WRM – Year 8 Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**Proportional Reasoning**						**Representations**					
	Ratio and scale		Multiplicative change		Multiplying and dividing fractions		Working in the Cartesian plane			Representing data		Tables & Probability
Spring	**Algebraic techniques**						**Developing Number**					
	Brackets, equations and inequalities				Sequences	Indices	Fractions and percentages		Standard index form		Number sense	
Summer	**Developing Geometry**						**Reasoning with Data**					
	Angles in parallel lines and polygons		Area of trapezia and circles		Line symmetry and reflection		The data handling cycle				Measures of location	

WRM – Year 8 Autumn Term

Autumn Half Term 1 – Proportional Reasoning

Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 and 4	Block 3– Weeks 5 and 6
Ratio and Scale • Understand ratio and its link to multiplication • Use ratio notation • Reduce ratios to simplest form • Solve ratio problems • Calculate the circumference of a circle	**Multiplicative Change** • Use scale factors, linking to ratio, to solve simple direct proportion problems • Convert between currencies, including using graphs • Draw and interpret scale diagrams and maps	**Multiplying and dividing fractions** • Multiply and divide a fraction by an integer • Multiply and divide a fraction by a fraction • Understand and use the reciprocal

Notes/Links/Interleaving	Additional Higher Content
• Revisit area • Revisit equations • Revisit converting improper fractions and mixed numbers • Link to fractions of an amount	• Express any ratio in the form $1:n$ • Explore direct proportion graphs • Multiply and divide mixed numbers • Multiply and divide simple algebraic fractions

Autumn Half Term 2 – Representation

Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 and 11	Block 6 – Week 12
Woking in the Cartesian plane • Plot and interpret straight line graphs • Understand ad use the equations of a straight line, including lines parallel to the axes • Make links between direct proportion and straight lines of the form $y = kx$ • Model situations by translating them into expressions, formulae and graphs	**Representing data** • Draw and interpret scatter graphs • Understand correlation • Draw and use lines of best fit • Understand grouped and ungrouped ,discrete and continuous data • Design and use one and two-way tables	**Probability** • List outcomes using sample space diagrams for one and two events • Find probabilities using tables and Venn diagrams

Notes/Links/Interleaving	Additional Higher Content
• Revisit calculation with directed number • Link to solving one and two-step linear equations • Revisiting Venn diagrams and set notation • Links to representing data and using graphs in other areas of the curriculum	• Find the mid-point of a line segment • Explore gradient • Explore non-linear graphs • Use the product rule for counting

WRM – Year 8 Spring Term

Spring Half Term 1 – Algebraic Techniques

Block 1 – Weeks 1 to 4	Block 2 – Week 5	Block 3 – Week 6
Brackets, equations and inequalities • Expand, and factorise into, single brackets • Form and use expressions, formulae and identities • Form and solve equations and inequalities with and without brackets • Distinguish between equations, expressions, formulae and identities	**Sequences** • Generate sequences using more complex rules, e.g. with brackets and squared terms, both in words and algebraically	**Indices** • Form expressions using indices • Understand and use the addition and subtraction rules

Notes/Links/Interleaving	Additional Higher Content
• Revisit the use of directed number • Solve equations set in the context of earlier contexts – shapes, angles, probability, ratio etc.	• Expand a pair of binomials • Solve equations and inequalities with unknowns on both sides • Find the rule for the nth term of a linear sequence • Explore powers of powers

Spring Half Term 2 – Developing number

Block 4 – Weeks 7 and 8	Block 5 – Weeks 9 and 10	Block 6 – Weeks 11 and 12
Fractions and percentages • Develop understanding of fractions, decimals and percentages • Evaluate percentage increases and decreases • Use multipliers to solve percentage problems • Express one number as a percentage of another	**Standard index form** • Convert between numbers in ordinary and standard form • Compare numbers given in standard form • Calculate with numbers given in standard form, with and without a calculator	**Number sense** • Develop mental strategies • Convert between metric measures and units • Estimation, including rounding to a given number of decimal places • Use the order of operations

Notes/Links/Interleaving	Additional Higher Content
• Revisit fraction, decimal and percentage equivalence • Revisit formal methods for calculation, for integers and fractions • Compare and use ratios in the context of FDP	• Finding the original given any percentage • Understand and use surd notation • Understand and use negative and simple fractional indices • Convert between units of area and volume • Use error interval notation

WRM – Year 8 Summer Term

Summer Half Term 1 – Developing geometry

Block 1 – Weeks 1 and 2

Angles in parallel lines and polygons
- Review Y7 angles rules
- Understand and use parallel lines and angles
- Revisit geometric notation
- Work out angles in special quadrilaterals
- Find and use the sum of interior and exterior angles of a polygon
- Prove simple geometric facts

Block 2 – Weeks 3 and 4

Area of a trapezia and circles
- Review area of shapes covered in year 7
- Calculate the area of a trapezium
- Calculate the area of a circle, and the area of parts of a circle
- Use significant figures
- Calculate the area of compound shapes

Block 3– Weeks 5 and 6

Line symmetry and reflection
- Recognise line symmetry in polygons and other shapes
- Reflect shapes in horizontal, vertical and diagonal lines

Notes/Links/Interleaving
- Revisit forming and solving equations
- Revisit properties of shapes
- Revisit equations of straight lines

Additional Higher Content
- Perform standard constructions including perpendiculars
- Understand and use the properties of diagonals of quadrilaterals

Summer Half Term 2 – Reasoning with data

Block 4 – Weeks 7 to 10

The data handling cycle
- Understand and use primary and secondary sources of data
- Collect data, including using questionnaires
- Interpret and construct statistical diagrams, including multiple bar charts
- Construct and interpret pie charts
- Compare distributions using charts
- Identify misleading graphs

Block 5 – Weeks 11 and 12

Measures of location and dispersion
- Revisit the median and mean, including finding the total given the mean
- Find the mean of grouped data
- Work out the mode and modal class
- Choose the appropriate average
- Comparing distributions using measures

Notes/Links/Interleaving
- Revisit finding the range
- Use algebraic substitution to form lists for averages and the range
- Links to data collection and representation in other areas of the curriculum

Additional Higher Content
- Find unknown data values given the mean or changes in the mean
- Explore histograms for unequal groups
- Find the median from a table of values