



Subject: Mathematics

Year group: 9

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Content Declarative Knowledge – 'Know What' | Developing Geometry (from year 8) Area of trapezia and circles Line symmetry and reflection | Reasoning with algebra Straight line graphs Forming and solving equations Testing conjectures | Constructing in 2 and 3 dimensions Three dimensional shapes Constructions and congruency | Reasoning with Number Numbers Using percentages Maths and money (taught on a different timeline where class is split with second teacher) | Reasoning with Geometry Deduction Rotation and translation Pythagoras' Theorem | Reasoning with Proportion Enlargement and similarity Solving ratio and proportion problems Rates |
| Skills Procedural Knowledge – 'Know How' | Area of trapezium Area of circle and parts of circles Using significant figures Area of compound shapes | Interpret straight line graphs Find and use the equations of a straight line Compare to linear sequences and finding the rule for the nth term Revisit and stand to equations and inequalities with unknowns on both sides Use all previous contexts; angles, probability, area etc. Test conjectures in a wide range of contexts | Understand the language of faces, edges, and vertices Know the names of common prisms and non-prisms Identify 2D shapes within 3D shapes Work out the volume and surface area of a cuboid and cylinder Work out the volume of any prism Work out missing lengths given area and/or volume Construct 3D shapes from nets, and construct the net of a given £D shape Construct perpendiculars and bisectors Understand congruency Exploring congruency via constructions. | Revisit types of number Revisit fraction arithmetic Extend knowledge of HCF and LCM Revisit standard form Revisit percentage increase and decrease Use percentages over 100% Find percentage change Use multipliers in a variety of contexts. Explore financial mathematics | Revisit angle rules, including special quadrilaterals Find angles using algebraic methods Use chains of reasoning to evaluate angles Identify the order of rational symmetry of a shape Find the result of rotating a shape Translate points and shapes by a given vector Understand variance and invariance in the contexts of transformations Identify the hypotenuse of a right- angled triangle Determine whether a triangle is a right angled Calculate missing sides in right angled triangles. | Enlarge shapes by a positive scale factor, including from a given point. Calculate the lengths of missing sides in similar shapes Direct proportion problems and graphs Conversion graphs Solving ratio problems given the whole or a part Simple inverse proportion Work with speed, distance, time Solve problems involving density Work with compound units |



Curriculum Map



| Key Questions | Can you confidently write the use the formulae for the area of a trapezium and the area and circumference of a circle? | Can you explain why y=mx+c is the form for a straight line and identify the equation from a line on a graph? | Can you explain why basexheightxdepth is not the way to calculate the volume of all prisms? | Can you explain why using a multiplier of 1.35 will increase an amount by 35%? | How does using Pythagoras' Theorem help you decide if a triangle is right angled? | Why does the centre of enlargement have an effect on the enlargement of a shape? |
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| Assessment | Baseline assessment Mini unit test | Mini unit test | Mini unit test | Mini unit test | Mini unit test | Mini unit test |
| Literacy/Numeracy/ SMSC/Character | | | | | | |