diagrams Enlargements | Percentages - Simple and Compound Interest | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers |
| Grade 4 | | Know and use the laws of indices. | | Solve simultaneous equations graphically. Rearrange formulae including in a scientific context. | Forming equations - Brackets and Factorising Scatter graphs Percentage - Increase/Decrease Formula Volume and Measure Best Buys | Comparing length and area Compound Measure problems | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers |
| Grade 2-3 | Use and calculate the circumference and area of a circle. Find and use the surface area and volume of cylinders and prisms. | Multiplying Fractions and mixed numbers. Dividing fractions and mixed numbers. Use index notation with numbers. Convert numbers to and from standard form. Perform arithmetic with numbers in standard form. | | | HCF, LCM, Primes, BIDMAS Area, Perimeter and Circumference Sequences Decimals Averages Forming and Solving Equations Fractions, Decimals and Percentages Frequency Tree Diagrams HCF, LCM Money Percentage Increase and Decrease Compound Interest Proportion Ratio of a Quantity Ratio Recipe Scale factor diagrams and map Standard form Theoretical probability | Area and circumference of a circle Best Deal Compound Area and Perimeter Exchange rates Forming and Solving equations Fractions, Decimals and Percentages Frequency Tree Diagrams HCF, LCM Money Percentage Increase and Decrease Compound Interest Proportion Ratio of a Quantity Ratio Recipe Scale factor diagrams and map Standard form Theoretical probability | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers | Variety of practise questions on all exam papers |
| Keywords | composite, solid, sphere, pyramid, cone, perpendicular, slant, height, surface area, volume | Power, root, index, indices, standard form | vector, scalar, constant, resultant | unknown, solve, simultaneous equations, substitution | | | | | | |
| Resource Links | NRICH: Surface Area and Volume | ELL: Maths to Infinity: Standard form, Maths to Infinity: Indices | KM: Vectors | KM: Stick on the Maths: ALG2: Simultaneous linear equations | | | | | | |
| | hwb_Summerhouse and Radiators | NRICH: Powers and Roots - Short Problems | NRICH: Vectors | KM: Convinced?: ALG2: Simultaneous linear equations | | | | | | |
| | | NRICH: Power Countdown | CIMT: Vectors | NRICH: Matchless | | | | | | |
| | | Powers of 10 | AQA: Bridging Units: Vectors | AQA: Bridging Units: Resource Pocket 4 (Skills builder 2 and 3) | | | | | | |