Year 9

Year 9 Key Objectives

	Pathway A	Pathway B	Pathway C
General Number skills	I can carry out simple procedures when solving number problems.	I can reason, interpret and solve numerical problems.	I can apply general number skills in order to solve complex worded number problems.
Expressions, Formulae and Identities	I understand and can use correct algebraic notation.	I can expand, factorise and simplify algebraic expressions. I can substitute positive and negative integers in algebraic expressions.	I can interpret worded problems to create linear and quadratic algebraic expressions
Representing/ Interpreting data and averages	I can read and interpret some data graphs and charts and calculate some averages.	I can construct and interpret most data graphs and charts (bar charts, line graphs, scatter graphs, pie charts etc) and work out averages and range.	I can construct and interpret complex statistical diagrams and use these to compare data.
Fraction, decimals, percentages and ratio	I can identify key equivalence of FDP and convert between FDP.	I can calculate with fractions, decimals, percentage and ratio problems.	I can reason with fractions, decimals, percentages and ratio and solve combined problems.
Equations, inequalities and graphs	I can work with simple equations, inequalities and linear graphs.	I can work with simple equations, inequalities and linear graphs.	I can work with simple equations, inequalities and linear graphs.

	Pathway A	Pathway B	Pathway C
Angle facts (inc interior and exterior angles)	I can find missing angles using basic angle facts.	I can solve multistep angle problems by using angle facts about points, straight lines, triangles, and parallel lines.	I can solve geometrical problems showing reasoning. I can solve angles problems using equations.
Trigonometry and pythagoras		I can work out missing angles or lengths in right angled triangles using Pythagoras or trigonometry.	I can apply trigonometry and Pythagoras theorem in complex worded problems.
Probability	I understand the probability scale and can work out basic probabilities of independent events.	I can work out the probability of independent and dependant events using tree diagrams.	I can solve complex probability problems.
Perimeter, Area and Volume	I understand properties of 2D and 3D shapes.	I can recall area formulae and use them to work out areas of some 2D shapes, and volumes of 3d shapes.	I can solve complex worded problems based on perimeter, area and volume.
Transformations and constructions	I can carry out simple transformations.	I can combine transformations and can use scales in maps and scale drawings. I can construct some triangles.	I can describe combination of transformations. I can solve problems with bearings and loci.

Literacy/ Numeracy Focus

Outline within the units.

Homework

Homework tasks are set on Sparx in line with the Uxbridge High School Curriculum. However these tasks will be one week behind the teaching schedule.

Revisiting, revising, remembering opportunities:

Retrieval starters to include KS3 topics covered from previously learnt knowledge.

Prior knowledge checks at the start of every unit.

Formula/ knowledge tests to be conducted regularly during

Term	Foundation Year 9	Term	Higher Year 9
Autumn 1 Literacy / numeracy foci: Emphasis on the difference between factor, multiple and prime factor Using strategies for multiplying and dividing by multiples of 10 Identify square, cube and prime numbers Worded problem solving questions to be incorporated into everyday teaching and assessments. Key Objective 1 Pathway A – I can carry out simple procedures when solving number problems. Pathway B – I can reason, interpret and solve numerical problems. Pathways C – I can apply general number skills in order to solve complete worded number problems.	**Unit of work:** Unit 1 - Number **Assessment objectives:** Calculations with positive and negative integers, and decimals Find factors, multiples and primes Squares, cubes and roots Index notation and prime factors **Enrichment/life and work skills:** Shop transactions Working with wages Accounting – completing balance sheets or similar accounting sheets Squares and roots will link to Pythagoras theorem **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked	**Autumn 1** **Literacy / numeracy foci:** Emphasis on the difference between factor, multiple and prime factor Rational and irrational numbers Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 1** Pathway A – I can carry out simple procedures when solving number problems. Pathway B – I can reason, interpret and solve numerical problems. Pathways C – I can apply general number skills in order to solve complete worded number problems.	**Unit of work:** Unit 1 – Number **Assessment objectives:** Estimation Find factors, multiples and primes Calculating with powers Standard form Surds and rationalising **Enrichment/life and work skills:** Estimation used when measuring distance in space with a scientific context Surds link to A level maths study Squares and roots will link to Pythagoras theorem which is taught later in the year Standard form links to science and geography **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked
Autumn 2 Literacy / numeracy foci: Understanding the differences and similarities of the terminologies used like expression, equations and identities. Understanding what method to use for when manipulating expressions Making clear links between the previous number topic. **Key Objective 2** Pathway A – I can understand and use correct algebraic notation. Pathway B – I can expand, factorise and simplify algebraic expressions, I can substitute positive and negative integers in algebraic expressions. Pathways C – I can interpret worded problems to create linear and quadratic algebraic expressions.	**Unit of work: Unit 2 -** Algebra **Assessment objectives:** Working with algebraic expressions Substitution into formulae Expanding and factorising **Enrichment/life and work skills:** Substitution into formulae links with application within science Jobs that typically involved maths and science e.g. Cryptologists and Astronomers Lesson based on deciphering code **Assessments:** 2 unit tests and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked	**Autumn 2** **Literacy / numeracy foci:** Understanding the differences and similarities of the terminologies used like expression, factorise and substitute Identifying linear and quadratic equations as well as sequences Making links to previous number topic Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 2** Pathway A – I can understand and use correct algebraic notation. Pathway B – I can expand, factorise and simplify algebraic expressions, I can substitute positive and negative integers in algebraic expressions. Pathways C – I can interpret worded problems to create linear and quadratic algebraic expressions.	**Unit of work:** Unit 2 – Algebra **Assessment objectives:** Solving equations including quadratics Substitution into formulae Rearranging Formulae Expanding and factorising Sequences **Enrichment/life and work skills:** Substitution into formulae links with application within science Jobs that typically involved maths and science e.g. Cryptologists and Astronomers Lesson based on deciphering code Derive equations and solve real life problems 'The lift problem' - inequality to understand how to determine lift safety as a job Sequences for real life events **Assessments:** 2 unit tests and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked

Term	Foundation Year 9	Term	Higher Year 9
Spring 1 **Literacy / numeracy foci:** Interpreting data from various diagrams and text. Writing descriptions for correlation Keywords for describing fractions Knowing that percent literally translates to 'per 100' or 'out of 100' Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 3** Pathway A – I can read and interpret some data graphs and charts and calculate some averages. Pathway B - I can construct and interprest most data graphs and charts (bar charts, line graphs, scatter graphs, pie charts, etc) and work out averages and ranges . Pathway C – I can construct and interpret complex statistical diagrams ad use these to compare data. **Key Objective 4** Pathway A – I can identify key equivalence of FDP and convert between FDP. Pathway B – I can calculate with fractions, decimals, percentage and ratio problems. Pathway C – I can reason with fractions, decimals, percentages and ratio and solve combined problems.	**Unit of work:** Unit 3 – Graphs Unit 4 – Fractions and percentages **Assessment objectives:** Representing data – Frequency tables, two way tables, bar graphs and line graphs Stem and leaf diagrams and pie charts Scatter graphs and lines of best fit Conversions between fractions, decimals and percentages Operations with fractions Calculations with percentages **Enrichment/life and work skills:** Data analyst career taste real life understanding of scatter graphs Shopping with sales on items Loan repayment including finding interest VAT **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term assessment to be cumulative. Unit tests can be peer marked	**Spring 1** **Literacy / numeracy foci:** Differentiating between types of averages Worded problem solving including percentages, ratio and fractions Multiplying and dividing by multiples of 10 Conversions between different metric units Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 3** Pathway A – I can read and interpret some data graphs and charts and calculate some averages. Pathway B - I can construct and interprest most data graphs and charts (bar charts, line graphs, scatter graphs, pie charts, etc) and work out averages and ranges . Pathway C – I can construct and interpret complex statistical diagrams ad use these to compare data. **Key Objective 4** Pathway A – I can identify key equivalence of FDP and convert between FDP. Pathway B – I can calculate with fractions, decimals, percentage and ratio problems. Pathway C – I can reason with fractions, decimals, percentages and ratio and solve combined problems.	**Unit of work:** Unit 3 – Interpreting data Unit 4 – Fractions, ratio and percentages **Assessment objectives:** Representing data – Frequency tables, two way tables, bar graphs and line graphs Averages and range from tables Scatter graphs and lines of best fit Calculations with percentages, ratio and fractions Compound Interest/ Depreciation **Enrichment/life and work skills:** Averages applied to real life scenarios and different professions Data analyst career taste real life understanding of scatter graphs Ratio linked with food tech. Loan repayment including finding interest - Finance and economic links Scatter graphs on real data - linked to science, business and geography Conversions between metric and imperial units Exchange rates – Finance and economic links **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term assessment to be cumulative. Unit tests can be peer marked
Spring 2 **Literacy / numeracy foci:** Use of keywords such as integer, functions, equation, etc. Algebraic terminology like solving equations means finding the value of the unknown Arithmetic and geometric sequences Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 5** Pathway A – I can work with simple equations, inequalities and linear graphs. Pathway B – I can use equations, inequalities and linear graphs. Pathway C – I can solve complex algebraic problems with equations, inequalities and graphs.	**Unit of work:** Unit 5 – Equations, inequalities and sequences **Assessment objectives:** Solving equations Introduction to inequalities Substituting values into Formulae Rearranging Formulae Generating sequences, finding the nth term **Enrichment/life and work skills:** Sequences for real life events Solving links to many other topics including Pythagoras and trig. and finding parallel lines Derive equations and solve real life problems 'The lift problem' - inequality to understand how to determine lift safety as a job **Assessments:** 1 unit test and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked	**Spring 2** **Literacy / numeracy foci:** Terminology for angles and formulas Sine, Cosine and Tangent Worded problem solving questions to be incorporated into everyday teaching and assessments. **Key Objective 6** Pathway A – I can find missing angles using basic angle facts. Pathway B – I can solve multistep angle problems by using angle facts about points, straight lines, triangles and parallel lines. Pathway C – I can solve geometrical problems showing reasoning. I can solve angle problesm using equations. **Key Objective 7** Pathway A – N/A Pathway B – I can work out missing angles or lengths in right angled triangles using Pythagoras or Trigonometry.	**Unit of work:** Unit 5 – Angles and Trigonometry **Assessment objectives:** Interior and exterior angles Pythagoras theorem and trigonometry **Enrichment/life and work skills:** Develop investigation skills with investigation interior and exterior angles Pythagoras linked into DT Real life application of trigonometry Teaching bearings to links to Geography **Assessments:** 2 unit test and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked

Term	Foundation Year 9	Term	Higher Year 9
Summer 1 **Literacy / numeracy foci:** Properties of shape Parallel and perpendicular Terminology for shape, angles and formulas Differentiating between types of averages **Key Objective 6** Pathway A – I can find missing angles using basic angle facts. Pathway B - I can solve multi-step angle problems by using angle facts about points, straight lines, triangles, and parallel lines. Pathway C – I can solve geometrical problems showing reasoning. I can solve angle problems using equations. **Key Objective 3** Pathway A – I can read and interpret some data graphs and charts and calculate some averages. Pathway B - I can construct and interprest most data graphs and charts (bar charts, line graphs, scatter graphs, pie charts, etc) and work out averages and ranges . Pathway C – I can construct and interpret complex statistical diagrams ad use these to compare data.	**Unit of work:** Unit 6 – Angles Unit 7 – Averages and range **Assessment objectives:** Angles in parallel lines and triangles Exterior and interior angles Averages and range **Enrichment/life and work skills:** Develop investigation skills with investigation interior and exterior angles Links to bearings and mechanics at A levels Averages applied to real life scenarios and different professions **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term assessment to be cumulative. Unit tests can be peer marked	**Summer 1** **Literacy / numeracy foci:** Terminology for different graphs (e.g. parabola) Formulas for more complex shapes Properties of 3d shapes Multiplying and dividing by multiples of 10 Worded problems to identify when to work with volume and surface area **Key Objective 5** Pathway A – I can work with simple equations, inequalities and linear graphs. Pathway B – I can use equations, inequalities and graphs. Pathway C – I can solve complex algebraic problems with equations, inequalities and graphs. **Key Objective 9** Pathway A – I understand properties of 2D and 3D shapes. Pathway B – I can recall area formulae and use them to work out areas of some 2D shapes, and volumes of 3D shapes. Pathway C – I can solve complex worded problems based on perimeter, area and volume.	**Unit of work:** Unit 6 – Graphs Unit 7 – Area and Volume **Assessment objectives:** Linear and quadratic graphs Non linear graphs including cubic and reciprocal graphs Real life graphs Surface area and volume of 3D shapes including cylinders **Enrichment/life and work skills:** Linked into geography - rainforest data handling with area Graph plotting linked to science and astronomy DIY with area for flooring Designer job - group activity that demonstrates the real life application of drawing, surface area and volume **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term assessment to be cumulative. Unit tests can be peer marked
Summer 2 **Literacy / numeracy foci:** Properties of 3d shapes and mathematical terms to describe them Properties of shapes and their formulas Multiply and divide by multiples of 10 Conversions between metric units **Key Objective 9** Pathway A – I understand properties of 2D and 3D shapes. Pathway B – I can recall area formulae and use them to work out areas of some 2D shapes, and volumes of 3D shapes. Pathway C – I can solve complex worded problems based on perimeter, area and volume.	**Unit of work:** unit 8 – Perimeter, area and volume **Assessment objectives:** Area of rectangles, triangles, trapeziums and parallelograms Area of compound shapes Surface area of 3D solids Volume of 3D solids **Enrichment/life and work skills:** DIY with area for flooring Heavy links with DIY work for example knowing much paint is needed to paint a room by knowing the surface area Designer job - group activity that demonstrates the real life application of drawing, surface area and volume **Assessments:** 1 unit test and 2 end of year test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of year assessment to be cumulative. 1 calculator and the other non calculator. Unit tests can be peer marked	**Summer 2** **Literacy / numeracy foci:** Differentiating between transformations Use of scale factor **Key Objective 10** Pathway A – I can carry out simple transformations. Pathway B – I can combine transformations and can use scales in maps and scale drawings, I can construct some triangles. Pathway C – I can describe combinations of transformations. I can solve problems with bearing and loci.	**Unit of work:** Unit 8 – Transformation and constructions **Assessment objectives:** Rotate, enlarge, translate and reflect 2D shapes Bearings and scale drawings Constructions and Loci **Enrichment/life and work skills:** Ability to think about maths in real life situations by spotting rotations and describing them Reading maps - linked into geography Build engineering skills by designing your own theme park **Assessments:** 2 unit test and 2 end of year test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of year assessment to be cumulative. 1 calculator and the other non calculator. Unit tests can be peer marked

YEAR 10

CURRICULUM MAP

Term	Foundation Year 10
Autumn 1 **Literacy / numeracy foci:** Terminology for different graphs (e.g. parabola) Differentiating between transformations Describing transformations with correct terminology **Homework** Hegarty Maths including 'mem-ri' tasks Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics from year 9 to be done Revisiting solving equations, substitution and rearranging formulae taught in year 9	**Unit of work:** Unit 9 – Graphs Unit 10 – Transformation **Assessment objectives:** Linear and quadratic graphs Real life graphs Rotate, enlarge, translate and reflect 2D shapes **Enrichment/life and work skills:** Linked into geography - rainforest data handling with area Graph plotting linked to science and astronomy spotting rotations and describing them **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked
Autumn 2 **Literacy / numeracy foci:** Different words used for 'share' Worded proportion and ratio questions to emphasise when to apply what method **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous units Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Interleave previously learnt topics Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 11 – Ratio and proportion **Assessment objectives:** Sharing and simplifying ratio Ratio and measures Proportion problems **Enrichment/life and work skills:** Ratio linked with food tech. Converting measurements applied to different scenarios in life and different professions Linked in with area and volume questions Direct and inverse proportion problems to include scientific and real life problems **Assessments:** 1 unit tests and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term term assessment to be cumulative. Unit tests can be peer marked

Term	Higher Year 10
Autumn 1 **Literacy / numeracy foci:** Using key terminology and understanding the difference between manipulating expressions and solving equations Identifying simultaneous equations from worded problems and shape questions **Homework** Hegarty Maths including 'mem-ri' tasks Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics from year 9 to be done Prior knowledge checks to be completed at the start of every unit	**Unit of work:** Unit 9 – Equations and Inequalities **Assessment objectives:** Solving quadratics equations Solving quadratic inequalities Solving linear and non-linear simultaneous equations **Enrichment/life and work skills:** Derive equations and solve real life problems 'The lift problem' - inequality to understand how to determine lift safety as a job Leads to Economical mathematics at degree level which includes non-linear simultaneous Skills learnt through solving simultaneous equations can be applied to real life scenarios **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked
Autumn 2 **Literacy / numeracy foci:** Terms in probability (e.g. mutually exclusive) When to apply direct and inverse proportion in a worded context Converting between measurements Calculations with decimals **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Linking algebra to problem solving questions for probability tree diagrams and Venn diagrams Reviewing some aspects of the Area, perimeter and volume unit from year 9. Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 10 – Probability Unit 11– Multiplicative reasoning **Assessment objectives:** Experimental probability Venn diagrams and Probability tree diagrams Direct and inverse proportion Growth and decay Speed, distance and time Mass, density, volume Other compound measures **Enrichment/life and work skills:** Rock paper scissors activity - probability can be applied to common activities Probability linked to science through theory and experimenting Comparing loans and deciding on the best option Speed, distance and time will help with planning journeys and understanding ETAs Making use of formula triangles seen in science **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked

CURRICULUM MAP

Term	Foundation Year 10
Spring 1 **Literacy / numeracy foci:** Terminology used in Pythagoras and trig ratios (e.g. opp, adj and hyp) Sine, Cosine and Tangent **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics from year 9 to be done Revisiting solving equations, substitution and rearranging formulae taught in year 9 Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 12 – Right angle triangles **Assessment objectives:** Pythagoras theorem to find a short and longer length Use trig ratios to find the size of a length Use trig ratios to find the size of an angle **Enrichment/life and work skills:** Pythagoras linked into DT Real life application of trigonometry Careers that use Pythagoras Theorem **Assessments: 1** unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term test to be cumulative. Unit tests can be peer marked
Spring 2 **Literacy / numeracy foci:** Calculations with fraction, decimals and percentages Multiplying and dividing by powers of 10 Terms in probability (e.g. mutual exclusive) When to apply direct and inverse proportion in a worded context Converting between measurements **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Revisiting four operations with fractions from year 9 Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 13 – Probability Unit 14 – Multiplicative reasoning **Assessment objectives:** Experimental probability Venn and Tree diagrams Percentages Direct and inverse proportion Growth and decay Speed, distance and time **Enrichment/life and work skills:** Rock paper scissors activity - probability can be applied to common activities Probability linked to science through theory and experimenting Comparing loans and deciding on the best option Speed, distance and time will help with planning journeys and understanding ETAs **Assessments:** 2 unit tests and 1 end of term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked

Term	Higher Year 10
Spring 1 **Literacy / numeracy foci:** Key terminology and written proofs for congruent triangles Scale factor in context of similar shapes Terminology used for further trigonometry (non-right angle trig) **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Revisiting substitution and formulas seen within and outside of maths to upper and lower bounds Linking topics previously seen with trigonometry , for example surds and algebra Formula/knowledge tests to be conducted within lesson Recall exact values for sin, cos and tan for certain angles	**Unit of work:** Unit 12 – Similarity and congruence Unit 13 – More trigonometry **Assessment objectives:** Pythagoras theorem and trig ratios to find length Similarity in 2D and 3D shapes Congruence Trigonometry applied to non-right angle triangles Transforming trigonometric graphs Upper and Lower bounds **Enrichment/life and work skills:** Trig. graphs applied to real life situations Pythagoras linked into DT Real life application of trigonometry Careers that use Pythagoras Theorem Applied engineering using sine and cosine rule Similar shapes links to proportional reading and scale factors with designing – civil engineering **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Half term test to be cumulative. Unit tests can be peer marked
Spring 2 **Literacy / numeracy foci:** Key terms for knowing when to use which method for each graph Working with averages and range Giving written interpretations and comparisons of data **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Fractions, decimals, percentages and ratio links to statistics unit Linking algebra to problem solving questions for probability tree diagrams and Venn diagrams Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 14 – Further statistics **Assessment objectives:** Sampling Representing data using cumulative frequency diagrams Box plots Drawing and interpreting graphs and histograms **Enrichment/life and work skills:** Describing and comparing populations links to geography Data analyst career taste real life understanding of scatter graphs 'Skills learnt to become an actuary' lesson **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked

The progressive, inclusive curriculum 'skills, knowledge and concepts: literacy, life skills and enrichment'

CURRICULUM MAP

Term	Foundation Year 10
Summer 1 **Literacy / numeracy foci:** Terminology for algebra and graphs (e.g. parabola) Knowing factors and multiples Calculations with positive and negative integers **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Revisiting manipulating algebra from year 9 Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 15 – Construction, loci and bearings Unit 16 – Quadratic equations and graphs **Assessment objectives:** Bearings and scale drawings Constructions and Loci Plans and elevations Expanding and factorising quadratics Plotting quadratic graphs **Enrichment/life and work skills:** Reading maps - linked into geography Build engineering skills by designing your own theme park Real life examples of different graphs including quadratics **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. End of term assessment to be cumulative. Unit tests can be peer marked
Summer 2 **Literacy / numeracy foci:** Circumference, names of parts of a circle Formulas for more complex shapes Worded problems to identify when to work with volume and surface area **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Revisiting substitution Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 17 – Area and Volume **Assessment objectives:** Circumference and area of circles Area of semicircles and sectors Composite 2d shapes Volume and surface area of prisms including pyramids, cones and cylinders **Enrichment/life and work skills:** DIY with area for flooring Designer job - group activity that demonstrates the real life application of drawing, surface area and volume **Assessments:** 1 unit test – can be peer marked GCSE Paper 1 – Non Calculator GCSE Paper 2 - Calculator GCSE Paper 3 – Calculator All papers to cover all GCSE content

Term	Higher Year 10
Summer 1 **Literacy / numeracy foci:** Terminology for graphs (e.g. parabola) Terms used in different circle theorems **Homework** Hegartymaths including 'mem-ri' tasks Tasks to be set based on previous units Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Revisiting key circle terminology leant in year 9 Formula/knowledge tests to be conducted within lesson	**Unit of work:** Unit 15 – Equations and graphs Unit 16 –Circle theorems **Assessment objectives:** Quadratic graphs Non linear graphs Solving simultaneous equations graphically Learning and applying circle theorems **Enrichment/life and work skills:** Real life examples of different graphs including quadratics Fantastic video of maths in the work place - Navigational officers and how circle theorems apply **Assessments:** 2 unit tests and 1 half term test – Assessments to cover fluency, problem solving skills and interleaving topic areas. Unit tests can be peer marked
Summer 2 **Literacy / numeracy foci:** Irrational and rational numbers Wording in proof questions **Homework** Hegarty Maths including 'mem-ri' tasks Include tasks based on previous unit Make use of maths genie and maths emporium to give topic based exam style questions to allow exposure to GCSE papers **Revisiting, revising, remembering opportunities:** Starters based on previously covered topics to be done Links to product of primes, square and cube numbers Formula/knowledge tests to be conducted within lesson	**Unit of work: U**nit 17 – More algebra **Assessment objectives:** Rearranging formula Algebraic fractions Surds Functions Proofs **Enrichment/life and work skills:** Rearranging real life formula Surds link to A level maths study Equations and calculations linked to science and the black hole theory **Assessments:** 1 unit test – can be peer marked GCSE Paper 1 – Non Calculator GCSE Paper 2 - Calculator GCSE Paper 3 – Calculator All papers to cover all GCSE content

The progressive, inclusive curriculum 'skills, knowledge and concepts: literacy, life skills and enrichment'

SMSC End of Term Activities

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End of term 1

Equality and Diversity/ SMSC

The Imitation Game

Real Life applications of maths

- Introduction to cipher texts and different methods to crack codes using maths
- Ceasar Cipher
- Pigpen Cipher
- The significance of ISBN
- And other types of code breaking activities

Literacy in maths

Students are to watch the film and complete the literacy activity

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End of term 1

Equality and Diversity/ SMSC

Good will hunting

Real Life applications of maths

- Game theory and its applications to maths
- Higher ability pupils - to be taught matrix multiplication

Literacy in maths

Students are to watch the film and complete the literacy activity