KS3 Mathematics Curriculum Coverage:

Year 8 Autumn Term

Sequenced	Block 1: Ratio	Block 2 : Proportion and scale	Block 3: Algebraic manipulation	Block 4: Co-ordinates and graphs
Key Knowledge	To know: • the term ratio relates to the relationship between 2 or more things • a colon is used for ratio notation	To know: • what is meant by direct proportion • how to read a conversion graph • what a scale factor is • similar shapes have the same corresponding angles and length scale factor the meaning of scales on diagrams	To know: • the meaning of term, expression, simplify, variable, expand and factorise • expressions can be simplified by collecting like terms • expanding a bracket follows the distributive property • factorising fully requires the highest common factor to be taken out of the bracket	To know: • the x axis, y axis and origin • how to plot coordinates in all 4 quadrants • x=a lines are vertical through a • y=b lines are horizontal through b • the gradient is a measure of how steep a line is • positive gradients slope up, left to right • negative gradients slope down left to right • the y-intercept is the co-ordinate where the graph crosses the y-axis
Key Skills	To be able: • use ratio notation • solve problems 1:n • solve problems m:n • use bar models to share values into a given ratio • compare ratio and fractions	To be able to: • solve problems involving direct proportion • read and interpret conversion graphs and direct proportion graphs • use ratio to find lengths in similar shapes • find and use scale factors • draw and interpret scale diagrams	To be able to: • form and simplify algebraic expressions • substitute a value into an expression • expand brackets • factorise linear and quadratic expressions into brackets • apply prior knowledge of directed number with algebraic problems	To be able to: • Plot and read coordinates in all four quadrants • Work with ines parallel to the axes • Plot lines of the form y=mx • Interpret gradient (y=mx) • Plot lines with a negative gradient • Plot and interpret lines of the form y=x+c • Find the midpoint of a line segment • Solve problems with coordinates and graphs • Plot and identify quadratic graphs
	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary
Subject specific vocabulary	ratio, proportion, equal parts, colon, divide, multiply, part, bar model compare fraction 1;n m:n	proportion, ratio, linear, variable, conversion, exchange rate, scale factor	term expression substitute simplify variable expand factorise coefficient equivalent equation solve multiply out identity product factor common factor highest common factor like terms unlike terms zero pair quadratic	quadrant coordinates horizontal vertical axes origin equation graph diagonal scale slope substitute proportion gradient input output intercept linear