

KS3 Maths Curriculum Mapping

Year 7						
Term	Autumn (1)	Autumn (2)	Spring (1)	Spring (2)	Summer (1)	Summer (2)
Topic(s)/ Subjects(s)	Algebraic Thinking	Place Value and Proportion	Applications of Number	Directed Number and Fractional Thinking	Lines and Angles	Reasoning with Number
Knowledge and skills (Content)	Sequences Understand and use algebraic notation Equality and equivalence	Place value ordering integers and decimals (including median, range, rounding and standard form (H)) Fraction, decimal and percentage equivalence (including interpreting pie charts)	Solving problems with addition and subtraction (including perimeter, timetables, bar charts and line graphs, and frequency trees) Solving problems with multiplication and division (including area of 2D shapes, the mean and algebraic simplification) Fractions and percentages of an amount	Operations and equations with directed number Addition and subtraction of fractions (including algebraic fractions (H))	Constructing, measuring and using geometric notation (including pie charts) Developing geometric reasoning	Developing number sense (including mental strategies for arithmetic, such as estimation and number facts) Sets and probability Prime numbers and proof
Assessment	October Progress Check: Sequences; Algebraic notation; Equality and equivalence.	December Assessment: Algebraic thinking; Place Value and Proportion. Sets 1 and 2 Higher and Core papers, Sets 3 and 4 Core and Foundation papers (45 mins each)	February Progress Check: Solving problems involving addition, subtraction, multiplication and division; Fractions and percentages of an amount.	Easter Assessment: Algebraic thinking; Place value and proportion; Applications of Number; Directed number and fractional thinking. Sets 1 and 2 Higher and Core papers, Sets 3 and 4 Core and Foundation papers (45 mins each)	May Progress Check: Constructing, measuring using geometric notation; Developing geometric reasoning.	SAS Exams: All Y7 content Sets 1 and 2 Higher and Core papers, Sets 3 and 4 Core and Foundation papers (45 mins each)
Cross Curricular Links		Science (Earth and beyond) – Standard Form Science (Classification and Variation) - Scales and Graphs	Science (I am a Scientist) – Bar Charts Science (Classification and Variation) - Scales and Graphs Geography – Climate Graphs		Geography – Compass points	
British Values, Diversion and Inclusion posters Diversion and Inclusion posters		NSPCC Number day Mathematician of the Month and Diversion and Inclusion posters	UKMT Maths Challenge (Set 1) Mathematician of the Month and Diversion and Inclusion posters	Mathematician of the Month and Diversion and Inclusion posters Posters	Mathematician of the Month and Diversion and Inclusion posters	
CEIAG		Freelance filmmaker – Activity try being a freelance filmmaker Registration – Careers Activity GCHQ Cyber First Girls Competition	Urban regeneration – Activity try being in urban regeneration Senior research manager Alan Turing Cryptography competition – University of Manchester		Data detective detectiveActivity try being a data detectiveGaming company directorRegistration University of Southampton Cipher Challenge	Chartered management apprentice
Learning outside the classroom	Homework – Differentiated 10 skills (Term 1) plus UKMT Maths Challenge questions for Set 1.	Homework – Differentiated 10 skills (Term 2), plus two problem solving questions recapping Term 1's content, as well as	Homework – Differentiated 10 skills (Term 3), plus two problem solving questions recapping Term 2's content, as well as UKMT Maths Challenge	Homework – Differentiated 10 skills (Term 4), plus two problem solving questions recapping Term 3's content, as well as UKMT Maths	Homework – Differentiated 10 skills (Term 5), plus two problem solving questions recapping Term 4's content, as well as UKMT Maths Challenge	Homework – Differentiated 10 skills (Term 6), plus two problem solving questions recapping Term 5's content, as well as UKMT Maths



	Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home.	UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity	questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home.	Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home.	questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity	Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity
Additional Subject Specific Information	Next steps: Y8 Sequences Y7 Equality and equivalence, operations and equations with directed number. Y8 Working in the Cartesian plane Y7 Operations and equations with directed number, Primes and proof	Next steps: Y7 Solving problems with addition, subtraction, multiplication and division. Y8 indices and standard index form Y7 addition and subtraction of fractions	Next steps: Y8 Collecting and representing data, number sense Y7 Prime number, proof and scale, multiplicative change, area of trapezia and circles Y8 Fractions and %	Next steps: Y8 Brackets equations and inequalities Y8 Multiplying and dividing fractions	Next steps: Y8 Angles in parallel lines and polygons, area of trapezia and circles, line symmetry and reflection	Next steps: Y8 number sense Y8 probability Y8 indices



Year 8						
Term	Autumn (1)	Autumn (2)	Spring (1)	Spring (2)	Summer (1)	Summer (2)
Topic(s)/ Subjects(s)	Proportional Reasoning	Representations	Algebraic Techniques	Developing Number	Developing Geometry	Reasoning with Data
Knowledge and skills (Content)	Ratio and scale (including the introduction of π) Multiplicative change Multiplying and dividing fractions	Working in the Cartesian plane Collecting and representing data Tables and probability	Brackets, equations and inequalities Sequences Indices	Fractions and percentages Standard index form Number sense (including rounding and estimating, units of measure conversion, money and time)	Angles in parallel lines and polygons Area of trapezia and circles Line symmetry and reflection	The data handling cycle (including drawing and interpreting graphs and charts) Measures of location (including averages and distributions)
Ratio and scale; Multiplicative change; Multiplying and dividing fractions.Proportional reasoning; Representations.Proportional reasoning; Representations.Proportional reasoning; Representations; Algebraic techniques; Developing number.Angles in parallel lines and polygons; Area of trapezia and circles; Line symmetry and reflection.All Y8 conten Sets 1 and 2 Higher and Core		SAS Exams: All Y8 content Sets 1 and 2 Higher and Core papers, Sets 3 and 4 Core and Foundation papers (45 mins each)				
Cross Curricular Links	Geography – Map Scales, OS Map Units	Science (Bioenergetics) – Scatter Graphs Geography – grid references	Science (Electricity and Magnetism) – Rearranging equations			Geography – Russia, Congleton Climate, microclimates
SMSC, British Values, Cultural Capital	Mathematician of the Month and Diversion and Inclusion posters	Mathematician of the Month and Diversion and Inclusion posters	NSPCC Numberday Mathematician of the Month and Diversion and Inclusion posters	UKMT Maths Challenge (Set 1) Mathematician of the Month and Diversion and Inclusion posters	Mathematician of the Month and Diversion and Inclusion posters	Mathematician of the Month and Diversion and Inclusion posters
CEIAG	Freelance filmmaker – Activity try being a freelance filmmaker	Critical analysis – Activity try working for a cause you are passionate about Senior research manager Registration – Careers Activity GCHQ Cyber First Girls Competition	Alan Turing Cryptography competition – University of Manchester	Chartered management apprentice Registration – Careers Activity	Software engineer – coding activity (computer room) Urban regeneration – Activity try being in urban regeneration Gaming company director Southampton University Cipher Challenge	Data detective – Activity try being a data detective
Learning outside the classroom	Homework – Differentiated 10 skills (Term 1), plus two problem solving questions recapping Y7 Term 6's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity	Homework – Differentiated 10 skills (Term 2), plus two problem solving questions recapping Term 1's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity	Homework – Differentiated 10 skills (Term 3), plus two problem solving questions recapping Term 2's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home.	Homework – Differentiated 10 skills (Term 4), plus two problem solving questions recapping Term 3's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home.	Homework – Differentiated 10 skills (Term 5), plus two problem solving questions recapping Term 4's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading activity	Homework – Differentiated 10 skills (Term 6), plus two problem solving questions recapping Term 5's content, as well as UKMT Maths Challenge questions for Set 1. Computer room lesson – Fortnightly session using MyMaths At home support – access to MyMaths, MathsWatch and SumDog to support learning at home. Registration – reading and comprehension activity



Additional Subject Specific Information			2b(H)/5(F) - Sequences	Percentages	Next steps: 5a(H)/6(F) – Polygons, Angles and Parallel Lines 7(H)/6(F) – Perimeter, Area and Circles 8a(H)/10(F) – Transformations	Next steps: 3(H)/3(F) – Graphs and Charts 3(H)/7(F) – Statistics, Sampling and Averages
---	--	--	------------------------	-------------	---	---



Year 9 Higher						
Term	Autumn (1)	Autumn (2)	Spring (1)	Spring (2)	Summer (1)	Summer (2)
Topic(s)/ Subjects(s)	Chapter 1 (Number Skills): Indices and Types of Number Chapter 2: Algebraic Manipulation and Sequences	Chapter 3: Averages and Representing Data Chapter 4a: Fractions, Decimals	Chapter 4a: Percentages Chapter 4b:,Ratio and Proportion	Chapter 5a – Angles in Polygons and Parallel Lines Chapter 5b: Simple Pythagoras and Trigonometry	Chapter 6a: Sketching Graphs Chapter 6b: Coordinate Geometry Chapter 6c: Quadratic, Cubic and other Graphs	Chapter 7a: Area, Perimeter, Volume and Surface Area Chapter 7b: 3D Shapes
Knowledge and skills (Content)	Operations with decimals and negatives Rounding, estimating and checking answers Types of number Order of operations Working with indices (including fractional and negative) Product of primes, HCF LCM Standard form Basic surds Simplifying algebra Substitution Expanding brackets and factorising (including quadratics) Forming and solving equations Rearranging formula Iteration Nth term of linear and quadratic sequences Fibonacci and geometric sequences	gatives punding, estimating and ecking answers pes of number der of operations orking with indices (including proting synth indices (including torking with indices (including andard form mplifying algebra ibsic surds mplifying algebra ibstiction rationAverage's from a table Graphs and chartsChange to a percentage lncrease / decrease by a percentageAngles in triangles (including special triangles)Problems on coordinate axestriangles trianglesAverages from der of operations oching and negative) oching andard form mplifying algebra torsing (including quadratics rationChange to a percentage Discrete and continuous data Averages from a table Graphs and chartsChange to a percentage Increase / decrease by a percentage Sharing using ratio Using ratio for recipe questions Converting between ratio, fractions and equations ubstitution percentage equivalences Recurring decimals to fractions Recurring decimals proofChange to a percentage Comparing fractions Converting between ratio, fractions and equations Using a ratio to draw a graph Exchanging money Combining ratios Advanced ratiosAngles in triangles (including special triangles) Advanced ratiosProblems on coordinate axes triangles triangles trianglesIncrease / decrease by a percentage percentageChange to a percentage Graphs Sharing using ratio Using ratio for recipe questions and equations using a ratio to draw a graph Exchanging money Combining ratios Advanced ratiosAngles in triangles (including special triangles (including special triangles (including special triangles (including special triangles (including special triangles (including special triangles		Area and perimeter of rectangles, triangles, parallelograms and trapeziums Parts of a circle Area and circumference of a circle Arc lengths and sectors Surface area and volume of prisms, pyramids, spheres and frustrums		
Assessment	Autumn Progress Check - Chapter Assessment 1a (1, 2, 3)	Chapter Assessment 1b (1, 2, 3)	January Progress Assessment	Chapter Assessment 2 (4,5)		SAS Exams (A calculator and a non-calculator paper – 45mins in length) All Y9 content
Cross Curricular Links	Science (Electricity and energy and throughout Physics) - rearranging formulae Y9 High Achievers – Fibonacci lesson	Science – collecting data, using formulae Geography – reading graphs and charts	DT – recipes	Engineering – using trigonometry and Pythagoras when "making"	Science (Y9 Speeding up) – Speed, distance, time (Y10 Forces) – Velocity time graphs (Y10 Rates of reaction) – using the gradient of a velocity time graph to find the acceleration	
SMSC, British Values, Cultural Capital	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem- solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem- solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	UKMT Intermediate Maths Challenge (Set 1) NSPCC Numberday Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence.	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence.



			other's progress and building confidence. Pearson comprehension tasks			
CEIAG	Caterer, Scientist, Computer programmer	Data detective being a data detective Critical analysis or a cause you are passionate about Senior research managerStatisticianRegistration – Careers Activity	Freelance filmmaker – Activity try being a freelance filmmaker Chartered management apprentice Alan Turing Cryptography competition – University of Manchester	Orthotics and prosthetics – Activity cobb angle Gaming company director	Software engineer – Desmos activity (computer room) University of Southampton – Cipher Challenge	
Learning outside the classroom	Homework – Differentiated 10 skills (half term 1), plus two problem solving questions recapping chapter 1's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home. Maths Masterclass (Talent-Ed) for specific high achieving students begins.	Homework – Differentiated 10 skills (half term 2), plus two problem solving questions recapping chapter 2's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home. Registration – reading activity	Homework – Differentiated 10 skills (half term 3), plus two problem solving questions recapping chapter 3's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.	Homework – Differentiated 10 skills (half term 4), plus two problem solving questions recapping chapter 4's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home. Registration – reading activity	Homework – Differentiated 10 skills (half term 5), plus two problem solving questions recapping chapter 5's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.	Home (half te solving 6's cor Comp sessio At hor MyMat Maths home.
Additional Subject Specific Information	Next steps: Ch 9 Quadratic simultaneous equations and inequalities Ch 17 Complex algebra Algebra Level 3 Chapters 1 & 3 Chapter 1 will be taught throughout the year in Number Skills lessons	Next steps: Ch 11 Multiplicative reasoning Ch 14 Cumulative frequency and box plots GCSE Statistics Chapters 2, 3 & 4	Next steps: Ch 11 Multiplicative reasoning Ch 12 Similarity and congruence Ch 19b Direct and inverse proportion	Next steps: Ch 8b Constructions Ch 13 Further trigonometry	Next steps: Ch 19a Graphs Algebra Level 3 Chapter 14	Next s Ch 12 Ch 16 Algebr (trapez

	Software engineer – Desmos activity (computer room) University of Southampton – Cipher Challenge	
e	Homework – Differentiated 10 skills (half term 5), plus two problem solving questions recapping chapter 5's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.	 Homework – Differentiated 10 skills (half term 6), plus two problem solving questions recapping chapter 6's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.
	Next steps: Ch 19a Graphs Algebra Level 3 Chapter 14	Next steps: Ch 12 – Similarity and congruence Ch 16 – Circle theorems Algebra Level 3 Chapter 14 (trapezium rule)



Year 9 Foundation						
Term	Autumn (1)	Autumn (2)	Spring (1)	Spring (2)	Summer (1)	Summer (2)
Topic(s)/ Subjects(s)	Chapter 1 (Number Skills): Number Chapter 2: Expressions and Substitution	Chapter 3: Statistical Charts, Tables and Graphs Chapter 7: Statistics, Sampling and Averages	Chapter 4a: Fractions, Decimals and Percentages Chapter 5: Equations, Inequalities and Sequences	Chapter 4b: Percentages Chapter 5: Equations, Inequalities and Sequences	Chapter 6: Shapes, Lines and Angles	Utilize Question Level Analysis results from SAS exams to inform planning and reinforce gaps in knowledge as an anchor before transition to KS4
Knowledge and skills (Content)	Place value, ordering numbers, decimals Multiplying and dividing by powers of 10 Operations with integers and decimals Directed number Ordering operations Rounding and estimating answers Indices and types of number Using a calculator Simplifying algebraic expressions Expanding brackets, factorising and substitution	Timetables Scales Coordinates Tally charts, bar charts, pictograms Two way tables Types of data Frequency tables and diagrams Stem and leaf diagrams Angles on a line and at a point Drawing and measuring angles Pie charts Scattergraphs Averages and the range Averages from a table	Simplifying fractions Comparing fractions + - X ÷ fractions (not mixed) Fraction of amounts Decimal, fraction and percentage equivalences Function machines Solving equations Forming formula and equations Inequalities on a number line Solving linear inequalities	Percentage of an amount Change to a percentage Increase / decrease by a percentage Simple interest Generating a sequence – term to term Generating a sequence from the nth term Finding the nth term Fibonacci and geometric sequences	Geometric definitions Names of angles Polygons Symmetries Angles and parallel lines Angles in a triangle Properties of special triangles Tessellations and congruent shapes Angle sums of polygons Interior and exterior angles of polygons	
Assessment	Autumn Progress Check - Chapter Assessment 1a (1, 2)	Chapter Assessment 1b (1, 2, 3)	January Progress Assessment	Chapter Assessment 2 (4,5)		SAS Exams (A calculator and a non-calculator paper – 45mins in length) All Y9 content
Cross Curricular Links		Geography - Y10 field work, grid references DT – measuring ingredients Science – collecting data	Science – using formulae			
SMSC, British Values, Cultural Capital	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem- solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem- solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	NSPCC Numberday Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence. Pearson comprehension tasks	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence.	Mathematician of the Month and Diversion and Inclusion posters. Social developing problem-solving skills, resilience and mathematical reasoning are included in most lessons. Students are encouraged to where applicable, work collaboratively, supporting each other's progress and building confidence.
CEIAG		<u>Critical analysis</u> – Activity try working for a cause you are passionate about <u>Senior research manager</u> Statistician, data analyst		Freelance filmmaker – Activity try being a freelance filmmaker Computer programming, banker	<u>Software engineer</u> – Desmos activity (computer room) <u>Gaming company director</u> Tiler, landscape gardener	
Learning outside	Homework – Differentiated 10	Homework – Differentiated 10	Homework – Differentiated 10	Homework – Differentiated 10 skills	Homework – Differentiated 10 skills (half	Homework – Differentiated 10 skills



the classroom	skills (half term 1), plus two problem solving questions recapping chapter 1's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.	skills (half term 2), plus two problem solving questions recapping chapter 2's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home. Registration – reading activity	skills (half term 3), plus two problem solving questions recapping chapter 3's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.	 (half term 4), plus two problem solving questions recapping chapter 4's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home. Registration – reading activity 	term 5), plus two problem questions recapping char Computer room lesson session using Mathswato At home support – acce MathsWatch and Mathsg learning at home.
Additional Subject Specific Information	Next steps: Ch 4 Fractions, decimals and percentages Ch 5 Equations, inequalities and sequences Chapter 1 will be taught throughout the year in Number Skills lessons	Next steps: Ch 13 Probability	Next steps: Ch 13 Probability Ch 14 Multiplicative reasoning Ch 18 Fractions, reciprocals, indices and standard form	Next steps: Ch 14 Multiplicative reasoning	Next steps: Ch 16 Expanding, factori quadratics Ch 20 Rearranging equa

em solving apter 5's content. n – Fortnightly tch cess to MyMaths, sgenie to support	(half term 6), plus two problem solving questions recapping chapter 6's content. Computer room lesson – Fortnightly session using Mathswatch At home support – access to MyMaths, MathsWatch and Mathsgenie to support learning at home.
orising and ations	Next steps: Ch 8 Perimeter, area and volume Ch 10 Transformations