Curriculum Map	
Subject: Maths	
Year: 9	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge /Skills	**Fractions and Percentages Review Conversion of FDP, fractions of an amount with and without a calculator. Simple interest, percentage change**	**Quadratic Equations** Factorising and solving equations	**Rounding** error intervals, truncating	**Linear Graphs** Equations and linear graphs	**Quadratic Graphs** plotting and interpreting quadratic graphs	**Handling and statistical diagrams** collecting and presenting data, scatter graphs and grouped data
	Probability Theoretical and Experimental probability. Frequency trees	**Formulae** Rearranging formulae	**3D Shapes** Representions of 3d shapes. Plans and elevations	**Compound Measures** speed and rates	**Angles and Bearing** constructing and calculating	**Vectors** adding scalar, parallel
	Standard form addition and multiplication of standard form	**Constructions** Constructing bisectors and perpendicular lines	**Pythagoras Theorem** pythagoras in 2d shapes	**Motion time graphs** distance time graphs	**Transformations** transforming shapes using scale factors for enlargement	**Project- Budgeting a holiday**
	Inequalities Constructing and solving linear inequalities	**Circles** area of circles and sectors. Area and surface area of cylinders	**Ratio and Proportion** Ratio and proportion word problems	**Problem Solving - Distance time graphs**	**Similarity and Congruence** similar shapes and congruent triangles	
Skills	Converting between Fraction, decimal and percentage. Use percentages, decimals and fractions to	Factorising and expanding, solving using balancing method, inverse operations. Use of	Place value.Decimal rounding, use of nets to understand 3d shapes. Roots and squares for	Plotting and interpreting graphs, coordinates, gradients. Speed distance time , mass	Plotting graphs, function machines. Constructing angles, and interpreting bearings. Angles in	Understanding grouped data versus ungrouped, class widths,correlation for scatter graphs.

Key Questions	How do we find a decimal multiplier? How are theoretical and experimental probability different? what are the conditions for standard form?	How do we factorise a quadratic with only two terms? How do we find the y intercept of the graph When rearranging what order could we follow? When constructing bisectors why do we have to be accurate? How is area and surface area different?	What is estimation use for? Why do plans change according to the view? Does the formula change for different missing sides? What is the link between the hypotenuse and the smaller lengths? What real life aspects would we use ratio for?	How does the gradient effect the graph? what is the y intercept? what is a parallel and perpendicular line? Why is time converted to minutes for a distance time graph	What do the solutions of a quadratic represent on the graph? How do we find roots when not equal to zero? why do we calculate bearings from the north line? What happens to the scale factor for area?	Why do we use the mid point for grouped data? is there more that one way to represent vectors?
Assessment	Students sit an end of term test at the end of each term, these are marked by the teacher and a full ReACT to the test is completed in lesson, teachers will use a visualiser to model the answers and identify marks and common misconceptions. Continued low stake questioning in class. Peer mentoring. AFL whiteboards and encouragement **AO1: Use and apply standard techniques** Students should be able to: -accurately recall facts, terminology and definitions. -use and interpret notation correctly. -accurately carry out routine procedures or set tasks requiring multi-step solutions. **AO2: Reason, interpret and communicate mathematically** Students should be able to: -make deductions, inferences and draw conclusions from mathematical information. -construct chains of reasoning to achieve a given result interpret and communicate information accurately. -present arguments and proofs. -assess the validity of an argument and critically evaluate a given way of presenting information. **AO3: Solve problems within mathematics and in other contexts** Students should be able to: -translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes. -make and use connections between different parts of mathematics. -interpret results in the context of the given problem. -evaluate methods used and results obtained. -evaluate solutions to identify how they may have been affected by assumptions made.				

Literacy/ numeracy/ SMSC/ Character	**Literacy:Key word as above, additional knowledge organisers provided to students at the beginning of a new topic , collins dictionary definitions shared https://www.collinsdictionary.com/word-lists/mathematics-mathematical-terms. Knowledge organisers will be stuck into books at the beginning of every new topic, to promote literacy and key vocabulary and skills. Freya Model, defining mats:(definition, facts, examples and non examples, including misconceptions). VCOP support models to aid students in using connectives and other language devices to explain a mathematical model or compare data.https://www.missbsresources.com/maths-resources/literacy-within-mathematics** **Numeracy:Key skills are outlined** **Character/SMSC/:https://www.bbc.co.uk/bitesize/tags/zrsg6v4/jobs-that-use-maths/1 links to jobs that relate to maths are relayed regularly in lessons, opportunities for cross curricular links outlined in scheme of work.** **Oracy: encourage teacher-led discussion with equal emphasis on speaking and listening. Group work/paired work. Teacher models correct mathematical processes. Opportunities for logical reasoning and dialogue e.g via Inquiry Maths and reasoning/proof tasks. No hands up questioning approached used**
Enrichment opportunities and futures	Intermediate maths challenge Revision sessions after school STEM club Statistics project -Real life application to collate and analyse data Maths buddies- opportunities to work with different ages groups and ability Trips, outside speakers and futures links within curriculum.