

The big ideas and the big questions

Maths and Statistics

WE ARE ALL MATHEMATICIANS

Mathematics is the universal language

Across our world and the universe mathematics is the same. If we were to disappear the mathematics that explain it would not.

Our understanding of our world and universe is built on Mathematics which underpins our ability to model our physical environment.

Mathematics is a universally understood language that unites us as a civilisation and breaks down all barriers.



Mathematics is the cornerstone of our society

The society that we live in relies on mathematics to function. From the bank on the street corner to the banking apps on our phones, mathematics is a fundamental feature.

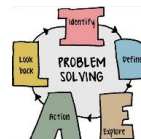
Every element of our society will have needed and still needs mathematics to function. For people to be successful within that society mathematics is still seen to be an important and in many cases vital skill.



Mathematicians solve problems

Mathematics provides the tools to solve problems within our life and in the wider society.

The reason for teaching mathematics is to provide you with the ability to analyse, dissect, mathematise and solve problems that surround us. This could be within your everyday lives, as part of your chosen career or to help within our society.



Mathematicians formulate new conjectures

The world and universe around us can be modelled using mathematics. A mathematician strives to look for new mathematical discoveries to continue to understand that world.

As well as formulating new conjectures to continue to understand the universe around us, mathematicians have to then prove or disprove that conjecture and make conclusions. Then the process repeats.



Mathematics explains the past and can predict the future

Mathematics is used to understand our past. How have we developed over the millennia, what lessons can we learn from that.

Mathematics is also key to predicting our future. In many areas of mathematics and statistics predictions are made, probabilities are calculated to help understand our future. This could be predicting climate change to forecasting business sales. All rely on mathematics.



How does maths help navigate a ship?

Year 11	NON-RIGHT ANGLE TRIGONOMETRY	CIRCLE THEOREM		
Year 10	PYTHAGORAS & TRIGONOMETRY	BEARINGS		
Year 9		COMPOUND MEASURE		
Year 8	ANGLES		ROUNDING	
Year 7	CONSTRUCTION AND MEASURE	ROUNDING		GEOMETRIC REASONING
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematics is a universal language

How does maths help manage your money?

Year 11				
Year 10	Solving equations		Statistics	Statistics
Year 9	Indices/Standard form		Fractions, decimals and %	
Year 8	Ratio and proportion, fractions		ROUNDING	Fractions, decimals and %
Year 7	ALGEBRA	NUMBER SENSE & ROUNDING	Fractions, decimals and %	
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematics is the cornerstone of our society

How does maths help maintain/build a home?

Year 11	NON-RIGHT ANGLE TRIGONOMETRY			
Year 10	PYTHAGORAS & TRIGONOMETRY	Construction & plans		
Year 9			AREA & PERIMETER, 3D Shapes FRACTIONS, DECIMALS & %	
Year 8	RATIO, PROPORTION, SCALE FRACTIONS, DECIMALS & %		ROUNDING & UNITS	AREA & PERIMETER & 3D Shapes
Year 7	CONSTRUCTION AND MEASURE	AREA & PERIMETER ROUNDING	FRACTIONS, DECIMALS & %	GEOMETRIC REASONING
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematics is the cornerstone of our society

Mathematics is a universal language

How does statistics help us know how many schools we need?

Year 11				
Year 10	Solving equations		CENSUS, POPULATION PYRAMID	AVERAGES
Year 9				
Year 8		GRAPHS	DATA REPRESENTING	DATA REPRESENTING
Year 7		DATA REPRESENTING		
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematics can explain the past and predict the future

Mathematics is the cornerstone of our society

How does maths and statistics help the buses run on time?

Year 11				
Year 10	Solving equations		Statistics	Statistics
Year 9	LCM/HCF			
Year 8		SEQUENCES		
Year 7	ALGEBRA & SEQUENCES	NUMBER SENSE	FRACTIONS, DECIMALS AND %	
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematicians solve problems

Mathematics is the cornerstone of our society

How does maths and statistics help Lando Norris win a Grand Prix?

Year 11	NON-RIGHT ANGLE TRIGONOMETRY GRAPHS			
Year 10	PYTHAGORAS & TRIGONOMETRY			
Year 9		COMPOUND MEASURE		GRAPHS
Year 8	ANGLES RATIO, PROPORTION, SCALE	GRAPHS	ROUNDING & UNITS	
Year 7	CONSTRUCTION AND MEASURE	ROUNDING		GEOMETRIC REASONING
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematicians solve problems

Mathematicians formulate new conjectures

How does maths help us predict the weather?

Year 11	NON-RIGHT ANGLE TRIGONOMETRY GRAPHS	Vectors		
Year 10	PYTHAGORAS & TRIGONOMETRY			
Year 9	Indices/Standard form/Sequences	COMPOUND MEASURE		GRAPHS
Year 8	ANGLES RATIO, PROPORTION, SCALE	GRAPHS	ROUNDING & UNITS	
Year 7	CONSTRUCTION AND MEASURE	ROUNDING		GEOMETRIC REASONING
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematics can explain the past and predict the future

How does maths help plan a wedding?

Year 11	Shape			
Year 10			Statistics	Statistics
Year 9			Fractions, decimals & % Shapes	
Year 8	Ratio and proportion & fractions			Shapes
Year 7	Algebra and sequencing	Number sense	Fractions, decimals & %	
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematicians solve problems

Mathematics is the cornerstone of our society

How did maths help build the Clifton suspension bridge?

Year 11	Pythagoras & Trigonometry			
Year 10	Pythagoras & Trigonometry	Construction		
Year 9	Sequences	Compound measure	Shapes	
Year 8		Sequences		Shapes
Year 7	Construction			Geometric reasoning
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematicians solve problems

Mathematics is the cornerstone of our society

How does maths help launch the Bristol Balloon Festival?

Year 11	Shapes – circles and cones			
Year 10		Construction		
Year 9		Compound measure	FDP and Shapes	
Year 8	Ratio and proportion/ Fractions			
Year 7	Construction	Number Sense	FDP	Geometric reasoning
	Cycle 1	Cycle 2	Cycle 3	Cycle 4

Mathematicians solve problems

Mathematics is the cornerstone of our society