MATHS

Kettlebrook
Short Stay School

Intent	
What are the aims of this subject?	**What are the broad areas of knowledge and skills being developed in this subject?**
• Our intent in Maths at Kettlebrook is for pupils to experience a high-quality maths education that provides a foundation for understanding the world and a genuine interest and curiosity about mathematics. • Our aim is that students develop a sound understanding and knowledge of number and become fluent in the fundamentals of mathematical concepts. • • We want our students to develop their conceptual understanding and develop the ability to recall and apply knowledge accurately and rapidly. • All students will be encouraged to believe that by working hard, persevering and adopting a positive attitude towards maths, including seeing the value of making mistakes and of learning from them, they can succeed. • We believe Maths to be important in preparing pupils for the future in terms of life skills and career opportunities. Pupils will see maths across the curriculum and will develop and apply their skills in different contexts.	**GCSE Maths:** 1. Number 2. Algebra 3. Ratio, proportion and rates of change 4. Geometry and measures 5. Probability 6. Statistics **Functional Skills and Entry Level Maths:** 1. Number 2. Ratio, proportion and rates of change 3. Geometry and measures 4. Probability 5. Statistics

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Implementation

How is this subject delivered/taught to students?	How is formative and summative assessment used in this subject to improve student's skills and knowledge?
Key Stage 3 **Topics taught include:** **Autumn Term:** • Investigating Number Systems • Pattern • Solving Calculation Problems • Generalizing Arithmetic • Exploring Shape **Spring Term:** • Reasoning with Measures • Discovering Equivalence • Reasoning with fractions • Investigating Statistics **Summer Term:** • Visualising Shape • Exploring Co- Ordinates • Proportion • Describing Position • Measuring & Estimating **Key Stage 4 (Year 10)** **Autumn Term:** • Number (Unit 1- Edexcel) • Algebra (Unit 2- Edexcel) **Spring Term:** • Graphs, Tables & Charts (Unit 3 – Edexcel) • Fractions and Percentages (Unit 4- Edexcel) • Equations, Inequalities & Sequences (Unit 5- Edexcel) **Summer Term:** • Angles (Unit 6- Edexcel) • Averages & Range (Unit 7- Edexcel)	• The Edexcel baseline assessment identifies students' starting point. • Knowledge, understanding and levels of attainment are assessed in maths in a number of ways – incorporating both formative and summative. Daily marking, observations, discussions with pupils, focussed questioning, direct and open questions allow staff to assess knowledge and understanding of concepts taught. • Interventions may be used to address the needs, problems or issues that are considered to be priorities to narrow the gap in students' learning. • Learning walks and book trawls, undertaken by members of SLT, ensure accuracy and consistency of attainment judgements made across the school. • Internal and external moderation takes place throughout the year involving examining boards to assess learning through nationally recognised qualifications, including Edexcel GCSE Maths (9-1), Edexcel Functional Skills at Entry Level and Level 1 and Level 2, Edexcel Award in Number & Measure at Level 1 and Level 2

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Key Stage 4 (Y11) **Autumn Term:** • Number Recap (as Y10 Unit 1) • Graphs – Real Life (Unit 9) **Spring Term:** • Right Angled Triangles (Unit 12) • Probability (Unit 13) **Summer Term:** • Recap of Transformations • Revision of Topics- prep for exams • Unit tests- Edexcel for revision GGCSE Exams, Functional Skills exams EL3, Level 1 and Level 2, Edexcel Number & Measure Award at Level 1 and Level 2	
How is enrichment (e.g. residentials, clubs) implemented to enhance the components of this subject?	**How are spiritual, moral, social and cultural values developed in this subject?**
• Enrichment events and days that support the Maths Curriculum. • Students have the opportunity to go on local trips around the area applying the skills they have learnt in lessons, for example calculating a distance walked after a topic on measures and converting that into miles and km/mm/cm etc • Students also have the opportunity to do various college courses, including Construction/ Motor Vehicle Mechanics/ Hair & Beauty, in which they will need to use their mathematical knowledge and skills	**Spiritual:** Students are encouraged to recognise their strengths and celebrate their own and others success. An underpinning drive to develop students who are resilient, determined and respectful through self and peer assessments. **Moral:** Students are encouraged to take risks and learn from experiences in math to develop their skills further. **Social:** Promoting values of tolerance and resilience through problem solving, planning activities and working together to solve more complex problems. Supporting each other during lessons and activities, for example peer support with guidance of how a particular problem may be approached. **Cultural:** Students work inclusively together with mutual respect. Students look at mathematical ideas form other cultures and famous mathematicians from around the world. **Careers**: The school has a careers advisor who helps students make choices. Also, the relevance of a particular topic will be viewed in terms of which jobs use that particular topic, for example a construction worker would need to be very accurate in measuring, using mm when working on a building project. Warehouse worker & Logistics; Retail workers; Teachers; Construction; Hair & Beauty; etc. **MHWB:** Students have a Key Worker to support them in school, who is always in contact with home so that any issues may be addressed immediately. They see this person at the beginning and end of the day when any problems / worries can be

	addressed. School has links with relevant agencies which may be accessed. **British Values: (Within the Maths curriculum)** **Rule of Law** • Within maths there are opportunities to study areas where numerical data is part of the rule of law. Examples to teach different aspects of maths can come directly from statistics used in law. This might include taxation or calculations that need to be made **Democracy** • Maths and the use of data have a significant role in democratic decision-making and influencing change. Students will hear statistics quoted to justify and argue for particular positions. The development of critical thinking skills using maths will help develop student resilience to being exploited by extremists. **Individual liberty** • Students might explore the extent of individual liberty bearing in mind legal constraints that are numerical in nature, e.g., speed limits, levels of alcohol in the blood when driving; taxation levels. Students will discuss choices in terms of future education choices and careers. **Tolerance and mutual respect of different faiths and beliefs and promotion of the Equality duty Student code of conduct** • Good working relationships in the classroom and around school that promote effective learning. **Challenging extremism** • Maths can be used to challenge extremism in particular through the use of statistics. This might include use of government migration figures to challenge inaccurate claims made about immigration levels in the UK.

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Impact – Top 5
1. Good quality teaching for all students, meeting individual needs.
2. Behaviour for learning in maths and developing understanding and relevance of the topics in practical situations. Students take pride in their achievements and qualifications gained.
3. The students to see the progress they are making within maths, overcoming misconceptions and obstacles within the topics covered.
4. The Maths curriculum incorporates a focus on the functionality and relevance of maths for students in their daily lives, including the skills needed for careers- Fashion Designer, Gardener, Beautician, Army, Navy, Air Force, Tattoo Artist, Game Developer, Construction, Dentist, Jewellery Design, Carpenter, Builder, Make Up Artist, Hairdresser, Graphic Designer, Interior Designer , Warehouse Worker, Marine Biologist, Data Analyst, Nursery Nurse, Retail Worker, Nurse, Accountant, Pharmacist, Computer Programmer, Lawyer, Bank worker, Police Force, Chef, Writer, Teacher, Pilot
5. Year 11 Maths 100% of the students achieve at or above expected progress. Students achieved a range of qualifications such as Functional Skills at Entry Level 3, Level 1 or Level 2, Edexcel Award in Number & Measure at Level 1 or Level 2 and/or a grade at GCSE