



Mark

JOB

Assistant Director of Music

COMPANY

Broomwood Hall School

How I use maths in my role

I use maths via Excel spreadsheets, general musical counting, budgeting and projections.

What I do

I teach music and administrate for the needs of a busy department. Organising teaching staff, room allocations, dealing with parents' enquiries.

What three skills are most useful for your role?

Creativity, communication and problem solving.

What I love about my career and maths

The fact that it helps young people gain an insight and a passion for music and helps them develop interchangeable skills that they will use no matter what their future career may be.

My hobbies

Running, cooking, socialising and travelling.

How maths has helped me in everyday life

My tax return! And general budgeting and managing a house on my own.

My education

GCSEs in sciences and maths (and music), A-levels in sciences (chemistry and biology), maths and music. I also have a Bachelor of Music, PGCE (teaching qualification) and ABRSM Grade 8 performance on a number of instruments.

My career advice

Don't rule anything out while you're still at school and always be open to the advice of people a bit further along in life than yourself. If you remain open-minded then you won't say no to a job you may end up loving for life.



Matthew

JOB

Digital and Communication Co-ordinator

COMPANY

Awards for Young Musician

How I use maths in my role

I use statistics everyday by analysing engagement numbers (likes, views and followers). Budgeting for both print materials and online adverts. Even design work requires an understanding of artwork specifications and point sizes.

What I do

I create and post content on social media, design materials and maintain the website and mailing list.

What three skills are most useful for your role?

Communication and creativity definitely. Keen eye for detail also and using evidence.

What I love about my career and maths

The creativity and the ability to communicate a message I believe in.

My hobbies

I've played in bands for years which has been really useful. You learn how to work in a team and have to present yourself in a certain way. A lot of my social media experience comes from promoting my bands. I also play basketball which is a very team orientated game. Both have helped with my wellbeing and informed my work.

How maths has helped me in everyday life

Really useful when organising events with regards to budgeting and scheduling as well as capacity.

My education

I have a Master's and Bachelor's degree in Film & TV. Triple distinction BTEC in Music Technology.

My career advice

If you want to work in communications, start by doing something around your passion as it will be something you want to shout about. It's easier to learn and do if you are 100% motivated. It doesn't matter if it's your band (like in my case) or makeup or sport. You will know the subject innately which puts you in the best position to be talking about it and you will enjoy talking to others about it. Then you can take those skills and put them into a more formal career path (as I am now!).



Megan

JOB

Chartered Building Surveyor

COMPANY

Avison Young

How I use maths in my role

I use Excel to review project finances, confirming schedules and costs. I prepare budgets for clients. I confirm Building Regulations, requiring a knowledge of measurements and conversions, measuring everything from length to thermal transmittance (U-values, measured in W/m^2K).

What I do

I spend time inspecting buildings and construction sites, in the office, and meeting with clients. My work is varied and includes producing survey reports, project managing repair and refurbishment work, or monitoring new build projects for funders.

What three skills are most useful for your role?

Observation, problem solving and communication.

What I love about my career and maths

I've always had an interest in architecture and wanted a job where I wouldn't be stuck in an office. I love the variety in my role and the interesting places I get to see from entirely new perspectives e.g. going on stage at an empty West End theatre or seeing London from the rooftops!

My hobbies

Trying new crafts helps me be creative and relax. Visiting historic buildings and sites gives fresh insight into my job and helps bring to life how people once lived. I like to go hiking in the countryside to reconnect with nature. Reading opens me up to new perspectives and ways of thinking.

How maths has helped me in everyday life

It helps me day-to-day: budgeting, mortgaging my house, understanding bills, pensions and taxes. This would be overwhelming without a basic understanding of maths. It also helps with the food shop and estimating how much it will cost.

My education

GCSEs and A-levels in English Literature, History and Maths. BA in English Literature and MSc in Conservation of Historic Buildings. There are several routes into becoming a Chartered Building Surveyor, and not all require formal qualifications.

My career advice

Show an interest and curiosity about the world and people around you. The built environment/ construction industry creates 38% of greenhouse gas emissions so will have to change radically to meet Net Zero Carbon targets. This is a challenge and an opportunity: think about how you want the world to look in the future.



Melissa

JOB

Insurance Broker

COMPANY

Lockton LLP

How I use maths in my role

I frequently analyse the financial health of companies, use mental maths when comparing different quotations and negotiating on the spot, and use Excel to assist in predicting and calculating premium outcomes for global insurance programmes.

What I do

I put in place insurance for companies which protects their Directors in the event that someone brings an allegation of wrongdoing against them.

What three skills are most useful for your role?

Communication, problem solving and negotiation.

What I love about my career and maths

A large proportion of complex insurance placements are still reliant on face-to-face negotiation which is challenging and thrilling! Communication skills and emotional intelligence are key to success.

My hobbies

Keeping active helps with wellbeing, particularly when you're at a desk for the majority of the day. Playing and watching sport enables you to build rapport very easily with people from all walks of life which can help when building relationships and negotiating.

How maths has helped me in everyday life

With my own financial wellbeing, particularly when budgeting and saving to get on the property ladder.

My education

I have a Law degree and have completed my Associateship of the Chartered Insurance Institute (ACII) qualification whilst working. However, you don't need a degree to be successful in Insurance! Personality, drive and communication skills are more important and difficult to learn.

My career advice

Keep up to date with the news, read the business section regularly. Even if you take an interest in one particular industry and try and think how the news articles about companies and developments in that industry might have an impact on their ability to buy insurance. And think about what happens if these companies cannot procure insurance?



Mihir

JOB

Economic Consultant

COMPANY

Frontier Economics

How I use maths in my role

I use statistics every day for data analysis and financial modelling, and more complex methods for sophisticated statistical models.

What I do

I use R (data visualisation software), Stata (statistical software), and Excel to analyse socio-economic data. I also use quantitative methods to help answer questions asked by decision-makers in governments and private companies, in the form of reports and presentations.

What three skills are most useful for your role?

Critical thinking, communication with colleagues and clients, collecting and recognising useful evidence and finding ways to use it for objective quantitative analysis.

What I love about my career and maths

Helping find answers to complex and interesting questions related to economic policy, climate change, and many other interesting topics.

My hobbies

Running, reading, and finding great podcasts.

How maths has helped me in everyday life

Thinking critically about personal and professional decisions, with budgeting, and with being more organised.

My education

Bachelor's and Master's degrees in Economics.

My career advice

There are a lot of incredible potential career paths out there - try as many as possible while you're young and have the time. It's better to be at the bottom of a ladder you want to climb rather than halfway up one that you don't care much for. Think a lot about the work you do and the impact it has on you and the world in general. And have (a lot) of fun!



Nicola

JOB

**Postdoctoral
researcher**

COMPANY

University of Oxford

How I use maths in my role

I formulate mathematical models, and develop mathematical techniques to simulate the models, in order to answer questions like: how do the material properties of a battery/solar panel affect its ability to store/generate electricity?

What I do

I study mathematical models of batteries and solar panels to learn how we can further improve these technologies for the future. I use Matlab to run simulations and I discuss the results with engineers and scientists.

What three skills are most useful for your role?

Problem solving, persistence and spotting patterns.

What I love about my career and maths

I enjoy the flexibility of my job and freedom to think about new and interesting ideas. I chose maths to keep my options open and now work within an international community of engineers and scientists trying to solve some of the world's most pressing problems.

My hobbies

Listening to music and puzzles, which help me to relax and think in new ways.

How maths has helped me in everyday life

Understanding statistics and trends to do with global and national issues such as COVID-19, the climate emergency and the economy.

My education

I have GCSEs and A-levels in science subjects and Maths, as well as a Master's degree and PhD in Mathematical Sciences.

My career advice

I didn't know that I could be an academic researcher before I went to university, but choosing to study maths enabled me to get a job that I find interesting, challenging and rewarding.



Nirja

JOB

Doctor

COMPANY

NHS

How I use maths in my role

To prescribe medication doses and quantities, I use mental arithmetic throughout the day. When I explain to patients about starting a treatment, I use risk and probability to explain why a medication may be beneficial. When looking at population health, I use graphs to look at factors such as a child's growth and to calculate a patient's body mass index.

What I do

I treat patients and consider risk, look at evidence with probabilities and use arithmetic to write prescriptions and calculate dosages of medications.

What three skills are most useful for your role?

Communication, problem solving and critical thinking.

What I love about my career and maths

The ability to make a difference to people's lives.

My hobbies

I teach dance in my spare time, this helps with my communication, creativity and leadership.

How maths has helped me in everyday life

Maths is essential to day-to-day life, whether it's paying a bill, understanding VAT, savings, tax or budgeting.

My education

I have GCSEs and A-levels in sciences, an AS level in Maths and an MBBS.

My career advice

To try and gain work experience.



Penny

JOB

Project Manager

COMPANY

Avison Young

How I use maths in my role

I use Excel spreadsheets daily for monitoring budgets, programming, valuations monitoring, and fast exercises as required such as analysis of a particular element. I also use mental maths when needed.

What I do

I link clients and the professional design team to undertake the design of spaces to make them suitable for occupation. Meetings, coordination, chasing, high level programming, fees analysis and monitoring, and much more.

What three skills are most useful for your role?

Communication, summarising and problem solving.

What I love about my career and maths

I like the variety in my job - different projects, clients, design teams, contractors. I like starting with nothing and ending with a complete and newly fitted out building and a happy client. My career in construction was a happy accident - it pays to keep an open mind. If you work hard and show interest, people will take notice and opportunities will come your way.

My hobbies

Reading opens the door to new experiences and provides talking points at networking events. Crafts - decoupage, embroidery, card making - a good way to relax. I am involved with a local charity which involves meetings, minutes, budgets, fund raising - all the skills I use at work but on a much smaller scale.

How maths has helped me in everyday life

Helps with life generally! Ability to budget or understand financial matters (whether for your own life/mortgage/credit card or a charity or any other reason) is essential. I use spreadsheets for anything and everything.

My education

GCSEs, A-levels in languages, BA Hons in Modern Languages. Was hopeless at maths at school but I now realise we all need at least a basic understanding to get through life and wish I had paid more attention in school at the time!

My career advice

Construction is a fascinating career and offers lots of options to everyone. It is no longer an all male preserve and there are opportunities in so many areas - design, architecture, engineering, acoustics, fire strategy, project management, the list is endless. Look at some of the larger estates/property management firms who offer many different services and training within the industry.



Preeti

JOB

Research Consultant

COMPANY

Freelance

How I use maths in my role

In my role as a research analyst, I analyse data using statistical techniques so I can write about evidence-based research topics. I use spreadsheets and statistical packages such as Stata and R.

What I do

I am an educational researcher. I work with large-scale quantitative datasets which I enjoy working on.

What three skills are most useful for your role?

Problem solving, patience and interpreting findings.

What I love about my career and maths

I have always enjoyed working with complex problems and maths from a young age. It gives me a sense of satisfaction and self-confidence when I solve a challenge.

My hobbies

I love to read, which helps me gain knowledge about various topics and feeds my curiosity. I also love to go for walks and love to draw mandalas, which help me clear my mind and help with better concentration.

How maths has helped me in everyday life

It has helped me with not only problem solving but has also given me a sense of empowerment in general.

My education

I have a Master's and M.Phil degree in Population Studies and BA (Hons) in Economics.

My career advice

Believe in your skills and interests because no one else will and it should not even matter. Get as much diverse experience as possible in life because it will help you at some point in life. Be always curious and keep learning. Most importantly, be patient and kind to yourself, you'll ultimately find your own way!



Rachael F

JOB

**Digital Marketing
Manager**

COMPANY

Raylo

How I use maths in my role

I analyse data from social media platforms and Google to understand how our advertising is performing. I do this with Excel. I also run surveys on customers, perform experiments and use other maths techniques to improve marketing and advertising.

What I do

I look after digital marketing, optimising advertising to increase sales. I analyse data, perform experiments, write adverts and work with designers.

What three skills are most useful for your role?

Problem solving, communication and creativity.

What I love about my career and maths

I like how my job is creative and analytical. Using maths to help with problems means I can see how successful I am in helping my company grow. You can use maths to help come up with ideas to think outside the box.

My hobbies

I love theatre – watching it and performing in it. It's creative and helped me with my communication and confidence.

How maths has helped me in everyday life

Budgeting, working out bills, making spreadsheets to plan holidays.

My education

GCSEs and A-levels in Maths and science subjects. BSc in Natural Sciences (Maths and Chemistry).

My career advice

Digital marketing is great if you have an analytical mind and are interested in selling products. You don't need any specific qualifications, but I found studying maths was definitely useful for me and helped me have a head start in my career.



Rachael K

JOB

Trainee Patent Attorney

COMPANY

Abel + Imray

How I use maths in my role

Inventors often use maths, especially mechanics, when describing their inventions. We sometimes need to use graphs to explain their invention. We also use maths when calculating the fees we need to pay for a patent – which there's a lot of!

What I do

I work with inventors and engineering companies to help them protect their ideas, by drafting patent applications (describing how an invention works) and arguing with the patent office (which is like a court for science and engineering) why the invention is new and inventive.

What three skills are most useful for your role?

Problem solving, communication skills (writing and speaking) and time management.

What I love about my career and maths

I love that I get to see lots of new inventions and that no two days are the same. I've always found maths so satisfying – there's no better feeling than solving an equation or answering a question you've been stuck on. Maths plays such a key part in things we use everyday so I think it's interesting to see how it applies in the real world, for example your microwave or the car you get a lift in.

My hobbies

Singing and performing, I used to work abroad in entertainment before I started this job. Entertainment really helped me develop my communication skills and confidence. I love doing yoga as it helps me relax.

How maths has helped me in everyday life

Maths helps me in everyday tasks, from calculating what product is the best value in the supermarket to working out the bills for me and my housemates. It's also helpful when figuring out a maths problem to help my other friends in STEM – which happens more often than you'd think!

My education

I have GCSEs in Science, Maths and Additional Maths and A-level Maths, Further Maths and Physics. I have a Bachelor's degree in Mechanical Engineering.

My career advice

Choose subjects you're passionate about and give it your all. If you have the chance to do some work experience, it's a great way of figuring out if you'd enjoy a particular job. Also, don't forget your hobbies, it's important to have something you can blow off some steam with.



Rajina

JOB

**Assistant Client
Accountant**

COMPANY

Avison Young

How I use maths in my role

I use Excel on a daily basis in my job role, including reading/ filtering ledgers, creating tables, calculating charges/demands to be raised to tenants, generating electricity certificates for tenants, and more.

What I do

I have recently joined this role, but currently, I raise tenant invoices, complete VAT reconciliations, journal entries, assist with client reporting and more.

What three skills are most useful for your role?

Communication, problem solving and teamwork.

What I love about my career and maths

I do really enjoy working with spreadsheets and using systems and recognised that finance departments will always require employees – one of the reasons I entered the finance field. I consider myself lucky to have found a job in lockdown conditions and to then have been promoted. I initially joined the company as a accounts payable clerk and I am happy I did.

My hobbies

I love trying new things. Late last year I started going to local Bhangra classes, which I really enjoyed. At work, I have joined the charity team, we are preparing for a corporate charity hike next month and a bake sale to mark the Queen's Jubilee. It's all good fun and it keeps you on your toes!

How maths has helped me in everyday life

You naturally use Maths to help with everyday activities, such as budgeting for university or buying a car etc. Maths becomes a part of everyday life in a good way.

My education

GCSEs, A-levels, University degree.

My career advice

University isn't meant to be everyone's first choice. Always consider broadening your horizons and trying something different e.g apprenticeships. In the field of finance, it's experience and studies more than anything. Do not just rely on your degree, take on free work where you can to build your CV.



Renata

JOB

**Vice President of
Customer Success**

COMPANY

WeGift

How I use maths in my role

I use maths for financial forecasting, margin/profit calculations, forecasting for hiring needs, data analysis and performance tracking via KPIs, budgeting, root cause analysis, strategy planning. I use Excel/Google sheets and specific software for this.

What I do

I look after the department in charge of customer success - anything that happens to a customer after they sign a contract, including: on-boarding, technical implementation, training, day-to-day engagement, renewals, expansion, etc.

What three skills are most useful for your role?

Problem solving, empathy and communication.

What I love about my career and maths

Clients are the reason businesses exist and having a career that essentially takes care of clients, helping them achieve their goals and grow is the best way to ensure a long-term sustainable relationship between a company and their client. Maths was never my strongest point in school, but I've found that there are elements from maths that you can use in broader contexts, which can help give you clearer outcomes, and new, useful ways to view things.

My hobbies

Reading - super helpful in any career, be it fiction or non-fiction, it gives you so many perspectives and insights on how things can happen.

How maths has helped me in everyday life

Knowing how to spend my money, save to go on holiday and trips, day-to-day calculations.

My education

My main education has nothing to do with my career - I did the International Baccalaureate and then a BSc in Biology. Later in my career I took a break to do a MBA (Master's degree in Business Administration) which was very helpful.

My career advice

Dealing with people is very rewarding but also challenging, as people are complex and ever changing. There are so many careers in Customer Success (and related fields), if you enjoy dealing with people, problem solving and making a meaningful impact, you should definitely explore this.



Rory Harding

JOB

Investment Manager

COMPANY

Investec

How I use maths in my role

I use statistics and ratios for comparing companies. Plus usual mental arithmetic to work out prices, quantities and tax.

What I do

I use Excel daily to help compare and evaluate different companies and whether they are suitable for clients to own.

What three skills are most useful for your role?

Communication, reading and independent thought.

What I love about my career and maths

My role has two sides. One half is research and evaluation and the other is spent communicating with clients. Maths is a useful tool and working out certain solutions is similar to solving a puzzle and can be extremely satisfying.

My hobbies

Playing football and rugby has helped with confidence, leadership and working as a team. Finding a quiet hour to read a book each day has helped with my vocabulary and expands one's range of knowledge. It also gives me time away from looking at a screen which I find helpful for relaxing and mental health.

How maths has helped me in everyday life

Life skills from buying a house and paying bills to smaller things like bartering in markets.

My education

I have 11 GCSEs, A-levels in Maths, Economics and History. A Bachelor's degree in Classical Civilisation and a Master's degree in Ancient History and a MSci Securities and Investments.

My career advice

Being an Investment Manager is a very rewarding job. If you enjoy puzzles and reading and you enjoy talking to all types of people then it is a great path to follow.



ROS

JOB

Manager

COMPANY

Avison Young

How I use maths in my role

The main way I use maths in my role is reviewing budgets.

What I do

When you go anywhere outside of home you are very likely to go into a building. The building may be where people work, or shop, do sport, stay overnight and lots more. My job is to look after those buildings, it's a really practical job.

What three skills are most useful for your role?

Communication, teamwork and problem solving.

What I love about my career and maths

It's a people industry. Not maths heavy in terms of capability needs.

My hobbies

Cycling, running, canoeing - always in groups, I am a team player.

How maths has helped me in everyday life

Budgeting.

My education

GCSEs in 9 subjects, A-levels, Geography, Geology and Biology.

My career advice

Real estate is incredibly varied in the expertise needed suiting people who are both academic and practical.



Ruth

JOB

Actuary

COMPANY

Lloyds Banking Group

How I use maths in my role

I use a variety of mathematical and statistical techniques in my day-to-day role. These are also needed to pass the actuarial exams to qualify as an Actuary.

What I do

I help to understand and reduce the risks that an insurance company faces. I model these risks using Excel and R (data visualisation software).

What three skills are most useful for your role?

Numerical skills, problem solving and communication.

What I love about my career and maths

I enjoy the problem solving aspect and being able to apply my degree to my role. I also work with a great bunch of people!

My hobbies

I enjoy art and craft outside of work. I think this helps me to approach problems creatively and from a different perspective.

How maths has helped me in everyday life

It helps me to think analytically about the world and form my own opinions.

My education

I have a Master's degree in Mathematics and have qualified as a fellow of the Institute and Faculty of Actuaries.

My career advice

It's always worth getting an internship so you can see first hand what the job entails before you commit.



Sophie

JOB

**Small business owner,
clothing designer**

COMPANY

Delirium by Sophie

How I use maths in my role

I use spreadsheets for budgeting, measurement for sizing up/down and data analysis for sales and marketing.

What I do

I make clothing, manage social media filming/photographing items, manage emails spreadsheets and accounts.

What three skills are most useful for your role?

Creativity, problem solving and customer service.

What I love about my career and maths

I love that I get to play around all day in the fabrics I created, even the less interesting tasks I enjoy because I'm continually working towards my dream coming alive! Patterns in mathematics fascinate me, I find it poetic the way geometry in nature/the universe then correlates throughout our lives in our cells and design throughout the world. Maths makes up our whole universe, it's logical and creative at the same time!

My hobbies

Music events and festivals are my joy in life, the feeling of togetherness when you're in a crowd of like-minded people, is what life is about! I make my clothing specifically for festivals and clubs, so attending these events helps me make connections for work collaborations and create content for marketing.

How maths has helped me in everyday life

All my jobs leading up to opening my own company were math based jobs, before this I wanted to travel and so I needed to find well paid work to save quickly and efficiently. Basic maths was a necessity for me to find office based jobs that allowed me to move from hospitality industry to £30k + salary with relative ease. Previous jobs I had included doing credit control for a property firm and a night club and being Head of Buying for a set design company.

My education

GCSEs – Diploma – Bachelor's Degree.

My career advice

Experiment with jobs, get a lot of experience with internships but if something doesn't fit try something else, don't get stuck trying to please bosses at a job you hate. When you've found what you love doing, don't hesitate, just start! You will never be completely ready but learning by doing will be the most valuable lesson.



Stefi

JOB

Offshore Engineer

COMPANY

BP

How I use maths in my role

To ensure the installation activities are done safely and we don't break anything, a lot of analysis is run by our contractors and their engineering subcontractors - from simple hand calculations to very complex computational fluid dynamics. My role is to review this analysis, confirm it's done correctly, and results are acceptable.

What I do

I manage the installation of concrete and steel structures in the sea, by overseeing several vessels with big cranes.

What three skills are most useful for your role?

Problem solving, communication and decision making.

What I love about my career and maths

My job involves installing a lot of very big things with very big boats, this means there is a lot of job satisfaction once you see each installation happening because it's a fantastic sight!

My hobbies

My hobbies are cooking, cycling and travelling - I don't know if they helped in my career but they definitely do help me staying a very happy person as they're great ways to switch off from work once in a while.

How maths has helped me in everyday life

Maths is great for developing a logical approach to things and break down problems into smaller chunks.

My education

I went to primary and secondary school in the Netherlands and then to a technical university in the Netherlands where I did a BSc in Civil Engineering and MSc in Offshore Engineering.

My career advice

Investigate all options even if none of your friends or family have studied or work in that field - you may discover your perfect degree or job! Also, don't let being one of the few girls in science / engineering scare you - all other technical girls are super inclusive and the boys will be happy to have a girl on their team.



Stephanie

JOB

Director (Town Planning)

COMPANY

Avison Young

How I use maths in my role

I use my maths skills when setting and monitoring budgets on projects. I use spreadsheets to calculate requirements for developments by applying formula set out in local planning policy, to calculate local housing need to assist with planning strategy. I have to interpret data, analysis and consultation to inform decisions in relation to any amendments to development proposals.

What I do

My role involves working with landowners, developers, and occupiers in seeking planning permission for new housing and employment development projects across the country. I work with large project teams who each specialise in different areas (e.g. masterplanning and design, flood risk, transportation, ecology, heritage).

What three skills are most useful for your role?

Communication, problem solving and creativity.

What I love about my career and maths

I love that I can see the outcome of my work and the changes it can make to the places affected by development proposals and the benefits it can bring to the quality of life of those living, working and enjoying those spaces.

My hobbies

I love running. It helps my wellbeing and gives me headspace to think through complex issues. Its also a great way of getting to know colleagues and a great talking point with new and existing clients.

How maths has helped me in everyday life

Budgeting household expenses.

My education

GSCEs, A-levels, BSc Degree in Geography, MSc in town planning. I am a chartered member of the Royal Town Planning Institute.

My career advice

Try to get some work experience at a local Council planning department or at a nearby planning consultancy, to see if you like it and build up your skills and experience when applying for jobs in the sector!



Vikki

JOB

**Director and Head of
Client Development**

COMPANY

Avison Young

How I use maths in my role

I use maths every day when using formulas to interrogate data sets and also when building graphs and reports.

What I do

I use Excel, to analyse quantitative and qualitative data about our client base, identifying trends and potential business opportunities. I analyse information on a similar basis from client feedback interviews - this information is held on an external platform which helps with the analysis.

What three skills are most useful for your role?

Problem finding and solving, communication and listening.

What I love about my career and maths

I like to combine the analytical side of my thinking/role with my creative side and using that to create change in people's thinking and approach. Communication is key but taking a step back and thinking how can I solve this problem, what data is available to help and how can I use maths to tell the story. I did not realise how much maths would play a part in this when I began but it is integral to my daily work life.

My hobbies

Travelling - in the UK and abroad has helped me understand and appreciate new ideas. Time is important: to think about how to approach a problem - that can be when I am walking, driving home (or sitting on a bus/train).

How maths has helped me in everyday life

My husband is self-employed and I do all his paperwork including his accounts. Household budgeting and understanding deals being presented when making key decisions (ie mortgages, loans, insurances etc.).

My education

I have GCSEs and a BTEC in Business Studies, the rest is self-taught. If you have the drive you don't have to go to university to be successful, there are other routes.

My career advice

Don't rush - truly think about what it is you want from life and then take the opportunities that are presented to you.



Yinch

JOB

Software Engineer

COMPANY

Playko studios

How I use maths in my role

I use matrices, quaternion and vectors daily to program 3D graphics. I have also used spreadsheets to track web traffic trends.

What I do

I use a WebXR programming tool (Wonderland Engine) and a development platform (Unity) in my coding work in JavaScript and C# for calculation of positions and rotations in 3D graphics for virtual reality. Some mathematics involving trigonometry is also used for my character animation controls.

What three skills are most useful for your role?

Boldness, creative problem solving and knowledge of software capabilities.

What I love about my career and maths

I love helping people and software is a great medium for enabling that. Pioneering new uses for virtual reality (VR) is a real thrill. Making that accessible combines engineering, creativity and helping people.

My hobbies

Boringly, I program as a hobby as well. But would also say that reading widely from the news helps me notice important technological and commercial trends. I also take part in various Discord communities which improve my industry connections and exchange programming help.

How maths has helped me in everyday life

I use some maths for tracking income and outgoings in my bank accounts. Also understanding interest rates helps guide my investment choices. During the pandemic, understanding probability and exponential growth has been very useful.

My education

I have a Master's degree in Software Engineering and A-levels in Maths, Computer Science, Physics and Economics.

My career advice

Please consider becoming a programmer! You are valued and needed. The career lets you help people, solve problems, think creatively and GET PAID! The software development industry is facing a extreme shortage of skilled practitioners so you will be very welcomed.



Harpreet

JOB

**New Product
Introduction Manager**

COMPANY

Element 6 Ltd

How I use maths in my role

I use statistics to look for patterns and understand how good my processes are, this helps me correct them and bring them back under control if something is wrong. I also use maths to look at the distribution of our products to reduce waste.

What I do

I improve how we make diamond products to ensure that they are created through the most cost-effective process. I use Excel and other data capturing tools to understand what factors I should focus on to improve efficiency, volume and delivery of products on the factory floor. Once improvements have been made, I can use the same tools to maintain the improved levels.

What three skills are most useful for your role?

Teamwork, good communication, finding and using evidence.

What I love about my career and maths

I love to solve problems and maths is a great tool to help with this. It helps me assess how big a problem is, what parameters are important to focus on and which ones can be ignored, and to test and check that improvements made have worked.

My hobbies

Being creative in the kitchen when cooking and adapting gluten-containing recipes into ones that can be enjoyed by coeliac sufferers. Going for walks with friends and family to help with everyone's wellbeing and sharing problems to gain other people's perspective on potential solutions.

How maths has helped me in everyday life

It has helped me with budgeting and finance and when saving for holidays and treats.

My education

I have GCSEs and A-levels in Maths and science subjects and I have a Materials Engineering Master's degree.

My career advice

Always be open-minded to the options available to you. Try new things because you will never know what you actually enjoy until you give it a go.



Alexandra

JOB

Sales Engineer

COMPANY

Alteryx

How I use maths in my role

I help customers solve problems by identifying the best techniques. Sometimes these problems require an understanding of basic equations, sometimes they require using more advanced programming languages such as R to model them and generate solutions. When planning technical architecture mental maths comes in handy to quickly have an idea of what the customer may need!

What I do

I provide in-depth technical knowledge and support during the evaluation of a product, and training to ensure that the product is used successfully within an organisation.

What three skills are most useful for your role?

Communication, problem solving and creativity.

What I love about my career and maths

My favourite aspect of my job is getting to talk to customers regularly. I was worried a career in maths would mean I'd be stuck behind a computer, but I love being able to talk to people and solve their problems. I always found maths interesting because I enjoyed the logic of it, every maths question is like solving a puzzle!

My hobbies

I have a dog that I walk and run with; this has helped hugely with mental wellbeing. I also like to get away from my screen and lose myself in a good book!

How maths has helped me in everyday life

The biggest thing maths has helped me with is breaking down problems into smaller manageable tasks. My logic skills have given me new techniques to manage scenarios that I previously could not. Maths also helps me budget my money and build my savings – it has provided me with the tools to forecast my saving and expenditure before I make any decisions on buying things.

My education

I have GCSEs in Biology, Chemistry, Physics and Maths. AS-levels in Chemistry and Further Maths. A-levels in Maths and Biology. A BSc (Hons) Mathematics, with a placement year.

My career advice

Do what you enjoy! If you like solving problems, then a career in maths may be for you. There are so many job roles out there that you may never have heard of, I certainly had never heard of Sales Engineering while I was in school! If you stick with what you enjoy you will likely be able to find a job that you enjoy too!



Sophie

JOB

Director

COMPANY

Bays Consulting

How I use maths in my role

I use my statistics and maths knowledge to help find the best method to apply to the data so as a team we can answer the questions we're trying to solve. Once the method is decided, I use my Python skills to code the maths and review the code of others.

What I do

As the business owner, I now focus on supporting my team by helping them find the best way to answer solve the questions and research we're working on. I also review the technical outputs of the team.

What three skills are most useful for your role?

Curiosity, problem solving and communication.

What I love about my career and maths

I love that no two days are the same! My passion for physics and love of aeroplanes has driven my extensive academic career. When I was made redundant, I utilised my skills in analysis and founded my own science and statistical analysis company.

My hobbies

I really enjoy open water swimming (even in the cold during the winter) as it helps me switch off from work. When I am swimming, I often have my best ideas about how to solve a problem.

How maths has helped me in everyday life

I use my maths all the time. For example, I use it when working out which item in the supermarket is the best value for money or when working out the interest on my credit purchases and for budgeting. There is also the maths you don't see, such as the maths that underpins your mobile phone reception.

My education

I have GCSES and A-levels in Maths and science subjects. After this I gained a Bachelor's degree in Aeronautical Engineering, a Master's degree in Applied Mathematics and Fluid Mechanics and a PhD in Bayesian Belief Networks.

My career advice

Read as much as you possibly can. By reading you hear the voices of other people with similar interests and can make up your mind about what you think and want to join in with. Aim for your dream job!



Nira

JOB

**Technical Fellow for
Mathematical Modelling**

COMPANY

Atkins a member of the
SNC-Lavalin Group

How I use maths in my role

Maths is a key feature of my work, every day I write mathematical algorithms and use these to solve complex real-world problems.

What I do

I speak to our customers about their problems and turn these into a mathematical form which I solve. I then apply the solution back into the real world.

What three skills are most useful for your role?

Problem solving, creativity and communication.

What I love about my career and maths

My favourite part of my job is that I get the chance to talk to a diverse range of people and that I am always working on challenging problems.

My hobbies

My passion is Science Communication. In my spare time I present mathematical and scientific ideas to a diverse audience, and this helps me develop my communication skills for work.

How maths has helped me in everyday life

Outside of work I use maths for logistics and for budgeting my finances.

My education

I have GCSEs and A-levels in science subjects and Mathematics, as well as Bachelor's and Master's degrees and a PhD.

My career advice

Remember this, a mathematician is not necessarily someone who finds mathematics easy! A mathematician is someone who sees a problem and never ever quits! That is a mathematician.



Zainab

JOB

Structural Engineer

COMPANY

Pell Frischmann

How I use maths in my role

When I am at work, I use maths and science to invent, design, build, and care for structures of all kinds. Some examples include houses, airports, roads, bridges, and dams.

What I do

I design different structures so that they can bear or hold up a particular load.

What three skills are most useful for your role?

Communication, creativity and problem solving.

What I love about my career and maths

My favourite thing about this career is that I can design the world I see around me.

My hobbies

I work with children to educate them on engineering, I do this to open their minds about the possibility of becoming an engineer! I also love travelling, it has shown me new ways of thinking.

How maths has helped me in everyday life

Outside of engineering, I use maths for budgeting and saving my money.

My education

I have GCSEs and A-levels in Mathematics and science subjects, as well as Bachelor's and Master's degrees in Civil and Structural Engineering.

My career advice

Love what you do! It will help you want to wake up in the morning. I think, where possible, your hobby should also be your job.



Gary

JOB

CAD Designer

COMPANY

The Tusler Studio

How I use maths in my role

I use maths every day when I'm calculating measurements for and designing joinery, shopfronts and buildings. It also helps me calculate and survey building material quantity requirements for projects I am working on.

What I do

Maths helps me at work when I draw and design using AutoCAD, Excel and Word.

What three skills are most useful for your role?

Communication, visualisation and summarising.

What I love about my career and maths

I love that I was able to work my way up within my career and constantly develop my skills. When I started work, I was a carpenter / joiner, I then moved into furniture making. This eventually led on to management where I use lots of skills such as estimating, costing, purchasing, drawing and designing.

My hobbies

One of my hobbies is reading crime fiction which probably helps me in problem solving.

How maths has helped me in everyday life

Outside of work I use maths every day when I make purchases.

My education

GCSE's / O-levels / City & Guilds Craft & Advanced, Licentiate of City & Guilds, Master Carpenter and Joiner Certificate, Board Director of the Institute of Carpenters, Liveryman of the Worshipful Company of Furniture Makers.

My career advice

Try carpentry and joinery, I have enjoyed this career path.



Jonathan

JOB

Senior Analyst

COMPANY

NHS England

How I use maths in my role

In my work I use statistics everyday as it's a fundamental part of my role.

What I do

I use Tableau data visualisation software to design and build dashboards to highlight to the National Operations Team any potential issues there may be in the Urgent and Emergency Care system across England. I also support them with ad-hoc analyses in Excel and provide data packs for the Executives and Secretary of State's briefings.

What three skills are most useful for your role?

Curiosity, problem solving and summarising.

What I love about my career and maths

I love that I can see how data driven decisions make an impact on front line health care and improve outcomes for patients.

My hobbies

I love team sports such as rugby and cricket. I look after my wellbeing by taking time out to read, which has developed my critical thinking. I'm also a keen gamer and enjoy using strategy to win.

How maths has helped me in everyday life

Day-to-day I rely on maths skills – I budget my money which has helped me to be able to travel and when I run I use maths to record my time and distances.

My education

I have GCSEs including Maths and A-levels in Economics, History, Geography and English Language, but my Bachelor's degree is in History and Politics and I have an MA in Modern History.

My career advice

Do what you enjoy and see where it takes you. Work hard and treat others as you yourself would like to be treated and you'll go far.



Elizabeth

JOB

Analyst

COMPANY

NHS England

How I use maths in my role

I use maths every day as an analyst, including mental maths, statistics, ratios, predicting and forecasting, creating spreadsheets and dashboards.

What I do

I look at how the NHS is performing to make sure our patients get the best care and can be home with their family as soon as possible! I look at accident and emergency departments, checking the patients experience from the ambulance to treatment, and time spent in hospital. I create dashboards and write reports with lots of useful charts and infographics to help my colleagues.

What three skills are most useful for your role?

Curiosity, problem solving, summarising

What I love about my career and maths

I love working in the NHS, I may not be a doctor but as an analyst I can still make a difference to people's lives! Analysts think of great ideas about how to help patients get better more quickly. By analysing hospital data, I can understand what initiatives have been working and we can share these with other departments and hospitals.

My hobbies

How maths has helped me in everyday life

My education

I have GCSEs, A-Levels and a Politics degree. I have also received a lot of training on the job, including undertaking an enjoyable apprenticeship in data analysis while I was working full time.

My career advice

Apprenticeships are great! I've been to university but also got to do an apprenticeship through my employer. Don't worry if you're unsure what career to pursue! I've worked in retail, fashion, the police and now the NHS. Never be afraid to try something different, life is strange and will present you with many amazing opportunities when you least expect them.



Ellen

JOB

Business Insight Analyst

COMPANY

Pets at Home

How I use maths in my role

I use statistics every day in my job - I look at percentages, modelling and trends over different time periods. I visualise all of these using graphs and charts to make the findings interesting to read!

What I do

I use programming languages (SQL and R) to analyse our customer behaviour - both human and animal. This helps me understand our company's performance, predict future trends, and make sure your dog has his favourite biscuits in time for dinner!

What three skills are most useful for your role?

Storytelling, problem solving and independence.

What I love about my career and maths

I love getting to find out quirky facts about all our animals - like figuring out how many tonnes of cat litter we sold last year, or how many Olympic Swimming Pools you would need to hold all our goldfish!

My hobbies

I love to sew and read, which really help me to practise focussing whilst being creative with fabrics and colours. I love hiking up mountains with my dog, it's the ideal time to think through any problems I have with projects I am working on. I have just tried kayaking and loved the sense of accomplishment when I didn't fall in - it taught me to step outside my comfort zone and give new things a try!

How maths has helped me in everyday life

Maths has helped me with budgeting, both big and small, so I know I can afford to have a nice car and some new trainers (but should probably not have another takeaway until next time I get paid!). It has also helped me with my decorating. I worked out how much paint and wallpaper I would need to make my bedroom feel super cosy and figured out that the wardrobe I liked wasn't going to fit!

My education

I have GCSE Maths, a degree in Geography and a Master's and PhD in Geographic Data Science - my GCSE Maths knowledge helped me here, but everything else I needed to get through my degrees was self-taught!

My career advice

For girls in particular, don't be put off by not seeing role models in the areas you are interested in - you could be one of those one day. Concentrate on things you are passionate about, and you will meet like-minded people. Maths isn't boring in the real world - data visualisation and dashboarding both use a lot of maths skills but are much more creative.



Elizabeth

JOB

Analyst

COMPANY

NHS

How I use maths in my role

I use maths every day as an analyst, including mental maths, statistics, ratios, predicting and forecasting and creating spreadsheets. I create dashboards and write reports with lots of useful charts and infographics to help my colleagues.

What I do

I look at how the NHS is performing to make sure that when you go to hospital, you get the best care, and can be back home as soon as possible! I mainly look at patients who attend A&E departments – from their journey in an ambulance to their treatment, and how long they spend in hospital.

What three skills are most useful for your role?

Always asking why, problem solving and summarising.

What I love about my career and maths

I may not be a doctor but as an NHS analyst I can still make a difference to people's lives! My colleagues come up with great ideas on how to help patients get better more quickly. By analysing hospital data, I can understand what initiatives have been working and what we should share with other departments and hospitals.

My hobbies

I play pickleball, which helps me to stay fit and healthy physically and mentally. It helps develop resilience to deal with business problems in order to succeed. Gardening has taught me to have patience and to problem solve – mainly when working out why my plants haven't grown! Fashion and music encourage me to be creative and allow me to express my individuality and not limit my thinking at work.

How maths has helped me in everyday life

It helps me balance my love for shopping and managing my bills, making sure I'm responsible and get the best deals! It helps me with home projects, from measuring ingredients when baking or with building projects. On holiday I use it to understand how much things cost compared to the UK and keep me on budget.

My education

I have GCSE's, A-levels and a Politics degree. I have also received a lot of training on the job, including undertaking an enjoyable apprenticeship in data analysis while I was working full time.

My career advice

Apprenticeships are great! I've been to university but also did an apprenticeship through my employer. If you're not sure what you want to do for your career, that's ok! I've worked in retail, fashion, the police and now the NHS. Never be afraid to try something different, life is strange and will present you with many amazing opportunities when you least expect them.



Elnaz

JOB

Head of Research and Policy

COMPANY

Speakers for Schools

How I use maths in my role

Statistics is the main part of my job. But I also use maths to calculate percentages, ratios and show trends.

What I do

Part of my job is to use data to show if something is working fine or not. I use Excel or SPSS (a statistical software package) to analyse survey data using both quantitative or qualitative methods and present the findings.

What three skills are most useful for your role?

Problem solving, communication and using evidence for decision making.

What I love about my career and maths

At first it was my parents who encouraged me to take maths seriously and I did. I even studied Industrial Engineering at university. I don't regret it, studying maths gave me an analytical perspective, curiosity and independence. I have used my analytical skills in other subjects since university and they helped me stand out from the crowd in many cases. Maths has opened many doors later on in life, not just in my career but as an independent woman looking after my own finances for instance.

My hobbies

I like photography, I use my phone to do street photography. I can appreciate little things when I do that. I play tennis in my spare time which gives me focus, and I travel to experience the world through culture and food.

How maths has helped me in everyday life

As I said maths gives you independence in life but also the ability to analyse so you can make better decisions. For instance you'll be asked by your employer about pension options, if you understand how the finance works you can calculate the benefits of each available option to you. It's as simple as that.

My education

I have a PhD in Education but I could do what I do now with a Master's degree, so it was my personal choice to become a PhD graduate.

My career advice

Don't shut down your options early on, be open about the type of person you want to be or the job you want to do. The modern workplace is flexible, hybrid and changing at a fast pace. You need to focus on applied skills that help you do any job, not just one! I also want to say that never say maths is not for me, give it a chance, it might take you to places! Like me I moved from engineering to policy.



Sam

JOB

Director

COMPANY

Oriel Square Limited

How I use maths in my role

I use statistics everyday, particularly when analysing market research and marketing data; formulae in Google Sheets to project forward budgets, profit/loss and revenue based on current trends.

What I do

I use Google Sheets, our accounting system (Xero), our sales CRM (Capsule) and other sales and marketing systems to analyse sales, marketing and revenue figures. I make projections forward to estimate profit and loss. I make sales estimates which include revenue, cost and profit figures. I analyse market research data.

What three skills are most useful for your role?

Communication, creativity and listening.

What I love about my career and maths

Helping to develop educational materials, which is what my company does, is very rewarding and brings me into contact with teachers, pupils, researchers, parents and education policy makers. Being able to be creative when coming up with new educational products, and using maths to build business cases, is something I find exciting and rewarding.

My hobbies

Creative writing means I'm always talking to people about new ideas which helps keep my mind sharp; socialising and playing sport helps me communicate and think about teamwork.

How maths has helped me in everyday life

Budgeting and feeling calm about household expenditure and borrowing.

My education

I have GCSE's including separate sciences and Maths, A-levels including Maths with Statistics. My degree is in English.

My career advice

Keep a broad mind about your career, and be wary of specialising too early in terms of arts vs sciences, unless you're very sure of what you want to do. Maths and science are often disproportionately useful in a non-maths and science career, because you may find yourself at an advantage compared to your colleagues which can help with career progression.



Alice

JOB

Health and Wellbeing Public Health Support Officer

COMPANY

OHID East of England

How I use maths in my role

I use data everyday in my role to inform decision-making as an evidence base. I convert data into charts through Excel, use mental maths for converting data into simple fractions and percentages and use analytical skills to understand the narrative for the data. Although I do not create modelling, this is something I engage with and must understand everyday to assess trends in data.

What I do

I use Excel to analyse administrative and survey datasets, using qualitative and quantitative analytical techniques to write the findings. I also use data analytic platforms such as Power BI, Fingertips, and SHAPE to map data and write a narrative from this. I convert data into charts to identify trends and outliers.

What three skills are most useful for your role?

Summarising, communication and problem solving.

What I love about my career and maths

There are people behind the numbers I use, so by understanding the numbers I can support and help the people that they represent. Data can highlight inequality and trends, and be used as evidence to influence decision-making and policy.

My hobbies

Travelling allows me to interact with people in new ways and has opened my eyes to how different cultures behave and live. It supported me to be independent, improved my problem solving skills and opened up opportunities to live life to the fullest. Walking supports my mental wellbeing, allows me to disconnect from work and social media, and connect with nature. Going to the gym supports my physical and mental health, feeling strong in the gym translates to feeling strong mentally and the achievement and reward supports a positive mindset.

How maths has helped me in everyday life

Maths supports me to deal with my finances sensibly, understanding trends in my data but also managing the percentage I can save. Maths has also supported me to understand the percentage that I'm lifting in the gym.

My education

I have 13 GCSE's - a mix of languages, sciences, maths and arts subjects. I have A-levels in Religious Studies, Maths and Drama. I did a Bachelor's Degree in Theatre Studies & Philosophy – maths supported the logic module within this.

My career advice

If you don't know what to do, don't worry. Be open-minded with your career path, try new things, volunteer, travel and learn about what you like and dislike. You can then work to your strengths and what you're interested in. Passion, hard work and an open mindset to learning new things will set you up for success.