

Y8 Scheme of Work – White Rose Maths

Term	Weeks	Topic	Small step	Title
Autumn 1	2	1.1 Ratio and Scale	SS1	Understand the meaning and representation of ratio
			SS2	Understand and use ratio notation
			SS3	Solve problems involving ratios of the form 1 n or n 1
			SS4	Solve proportional problems involving the ratio m n
			SS5	Divide a value into a given ratio
			SS6	Express ratios in their simplest integer form
			SS7	Express ratios in the form 1 n
			SS8	Compare ratios and related fractions
			SS9	Understand Pi as a ratio
			SS10	Understand gradient as a ratio
	2	1.2 Multiplicative Change	SS1	Solve problems involving direct proportion
			SS2	Explore conversion graphs
			SS3	Convert between currencies
			SS4	Explore direct proportion graphs
			SS5	Explore relationships between similar shapes
			SS6	Understand scale factors as multiplicative representations
			SS7	Draw and interpret scale diagrams
			SS8	Interpret maps using scale factors and ratios
	2	1.3 Multiplying and Dividing Fractions	SS1	Represent multiplication of fractions
			SS2	Multiply a fraction by an integer
			SS3	Find the product of a pair of unit fractions
			SS4	Find the product of a pair of any fractions
			SS5	Divide an integer by a fraction
			SS6	Divide a fraction by a unit fraction
			SS7	Understand and use the reciprocal
			SS8	Divide any pair of fractions
			SS9	Multiply and divide improper and mixed fractions
			SS10	Multiply and divide algebraic fractions
Autumn 2	3	1.4 Working in the Cartesian Plane	SS1	Work with coordinates in all four quadrants
			SS2	Identify and draw lines that are parallel to the axes
			SS3	Recognise and use the line $y = x$
			SS4	Recognise and use lines of the form $y = kx$
			SS5	Link $y = kx$ to direct proportion problems
			SS6	Explore the gradient of the line $y = kx$
			SS7	Recognise and use lines of the form $y = x + a$
			SS8	Explore graphs with negative gradient
			SS9	Link graphs to linear sequences
			SS10	Plot graphs of the form $y = mx + c$
			SS11	Explore non-linear graphs

			SS12	Find the midpoint of a line segment
	2	1.5 Representing Data	SS1	Draw and interpret scatter graphs
			SS2	Understand and describe linear correlation
			SS3	Draw and use line of best fit
			SS4	Identify non-linear relationships
			SS5	Identify different types of data
			SS6	Read and interpret ungrouped frequency tables
			SS7	Read and interpret grouped frequency tables
			SS8	Represent grouped discrete data
			SS9	Represent continuous data grouped into equal classes
			SS10	Construct and interpret two-way tables
	1	1.6 Probability	SS1	Construct sample spaces for one or more events
			SS2	Find probabilities from a sample space
			SS3	Find probabilities from two-way tables
			SS4	Find probabilities from Venn diagrams
			SS5	Use the product rule for finding the total number of possible outcomes
Spring 1	4	2.1 Brackets, equations and Inequalities	SS1	Form algebraic expressions
			SS2	Use directed number with algebra
			SS3	Multiply out a single bracket
			SS4	Factorise into a single bracket
			SS5	Expand multiple single brackets and simplify
			SS6	Expand a pair of binomials
			SS7	Solve equations including with brackets
			SS8	Form and solve equations with brackets
			SS9	Understand and solve simple inequalities
			SS10	Form and solve inequalities
			SS11	Solve equations and inequalities with unknowns on both sides
			SS12	Form and solve equations and inequalities with unknowns on both sides
			SS13	Identify and use formulae expressions identities and equations
	1	2.2 Sequences	SS1	Generate sequences given a rule in words
			SS2	Generate sequences given a simple algebraic rule
			SS3	Generate sequences given a complex algebraic rule
			SS4	Find the rule for the nth term of a linear sequence
	1	2.3 Indices	SS1	Adding and subtracting expressions with indices
			SS2	Simplifying algebraic expressions by multiplying indices
			SS3	Simplifying algebraic expressions by dividing indices
			SS4	Using the addition law for indices
			SS5	Using the addition and subtraction law for indices
			SS6	Exploring powers of powers
	3	2.4 Fractions	SS1	Convert fluently between key fractions decimals and percentages

			SS2	Calculate key fractions decimals and percentages of an amount without a calculator
			SS3	Calculate fractions decimals and percentages of an amount using calculator methods
			SS4	Convert between decimals and percentages greater than 100
			SS5	Percentage decrease with a multiplier
			SS6	Calculate percentage increase and decrease using a multiplier
			SS7	Express one number as a fraction or a percentage of another without a calculator
			SS8	Express one number as a fraction or a percentage of another using calculator methods
			SS9	Work with percentage change
			SS10	Choose appropriate methods to solve percentage problems
			SS11	Find the original amount given the percentage less than 100
			SS12	Find the original amount given the percentage greater than 100
			SS13	Choose appropriate methods to solve complex percentage problems
Spring 2	1.5	2.5 Standard Form	SS1	Investigate positive powers of 10
			SS2	Work with numbers greater than 1 in standard form
			SS3	Investigate negative powers of 10
			SS4	Work with numbers between 0 and 1 in standard form
			SS5	Compare and order numbers in standard form
			SS6	Mentally calculate with numbers in standard form 1
			SS7	Add and subtract numbers in standard form
			SS8	Multiply and divide numbers in standard form
			SS9	Use a calculator to work with numbers in standard form
			SS10	Understand and use negative indices
			SS11	Understand and use fractional indices
	1.5	2.6 Number Sense	SS1	Round numbers to powers of 10 and 1 significant figure
			SS2	Round numbers to a given number of decimal places
			SS3	Estimate the answer to a calculation
			SS4	Understand and use error interval notation
			SS5	Calculate using the order of operations
			SS6	Calculate with money
			SS7	Convert metric units of length
			SS8	Convert metric units of weight and capacity
			SS9	Convert metric units of area H
			SS10	Convert metric units of volume H
			SS11	Solve problems involving time and the calendar
Summer 1	3	3.1 Angles in Parallel Lines and	SS1	Understand and use basic angle rules and notation
			SS2	Investigate angles between parallel lines and the transversal
			SS3	Identify and calculate alternate and corresponding angles
			SS4	Identify and calculate with co-interior alternate and corresponding angles
			SS5	Solve complex problems with parallel line angles

			SS6	Constructions triangles and special quadrilaterals
			SS7	Investigate the properties of special quadrilaterals
			SS8	Identify and calculate with sides and angles in special quadrilaterals
			SS9	Understand and use the properties of diagonals of quadrilaterals
			SS10	Understand and use the sum of exterior angles of any polygon
			SS11	Calculate and use the sum of the interior angles in any polygon
			SS12	Calculate missing interior angles in regular polygons
			SS13	Prove simple geometric facts H
			SS14	Construct an angle bisector H
			SS15	Construct a perpendicular bisector of a line segment H
	2	3.2 Area of Trapezia and Circles	SS1	Calculate the area of triangles rectangles and parallelograms
			SS2	Calculate the area of a trapezium
			SS3	Calculate the perimeter and area of compound shapes 1
			SS4	Investigate the area of a circle
			SS5	Calculate the area of a circle and parts of a circle without a calculator
			SS6	Calculate the area of a circle and parts of a circle with a calculator
			SS7	Calculate the perimeter and area of compound shapes 2
	1	3.3 Lines of Symmetry	SS1	Recognise line symmetry
			SS2	Reflect a shape in a horizontal or vertical line
			SS3	Reflect a shape in a horizontal or vertical line 2
			SS4	Reflect a shape in a diagonal line 1
			SS5	Reflect a shape in a diagonal line 2

Summer 2	4	3.4 The Data Handling Cycle	SS1	Set up a statistical enquiry
			SS2	Design and criticise questionnaires
			SS3	Draw and interpret pictograms bar charts and vertical line charts
			SS4	Draw and interpret multiple bar charts
			SS5	Draw and interpret pie charts
			SS6	Draw and interpret line graphs
			SS7	Choose the most appropriate diagram for given set of data
			SS8	Represent and interpret grouped quantitative data
			SS9	Find and interpret the range
			SS10	Compare distributions using charts
			SS11	Identify misleading graphs
	3	3.5 Measures of Location	SS1	Understand and use the mean median and mode
			SS2	Choose the most appropriate average
			SS3	Find the mean from an ungrouped frequency table
			SS4	Find the mean from a grouped frequency table
			SS5	Identify outliers
			SS6	Compare distributions using averages and the range