Intent:

Nature is written in mathematical language.
— Galileo Galilei, Italian astronomer, physicist and engineer
Mathematics is the poetry of logical ideas.
— Einstein

Here at Altrincham College we aim for all students to feel that sense of understanding regardless of their prior attainment. Mathematics is not just about numbers, algebra and problem solving but about exploring new ideas and creating connections between areas we know and get to discover. Maths is all around us from the numeracy we use day to day to the beauty of nature. Enhancing STEM skills is important as every great advancement in human history has come from a strong understanding of science, technology and engineering. And underpinning all of these, is mathematics.

Our aims throughout the Maths journey at Altrincham College:

- KS3: To embed a deep understanding and curiosity about the fundamental knowledge across the five areas of Maths to create a firm foundation that can be built upon to enable them to make links across the wider whole school curriculum and in real life.
- KS4: To develop the specific knowledge and strategies to apply to problems ensuring that they are inspired to reach their maximum potential at GCSE and are confident using the maths needed for further education, careers and everyday life.
- KS5: To develop the deeper Mathematical understanding needed to thrive in further education and make positive impacts in their future workplaces.

Implementation:

During Years 7 - 9 students follow a Mastery approach SOW. In Y7 there is a Number focus, Y8 focuses on algebra and Y9 works on Data and Geometry. However, the importance of revisiting topic areas, especially ratio and proportion are strongly evident throughout all years, through the SOW as well as specifically designed Topic Homework. Students follow a consistent assessment structure across the department that is embedded throughout the 3 years. A MAD review is completed every 2 weeks which is a mini assessment covering the work from the previous 2 weeks and creates PLCs, Personalised Learning Checklists. Our intent with students getting used to PLCs is that it will promote independent understanding of knowledge gaps and to use them to focus their revision to make progress for future assessments. Teaching maths with a mastery approach involves employing techniques that help students to develop a deep and secure knowledge and understanding of mathematics at each stage of their learning, so that by the end of every school year or Key Stage, students will have acquired mastery of the mathematical facts and concepts that they have been exposed to, equipping them to move on confidently and securely to more advanced material at GCSE. At Altrincham College, we are incorporating elements of the Mastery approach in order to further strengthen the teaching and learning at Altrincham College.

We also promote the use of MathsWatch and DrFrostMaths, both are online interactive programmes where students have access to home tutor videos and can track their own progress though the interactive, self marking question banks. This is proving to be very popular with our students. They can access this at home to increase their confidence as well as using it to support homework tasks and consolidating understanding from lessons. The results of any completed tasks are automatically

recorded to track progress and highlight areas for development under the 'My progress tab' on MathsWatch or students can complete Gap Analysis questions on the 'Clean up' tab on DrFrostMaths.

During Year 10 and 11 we offer students either Higher (grade 4-9) or Foundation (grade 1-5) tiers in order to provide appropriate challenge and high success rates for all our students. Decisions on which paper students are entered for are based on open dialogue and are constantly reviewed to ensure we meet the best interests of every child. We follow the AQA GCSE course which provides a broad, coherent, satisfying and worthwhile course of study. We believe it encourages students to develop confidence and to have a positive attitude towards mathematics, recognising the importance of the subject in their own lives and the role it plays in society. It should also provide a strong mathematical foundation for students who go on to study mathematics at a higher level post-16.

Students will:

- Develop fluent knowledge and understanding of mathematical methods and concepts.
- Acquire, select and apply mathematical techniques to solve problems.
- Reason mathematically, make deductions and inferences and draw conclusions.
- Comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.

Students should also be aware that mathematics can be used to develop models of real situations and that these models may be more or less effective depending on how the situation has been simplified and the assumptions that have been made.

Literacy within Maths as a discipline

The goal of using literacy skills in Mathematics is to foster a deeper conceptual understanding of the mathematics. The subject specific literacy demands placed upon students in Maths include:

- Moving quickly between text and graphics (graphs and charts)
- Specificity of Maths vocabulary not seen regularly in other subjects (isosceles, histogram, vector)
- Atypical meanings for more common words (evaluate, Pi, proof)
- Interpretation of words to find / decide upon the appropriate mathematical symbol so 'positive', 'add' and 'sum' can denote '+'.
- Related mathematical terms i.e accurately understanding and using denominator and numerator.

In order to ensure students are equipped with the specific disciplinary literacy knowledge pertinent to Maths, the implementation of the intended curriculum sees teachers of Maths ensuring a shared pedagogy. Here, key definitions are routinely embedded into lessons, command words are explicitly discussed and deconstructed for understanding, with the frequency of open-ended questions and encouragement of tier 2 & 3 vocabulary used. As well as students independently using diagram construction and modelling when interpreting a problem.

Long Term Departmental Planning Overview		Subject:	**Mathematics**			
Year	Curriculum Title	HT1 topics	HT2 topics	HT3 topics	HT4 topics	HT5 topics	HT6 topics

Year	Curriculum Title	HT1 topics	HT2 topics	HT3 topics	HT4 topics	HT5 topics	HT6 topics
7	**Number** **Ratio and proportion**	**Understanding Numbers** Ordering and place value. Calculating with fractions. Rounding and estimating. Negative numbers. **Retrieval focus** Numeracy: Times tables rapid recall	**Multiply and Divide** Integers. By 10,100 and 1000. Decimals. Negatives. Fractions. Simplify fractions. **Retrieval focus** HT1: Significant figures and estimating Numeracy: Telling, converting and working with time	**Add and Subtract** Integers. Decimals. Negatives. Fractions. Collect like terms. Term-to-term sequences. Perimeters. Angles sum. **Retrieval focus** HT1: Significant figures and estimating HT2: Multiply and divide negatives and fractions Numeracy: Times tables rapid recall	**Operations and special numbers** Order of operations. Multiples and Factors. Primes. Powers and roots. Standard form. **Retrieval focus** HT2: Multiply and divide negatives and fractions HT3: Add and subtract negatives, fractions and like terms Numeracy: Telling, converting and working with time	**Fractions** Order fractions Fractions of amount. Problem solving **Percentages** Percentage of amount. Percentage change. Reverse percentages. Financial problems. Fraction, Decimal and percentage conversion **Retrieval focus** HT1: Significant figures and estimating HT3: Add and subtract negatives, fractions and like terms HT4: Writing in standard form Order of operations with negatives	**Ratio and Proportion** Compound measures. Use and convert metric measures. Scale factors and maps. Simplify and divide by a ratio. Proportion problem solving eg; conversion, scaling, mixing etc **Retrieval focus** HT2: Multiply and divide negatives and fractions HT4: Writing in standard form Order of operations with negatives HT5: fraction and percentage problem solving

| 8 | Algebra

Ratio and proportion

Numeracy revision | **Numeracy revision**
Multiply integers and decimals.
4 operations negative numbers.
HCF and LCM
Expressions, formulae and identities
Identify different types of algebra.
Collect like terms.
Expand and factorise brackets.
Expand binomials.
Index laws
Simplify surds
Simplify algebraic fractions.
Factorise quadratics.

Retrieval focus
Y7 HT1: Significant figures and estimating
Y7 HT5: fraction and percentage problem solving | **Numeracy revision**
Prime factorisation.
Compound measures.
Sequences
Mapping.
Nth rule.
Special sequences.
Recognise quadratic sequences.
Inverse and composite functions.

Substitution
Substitute into expressions.
Pythagoras theorem.

Retrieval focus
HT1: 4 operations of negative numbers
Y7 HT2: Multiply and divide fractions
Y7 HT6: Ratio problem solving | **Solve**
Solve linear equations with x on one side and on both sides,
Construct and solve equations in problems.
Change the subject of a formula.
Solve quadratic equations with factorising and the quadratic formula.

Retrieval focus
HT1: 4 operations of negative numbers
HT2: linear sequences
Y7 HT3: Add and subtract fractions and like terms | **Ratio and proportion**
Simplify and divide by a ratio.
Ratio to fractions and linear functions.
Proportion problem solving eg; conversion, scaling, mixing etc
Percentages
Percentage of amount.
Percentage change.
Reverse percentages.
Financial problems.

Retrieval focus
HT2: linear sequences
HT3: solve linear equations
Y7 HT4: Writing in standard form | **Coordinates and Graphs**
Plot coordinates in all 4 quadrants.
Plot straight line graphs.
Understand gradients and intercepts including parallel and perpendicular lines.
Interpret simple real life graphs
Plot quadratic graphs and use to solve and find turning point.
Interpret real-life graphs. Including distance, speed and acceleration.

Retrieval focus
HT1: 4 operations of negative numbers
HT3: solve linear equations
HT4: percentage problem solving
Y7 HT5: fraction and problem solving | **Inequalities**
Understand what an inequality is.
Plot on a number line.
Solve an inequality equation.
Algebraic proof

Retrieval focus
HT2: linear sequences
HT4: percentage problem solving
HT5: gradients and intercepts.
Y7 HT6: Ratio problem solving |

| 9 | Statistics

Geometry

Ratio and proportion

Numeracy revision | **Numeracy revision**
Multiply integers and decimals.
Round to significant figures.

Percentages
Percentage of amount.
Percentage change.
Reverse percentages.
Financial problems.

Statistics
Collecting data and sampling.
Types of data
Averages including from a table.
Quartiles and interquartile range.

Retrieval focus
Y7 HT1: Significant figures and estimating
Y8 HT1: 4 operations of negative numbers
Simplify surds | **Draw and analysis tables, charts and graphs**
Two way tables.
Pictograms.
Line graphs.
Bar charts, including comparative and composite.
Pie charts.
Time series.
Scatter graphs.
Cumulative frequency.
Histograms.
Box plots.

Retrieval focus
Y7 HT2: Multiply and divide fractions
Y8 HT2: linear sequences
HT1: Percentage problem solving and averages.
Quartiles | **Numeracy revision**
Multiply integers, decimals and fractions.

Theoretical probability
Use correct probability terms.
Use the probability scale 0-1.
Understand mutually exclusive events equal 1.

Experimental probability
Record frequency of outcomes.
Analysis probability of experiments using tables and frequency trees.
Calculate expected outcomes.

Sets and diagrams
Use tables, grids and Venn diagrams to organise data.
Sample space diagrams. | **Geometry**
Geometrical terms.
Draw and describe 2d shapes, using the correct property descriptions and notation. As well as parts of a circle.
Transformations.
Co-ordinates problem solving.
Properties of 3d shapes including nets.
Plans and elevations.
Pythagoras.
Describe transformations.
Congruency and similarity.
Vector calculations diagrammatic and column representations.

Algebra- solve
Construct and solve linear equations.
Construct and solve with an unknown of both sides.

Retrieval focus | **Numeracy revision**
4 operations of integers, decimals and fractions/

Algebra-expressions
Substitute
Collect like terms

Area and perimeter
2 d shapes.
Compound shapes.
Circles.
Surface area and volume of a cuboid.
Length of arcs.
Areas of sectors
Surface area and volume of prisms, pyramids, spheres and cylinders.
Including problem solving.

Retrieval focus
Y7 HT5: fraction and problem solving
Y8 HT5: gradients and intercepts.
HT1: Percentage problem solving and averages
Quartiles | **Angles**
Sum at a point, straight line, triangle and quadrilateral.
Angles in parallel lines.
Interior and exterior angles in a regular polygon.
Sum of interior angles.
Bearings
Congruent triangles and proofs.
Construction and loci.

Retrieval focus
Y7 HT6: Ratio problem solving
Y8 HT6: solve inequalities and on a number line
HT2: Pie charts Histograms
HT4: Pythagoras Similarity
HT5: Areas of circles
Parts of a circle |

| | | | | Tree diagrams of independent combined events. Use tree diagrams, two way tables and Venn diagrams independent and dependent events as well as conditional probabilities.

Retrieval focus
Y7 HT3: Add and subtract fractions and like terms
Y8 HT3: solve linear equations
HT1: Percentage problem solving and averages. Quartiles
HT2: Pie charts histograms | HT2: linear
Y7 HT4: Writing in standard form
Y8 HT4: percentage problem solving
HT2:Pie charts histograms
HT3: probability expected outcomes Calculating probability from trees and venn diagrams | HT3: probability expected outcomes Calculating probability from trees and venn diagrams
HT4:Pythagoras Similarity | |

| 10 – Foundation tier | *AQA syllabus which is sequenced to reflect the strong and consistent approach of the KS3 scheme of learning.*

Numeracy fluency

Generalisation of algebra

Application to statistical analysis and geometric understanding.

Feedback analysis with tailored learning and development towards GCSEs

Throughout all areas, where appropriate, real life context and links to careers are addressed to ensure all students experience Maths beyond the classroom. | **Number**
Ordering and place value.
Rounding and estimating.
4 operations including negative numbers.
Calculations and problem solving with fractions and decimals.
Order and inverse operations.
Factors, multiples and primes, including HCF, LCM and prime factorisation.
Powers and roots.
Standard form | **Algebra – Expressions and simplify**
Identify different types of algebra and express in words and vice versa.
Collect like terms.
Expand and factorise brackets.
Index laws
Substitution.

Algebra – solving
Solve Linear equations and inequalities.
Construct algebraic arguments.
Represent an inequality on a number line.

Geometry
Perimeter and area of 2d shapes including a circle and parts of a circle.

Geometry
Surface area. | **Percentages**
Percentage of amount.
Percentage change.
Reverse percentages.
Financial problems.
Compare fractions, decimals and percentages.

Algebra
Sequences
Nth rule.
Special sequences. | **Ratio and Proportion**
Use and convert metric measures.
Scale factors and maps. Including length, area and volume.
Compound measures.
Simplify and divide by a ratio.
Ratio to fractions and linear functions.
Proportion problem solving eg; conversion, scaling, mixing etc
Mapping

Angles
Sum at a point, straight line, triangle and quadrilateral.
Angles in parallel lines.
Interior and exterior angles in a regular polygon.
Sum of interior angles.
Bearings | **Theoretical probability**
Use correct probability terms.
Use the probability scale 0-1.
Understand mutually exclusive events equal 1.

Experimental probability
Record frequency of outcomes.
Analysis probability of experiments using tables and frequency trees.
Calculate expected outcomes.

Sets and diagrams
Use tables, grids and Venn diagrams to organise data.
Sample space diagrams.
Use tree diagrams, two way tables and Venn diagrams from independent and dependent events as well as conditional probabilities. | **Construction and Loci**

Ratio and proportion
Use and convert metric measures.
Compound measures.
Scale factors and maps. Including length, area and volume.

Graphs
Real life graphs including conversion graphs and kinematic graphs |
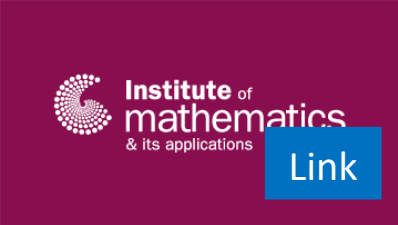
		Geometry Pythagoras. Trigonometry in right angle triangles.	

10 – Higher tier	**Number** Ordering and 4 operations of fractions. Rounding and estimating. Bounds and error intervals. Product rule for counting. 4 operations including negative numbers. Calculations and problem solving with fractions and decimals. Converting recurring decimals. Order and inverse operations. Factors, multiples and primes, including HCF, LCM and prime factorisation. Powers and roots. Fractional indices. Standard form.	**Algebra – types, simplify** Identify different types of algebra. Collect like terms. Expand and factorise brackets. Index laws Substitution. **Algebra - Expressions** Expand and factorise binomials. **Algebra – expressions, graphs, solving and inequalities** Change the subject. Construct and solve linear equations **Algebra – Solving** Solve simultaneous equations algebraically	**Percentages** Percentage of amount. Percentage change. Reverse percentages. Financial problems. Compare fractions, decimals and percentages. **Algebra** Construct and solve linear inequalities. Represent an inequality on a number line. Solve inequalities with 2 variables including set notation and on a graph. Solve inequalities. Represent an inequality on a number line, using set notation and on a graph.	**Geometry** Sum at a point, straight line, triangle and quadrilateral. Angles in parallel lines. Interior and exterior angles in a regular polygon. Sum of interior angles. **Geometry – circles** Understand parts of a circle. Use and Proof of Circle theorems.	**Theoretical probability** Use correct probability terms. Use the probability scale 0-1. Understand mutually exclusive events equal 1. **Experimental probability** Record frequency of outcomes. Analysis probability of experiments using tables and frequency trees. Calculate expected outcomes. **Sets and diagrams** Use tables, grids and Venn diagrams to organise data. Sample space diagrams. Use tree diagrams, two way tables	**Geometry** Constructions. Loci. **Ratio and Proportion** Scale factors and maps. Including length, area and volume. Compound measures. **Algebra – graphs** Draw and interpret real life graphs. Include velocity and acceleration.

		Number	**Geometry**	**Algebra**		and Venn
		Simplify surds and rationalise the denominator.	Perimeter and area of 2d shapes including circles and parts of a circle as well as composite shapes. Surface area	**sequences** Quadratic & Geometric Sequences		diagrams from independent and dependent events as well as conditional probabilities.
				Ratio and Proportion Simplify and divide by a ratio. Ratio to fractions and linear functions. Proportion problem solving eg; conversion, scaling, mixing etc Direct and inverse proportion.		**Geometry** Pythagoras. Trigonometry of right angled triangles. 2D and 3D Know the exact values of sin, cos and tan. Sine rule. Cosine rule. ½ absinc. Bearings.

11 – Foundation tier		**Co-ordinates and Linear graphs** Plot straight line graphs. Understand gradients and intercepts including parallel and perpendicular lines. **Geometry Shape properties** Properties of 3d shapes including nets. Plans and elevations. **Geometry** Volume. **Geometry** Congruency proof	**Algebra** Change the subject Solve simulations equations **Quadratic equations** Expand and factorise binomials, including the difference of two squares. **Sequences and graphs** Recognise quadratic, geometric and recursive sequences. Recognise, sketch and interpret quadratic, cubic, and reciprocal graphs	**Statistics** Types of data, collecting data and sampling. Draw and analysis tables, charts and graphs Two way tables. Pictograms. Line graphs. Bar charts, including comparative and composite. Pie charts. Time series. Scatter graphs. **Statistics** Find and compare averages including from a table.	**Geometry** Transformations and vectors (column and geometry) **Proportion and rates of change** Equivalent proportion equations and interpret gradients on straight line graphs. **Proportion** Direct and inverse proportion	**Proportion** Growth and decay Topics covered based on RAG analysis of the mock exam.	**GCSE Paper1 non-calculator Paper 2 and Paper 3 calculator allowed.**
11- Higher tier		**Solving** Solve quadratics. Iterative process. **Algebra** Simplify algebraic fractions. **Algebra**	**Ratio and proportion – Algebra – linear Relationships** Plot straight line graphs. Understand gradients and intercepts including parallel	**Statistics** Calculate and compare averages including from a table. Quartiles and interquartile range.	**Geometry – transformations** Draw and describe single and connected transformations including negative and fractional enlargements.	**Proportion and rates of change** Interpret gradients and curves as a rate of change and proportional relationship.	**GCSE Paper1 non-calculator Paper 2 and Paper 3 calculator allowed.**

		Inverse and composite functions.	and perpendicular lines. Linear Sequences (& Other Common Sequences - not Quadratic or Geometric)	Box plots and cumulative frequency.	**Geometry - vectors** Calculate vectors and Scalar products of vectors. Including proofs.	Topics covered based on RAG analysis of the mock exam.
		Geometry Congruency and properties of 2d shapes. Volume	**Graphs** Recognise, sketch and interpret linear, quadratic, cubic, reciprocal, and exponential graphs.	**Functions** Sketch and transform trigonometry and quadratic functions.	**Proportion** Interpret growth and decay.	
			Algebra Equation of circles & their tangents.			
			Statistics Types of data, collecting data and sampling. Two way tables. Pictograms. Line graphs. Bar charts, including comparative and composite. Pie charts. Time series. Scatter graphs. Histograms.			

Y12 – Core maths	**AQA level 3 certificate maths qualification** *that helps students develop their statistical analysis, financial literacy and problem-solving skills*	Representations and comparisons of data using various methods	Finance: Tax, National Insurance, Student Loans, Mortgages, Inflation, AER, APR, Exchange Rates Fermi Estimation	Critical Analysis and Normal Distribution.	Confidence Intervals, Correlation and Regression.	Revision and Examination	
Y12 – A-level	**AQA A-level qualification** *that develops problem-solving, analytical Skills research Skills and logical thinking covering Pure Mathematics, mechanics and statistics modules.*	**Pure** Algebra Polynomials and binomial theorem Trigonometry	**Pure** Differentiation Exponentials and logarithms	**Mechanics** Vectors Units and kinematics **Statistics** Collecting, representing and interpreting data	**Mechanics** Forces and Newton's law **Statistics** Probability and discrete random variables Hypothesis testing	Revision and examination	**Pure** Algebra Sequences
Y13 – A-level		**Pure** Trigonometry Differentiation	**Pure** Integration and differential equations Numerical methods	**Mechanics** Motion in two dimensions **Statistics** Probability and continuous random variables	**Mechanics** Forces **Statistics** Hypothesis testing	Revision and Examination	
	Throughout both KS5 courses students are exposed to activities and discussions to challenge their application of maths to problem solving and not just answering exam questions. They also have virtual career experiences to broaden their understanding of how Maths in the classroom can translate into future career opportunities.						

Careers / Gatsby benchmark links				
Links to careers / jobs	Careers talk (possible contacts)	Career & labour market information	Workplace visit	Encounter with further / higher education

What will your future career be?
At age 16 you can't know exactly what you will do in the future, meaning you can't predict what maths you will need. Many people will change careers multiple times, meaning that you need to have a wide understanding of maths to give you the best possible job options.

Webinars
Hear directly from the experts

Go to tool ›

Subject discovery: Computer Science
- A degree in Computer Science will teach you how to design and analyse algorithms to solve problems and study the performance of computers. You could even learn about artificial intelligence while you're at it!

Subject discovery: Business and Management
- Do you want to play a key role within a business? Are you interested in organising and coordinating the activities of a business to achieve its goals? If so, Business Management may be right up your street!

Subject discovery: Engineering

Mathematicians and statisticians are in demand across a range of sectors and employment opportunities are commonly found in:

- education
- engineering
- finance, banking and accountancy firms
- government - local, central and agencies
- insurance companies
- IT, business consultancy and operational research companies
- market research and marketing companies
- medicine and health - including private pharmaceutical companies and the NHS
- petroleum and nuclear industries
- publicly-funded research institutes
- space science and astronomy.

After completing a Maths degree what type of work do graduates go on to do?
- Business, HR and financial
  39.8%

Careers library
✖ Careers favourited

Go to tool ›

unifrog

Search by keyword or subject search:: **MATHS**

Croupier
- Croupiers run the games in casinos and make sure the games take place in a fair and friendly manner.

Investment banker
- Investment bankers help companies to raise capital.

Financial adviser
- Financial advisers help people and organisations to choose investments, savings, pensions, mortgages or insurance products.

Actuary
- Actuaries work with companies and government departments, to help

Subjects library
✖ Subjects favourited

Go to tool ›

unifrog

Search by keyword or subject search: **MATHS**

Meet Real university student that apply their Maths skills to a variety of courses.

Economics
- A social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources.
University of Nottingham

Civil engineering
- The design, construction and maintenance the infrastructures that hold

Institute of mathematics & its applications — Link

Possible careers after a Maths degree:
- Acoustic consultant
- Actuarial analyst
- Actuary
- Astronomer
- Chartered accountant
- Chartered certified accountant
- Data analyst
- Data scientist
- Investment analyst
- Research scientist (maths)

- Secondary school teacher
- Software engineer
- Sound engineer
- Statistician

Bitesize

Jobs that use Maths articles to read:

Link

If you're seeking a future that revolves around innovation and assisting mankind in reaching new heights (literally, in the case of Aeronautical Engineering!), a degree in Engineering is the one for you.

Skills & Enterprise Week - Entrepreneurship Skills
- Have you always fancied yourself as an entrepreneur? This webinar will explore the skills and competencies you need to make it as an entrepreneur and how you can start to develop them today.

Skills & Enterprise Week - Problem Solving Skills Development
- We all know being able to solve problems is a useful skill to have, but how can you demonstrate it to employers? This webinar will give you top tips on how to showcase your problem solving skills to boost your employability.

- Information technology 20.6%
- Education professionals 12.3%
- Secretarial and numerical clerks 8.1%
- Other 19.4%

Best Paying Maths Careers:
- **Actuarial Sciences and Risk Management**
  €80-90,000
- **Cryptology**
  €85,000
- **Computer and Information Research Scientist**
  Six figure annual salaries are easy to get with a few years of experience
- **Financial Analysts**
  €70,000
- **Data Scientists or Statisticians**
  €250,000

them forecast long-term financial costs and investment risks.

Office manager
- Office managers oversee the day-to-day running of an office or department.

Meet the real people doing the jobs.

Many more jobs to explore that require Maths in their day to day duties.

our physical world together.
University of Bath

Studying a maths degree develops skills in:
- designing and conducting observational and experimental studies
- investigating, analysing and interpreting data, finding patterns and drawing conclusions
- information technology
- approaching problems in an analytical and rigorous way, formulating theories and applying them to solve problems
- dealing with abstract concepts
- presenting mathematical arguments and conclusions with accuracy and clarity
- advanced numeracy and analysing large quantities of data
- logical thinking.