

Mathematics: Year 7 (nurture)

Intent:

At Brayton Academy, we recognise the importance of mathematics as a life skill in society and industry, as well as a beautiful and elegant subject in its own right.

We have carefully sequenced the foundational skills to be consistently developed throughout pupils' time at school, to provide students with the fluency they need to tackle problems confidently.

Our curriculum is grounded in using assessment to identify where students are and builds up knowledge securely to ensure no gaps are left. Our expectations are very high; we expect pupils to take pride in their work, to complete homework to a high standard, bring a positive attitude to the classroom and always strive to be their best. This goes hand-in-hand with helping students to develop a love of learning maths by supporting them to be successful at every step through expert teaching. We believe that all students have the potential to learn maths to a high level when we take this approach.

- Create an atmosphere where ALL students feel comfortable to give their all to learning maths without being scared of making mistakes
- Open ALL students' eyes to the real-world transferable skills that maths equips them with and the opportunities that arise from this
- Encourage ALL students to further develop their resilience skills with a determined mind-set when approaching new material and problem-solving tasks
- Eliminate any fear of maths through meeting ALL students at their level and supporting them to be successful

Implementation:

In year 7 pupils will build on the foundational mathematical skills that they studied at primary school. Our aim is to introduce students to new concepts gradually, allowing them to explore them fully, so that they have a secure knowledge base upon which to build in subsequent years. We use knowledge checks at the start of each new topic to ensure that we are not leaving gaps in the knowledge of any individual student, nor are we re-covering concepts pupils are already familiar with. This ensures that all of our classes are provided with the right level of challenge. We constantly build opportunities for revision into our lessons to give students the best possible chance of retaining the information they have been taught.

Throughout the year pupils will be set homework on the Hegarty Maths platform that will revise content they have already studied, rather than focusing on what they are currently looking at in class. This gives them another opportunity to ensure that previously studied material is retained.

Our nurture scheme of learning supports students who have previously found maths more challenging by introducing concepts at a slower pace than our regular scheme of learning, and allowing more time for those concepts to be practised, re-visited over the course of the year and interleaved with other topics.

Term	Year 7 (nurture)		
	Topic	Knowledge	Skills/Assessment
Term 1	Whole numbers	Place value, types of numbers, ordering positive and negative numbers, written methods for addition, subtraction, multiplication and division, introduction to a scientific calculator	All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content. Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.
	Averages	Calculate the mean, median, mode and range of simple data sets	
	Angles	Understand what an angle is, classify, measure and draw angles, identify parallel and perpendicular lines	
	Whole numbers	Factors, multiples, prime numbers, inverse operations, lowest common multiple, highest common factor	At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.
	Algebra	Write 1 and 2 term expressions, substitution	
Statistics	Pictograms		
Term 2	Fractions	What is a fraction, equivalent fractions	All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content.
	Properties of polygons	Properties of 2D shapes, parts of a circle, line and rotational symmetry	
	Powers of 10	Multiply and divide by positive powers of 10	Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.
	Perimeter	Calculating the perimeter of any straight-edged shape including compound shapes	
	Rounding	Round numbers to the nearest whole number, 10, 100 and 1000	
	Algebra	Collect like terms, multiply terms together	
Term 3	Tally charts	Draw and interpret tally charts	All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content.
	Area	Use the formulae for the area of rectangles and parallelograms, including in reverse	
	Fractions	Compare two fractions by re-writing over a common denominator, convert between improper fractions and mixed numbers	Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.
	Decimals	Order decimal numbers, round to a given number of decimal places	
	Probability	The worded probability scale	
	Time	Tell the time, convert between units of time, read simple timetables	At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.
	Algebra and graphs	Solve one-step equations, read and plot coordinates in all four quadrants	
	3D shapes	Properties of 3D shapes, classification of 3D shapes	