Mathematics: Year 8 (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 8 maths staff continue to carefully and gradually build up pupils' knowledge in preparation for GCSE, with constant revision a key cornerstone of our practice. The focus is still on ensuring pupils have the time and space to explore and solidify new concepts fully. However, differentiation of the curriculum means that by the end of year 8 pupils in higher sets will (through study of extension material within each topic) have covered the majority of material pertaining to foundation GCSE and be ready to begin studying the higher course in year 9.

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 8 (nurture)		
	Topic	**Knowledge**	**Skills/Assessment**
Term 1	**Negative numbers** **Area** **Fractions**	Zero pairs, adding, subtracting multiplying and dividing Use the formula for the area of a triangle, including in reverse Calculate unit and non-unit fractions of amounts	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. At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.
	Units of measure **Operations with whole numbers** **Angles**	Convert between metric units of measure, estimate real life measures Squares, cubes and roots, the order of operations Know and apply the angle rules for straight lines, around a point and vertically opposite angles	
Term 2	**Ratio** **Algebra** **Statistics**	Write and simplify ratios, share a quantity in a ratio Expand a single bracket, substitution involving negative numbers and simple indices Bar charts, line graphs, stem and leaf diagrams	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. At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.
	Decimals **Further angles** **Further measure**	Division by an integer that gives a decimal answer, round to significant figures, truncation Know and apply the angle rules for triangles (including isosceles triangles) and quadrilaterals More complex units of time conversions, converting between metric and imperial measures	
Term 3	**Percentages** **Geometry on coordinate axes** **Inequalities**	Find percentages of amounts with and without a calculator Midpoints, rotation, reflection, enlargement List integers that satisfy inequalities, represent inequalities on number lines	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. At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.
	Probability	Write probabilities as fractions, list combinations of outcomes, represent probabilities on probability scales	