

Curriculum Map

Subject: Maths

Vision: The vision of Avanti Grange's Mathematics Department is centered on fostering a genuine love for mathematics among students. Our primary objective is to facilitate the development of students' conceptual understanding and mastery of fundamental mathematical skills through consistent and diverse practice with progressively challenging problems. We aim to empower students to swiftly and accurately recall and apply their mathematical knowledge. Our department is committed to providing students with ample opportunities to promote intellectual curiosity and prepare students for the demands of everyday life and future employment.

ind Points:	Domains of Knowledge:	Key Concepts:
. Knowledge of rational and irrational numbers and their representations, including fluency in arithmetic with all types of rational and rational numbers.	Number	Place value, rational number, irrational numbers, approximation, order of operations, number relationships
. Knowledge of multiplicative relationships, how to interpret and apply them in various contexts, and how to represent multiplicative elationships in terms of ratio, proportion and rates of change	Ratio, Proportion and Rates of Change	Proportional reasoning, ratio, rates of change, scaling
. Knowledge of how to use algebra to represent generalisations of numerical principles, both linear and non-linear, and how to find nknown quantities using algebraic techniques.	Algebra	Expressions, equations, inequations, formulae, functions, linearity, non-linearity, graphs, sequences, sets
. Knowledge of how the geometry of two - and three - dimensions is used to understand and interpret the space around us.	Geometry and Measures	Length, area, volume, angles, trignonmetry, circles, polygons, solids, Euclidean geometry, vectors, congruence, similarity
. Knowledge of how data is collected, analysed and presented, and how chance is evaluated, to help understand an unpredictable world.	Statisitcs and Probability	Analysis of data, representation of data, combinations, probability, sets

Year Group	Autumn Half Term 1	Autumn Half Term 2	Spring Half Term 1	Spring Half Term 2	Summer Half Term 1	Summer Half Term 2
Key Stage 3						
7	Topic:	Topic:	Topic:	Topic:	Topic:	Topic:
	Using Numbers	Working with				
		numbers/calculator	Decimal numbers	Percentages	Ratio	Symmetry
	Algebra	skills				
			Fractions	Interpreting data	Coordinates and	3D shapes
	Statistics	Equations			graphs	
			Perimeter, area and	Probability		Real life
r.		Angles	volume		Sequences	applications/problem solving
8	Topic:	Topic:	Topic:	Topic:	Topic:	Topic:
	Working with numbers	Fractions and decimals	Standard Form	Surface area and volume of prisms	Ratio (revisit from KS2)	Congruent shapes
	Algebra Interpreting data	Equations and formulae	Graphs	Percentages	Shape and ratio	Comparing data
	mich precing data	Geometry	Proportion	Circles	Sequences	
9	Topic:	Topic:	Topic:	Topic:	Topic:	Topic:

	Standard form	Algebraic fractions	Polygons	Percentages	Trigonometry	Surds
	Expanding and factorising quadratics	Pythagoras Theorem	Straight line graphs	Compound units	Solving quadratics	Inequalities
	Data	Solving equations	Surface area and volume	Solving equations graphically	Laws of indices	Exam style and problem solving questions