Career Cards

Mathematician	Pilot	Environmental scientist
Plumber	Mechanical Engineer	Teacher
Physicist	Meteorologist	Computer Programmer
Civil Engineer	Statistician	Builder
Accountant	Electrician	Chef
Athlete	Video Game Designer	Architect
Cryptographer	Economist	Actuary

challenge

Career Cards (teacher resource)

Mathematician Uses their mathematical knowledge and skills to develop and understand mathematical principles, analyse data and sole real-world problems.	**Pilot** Uses geometry to plan routes and keep the aircraft on course. Calculates angles for take-off and landing based on speed, altitude and distance from destination.	**Environmental scientist** Studies the impact of human activity on the environment, including using maths to model interactions within ecosystems.
Plumber Uses maths for tasks such as estimating the cost of each job, making exact measurements, and calculating water pressure, flow and volume.	**Mechanical Engineer** Design and maintain a range of machines, using maths such as formulae to calculate energy and force and algebra to design suspension systems.	**Teacher** Needs a good understanding of mathematical concepts to be able to teach them. Uses maths skills to analyse and present pupil data clearly.
Physicist Uses models and equations to solve a variety of physics problems. For example, to calculate force or energy of an object.	**Meteorologist** Studies and forecasts short and long-term weather and climate predictions. They collect data about the atmosphere from weather stations and satellites.	**Computer Programmer** Breaks down complex problems into simple mathematical operations that are carried out repeatedly at high speed.
Civil Engineer Oversees the construction of structures like buildings and bridges, using maths such as equations to calculate angles, measurements and positioning.	**Statistician** Identifies trends in numbers to understand problems and identify solutions. They use clear ways to visualise information such as bar and pie charts.	**Builder** Uses maths for tasks such as making exact measurements, converting between quantities and calculating ratios.
Accountant Helps companies and individuals to understand their flows of money by analysing their financial data and preparing financial documents.	**Electrician** Uses maths for tasks such as making exact measurements, calculating wiring lengths and using equations to calculate voltage, current and resistance.	**Chef** Uses maths to calculate and adjust recipe quantities, ensuring that ingredient ratios are maintained and to calculate temperature and timings.
Athlete Competitive athletes analyse performance statistics to help them improve their pacing, pose and strategy.	**Video Game Designer** Maths skills are needed for a variety of tasks including simulating physics, so characters move realistically.	**Architect** Designs buildings and structures, using maths skills such as geometry (e.g. Pythagoras' Theorem) to create plans.
Cryptographer Uses maths such as algebra to develop ciphers (instructions to convert data into secret codes) to protect sensitive information.	**Economist** Studies the buying & selling of goods, services and information (economic markets). Makes predictions of future economic events, such as company sales.	**Actuary** Analyses data to estimate the probability (risk) and impact of real-world events for companies, e.g. extreme weather or disease.