

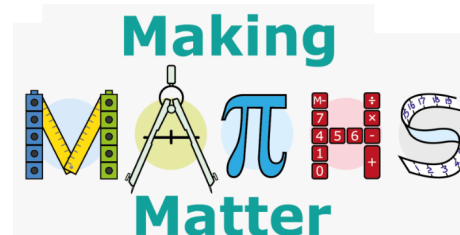


Mathematics at Ormiston Latimer Academy



Intent:

Mathematics can help us better understand and describe the world around us. We believe mathematical intelligence is expandable, and that every child can learn mathematics, given the appropriate learning experiences within and beyond the classroom. We aim to baseline every learner to better support them. Our planning allow us enough flexibility to fill the gaps in knowledge of some learners whilst stretching the ones who know more. This involves with the challenge of working with learners at different starting points, working at very different levels. We also aim to develop 'higher-order skills' such as numeracy, the ability to think logically and quantitatively, to handle data and to analyse and solve problems. Our curriculum is designed to give a good mathematical education and to help develop these higher-order skills.



Progress

Units of work will be assessed by the subject teacher in short tests at the end of every topic, using the learning outcomes and objectives which were discussed and checking what they have learnt and how well they understood it.

Work will be marked with diagnostic comments and next steps and learners will have the chance to respond to marking on a regular basis.

Using past and specimen exam assessment materials, summative assessment will happen throughout key points in the year.

Support

- All key stages will be able to access the curriculum via careful planning, support and adapting MTLP's.
- Differentiated work will be given to individuals when needed.
- Certain learners have different support mechanisms which are in their EHCP's, including one to one support in lessons or out of classroom interventions.
- Learners coursework will be tailored to their needs, stretching higher ability ones.

Links with SMSC, English and Science

- Literacy focus on command words and subject specific words.
- Speaking about the British Values in the context of data being used to make informed decisions, policy and social change.
- Emphasising on the Law in England
- Listening skills
- Reading out loud
- Learning new vocabulary, Tiers 2 and 3 subject specific.
- Emphasis the link between Mathematics and Science.

Implementation and Content

KS3

- **NUMBERS:** Learners should be able to use the four operations, understand the concepts of factors multiples and primes, use hierarchy of operations, become proficient on working with directed numbers, decimals, fractions and percentages, understand the concept of powers and operations with them.
- **ALGEBRA:** Learners will manipulate algebraic expressions by collecting like terms, multiplying a single term over a bracket and taking out common factors; substitute values in formulae, be able to solve linear equations, generate and find the 'nth term of linear sequences, plot coordinates in the four quadrants and plot line graphs.
- **RATIO, PROPORTION AND CHANGES OF RATE:** Learners will change into different units of measurement, will become confident in the language of ratio and be able to share quantities into given ratios; they will use percentages to find percentages increase/decrease, percentage change and financial interest; they will be able to interchange fractions decimals and percentages and will understand the concept of directly and inversely proportional quantities.
- **GEOMETRY AND MEASURES:** Learners will know how to calculate areas and perimeters of 2D shapes, volumes of 3D shapes, will draw and construct 2D shapes, will be able to transform shapes by reflection, rotation and translations, will understand the concept of congruent and similar shapes, lines of symmetry and properties of angles and parallel lines.
- **PROBABILITY:** Learners will learn the likelihood words, use the probability scale, how to calculate probabilities, how to estimate probabilities in experiments.
- **STATISTICS:** Learners will know how to calculate the averages from a set of data (mean, median, mode and range), will represent data using graphs, bar charts, pictograms and pie charts.

KS4

Learners will continue to develop the previous topics and progress to the KS4 curriculum at GCSE level which will be offered at either Foundation or Higher Tier. Learners who are not able to access the GCSE curriculum will take Entry Level Certificates or Functional Skills tests at either Entry Level or Level 1.

Functional Skills or the ability to use maths in real-life context are also embedded in the national curriculum both at KS3 and GCSE Level.

Mathematics at Ormiston Latimer Academy



What are the objectives for your curriculum?

Our learners should develop fluent knowledge, skills and understanding of mathematical methods and concepts. They should also acquire, select and apply mathematical techniques to solve problems, and they should reason mathematically, make deductions and inferences, and draw conclusions. Finally, our learners should comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.

Impact: What do you want pupils to be able to know and do by the time they leave?

All learners are expected to leave with GCSE passes in Mathematics and/or other accreditation. As well as having the knowledge base to allow some learners to progress to level 3 courses post-16, would like them to understand there is a purpose to Maths beyond the classroom: the importance of mathematics is evident in our personal lives when calculating the number of tins of paint needed when decorating, managing expenses and savings, organising and planning a journey and estimating a bill when out for a meal. Furthermore, I would like them to appreciate the beauty in mathematics, how everything fits and work into place.

What values have guided your decisions about the curriculum you have in place?

The value of inclusion to allow all learners to develop numerical ability as well as to push learners to achieve high grades even in the context of a disrupted educational context.

How does your curriculum reflect your school's context?

Most of our learners have had mixed experiences with the subject in the past; by simplifying the curriculum and making it more accessible learners will discover the joy of learning Mathematics again in a smaller, nurturing and safe environment, where all questions are allowed and progress is closely monitored. Even the qualifications they can access can vary based in the progress they make. At the same time, more able students will have the opportunity to make rapid progress by tailoring specific activities for them.

How does your curriculum reflect national policy (for example, British values and PSHE)?

In problem solving questions I introduce British Values and the rules of law especially in the Functional Skills parts of it. We discuss how data may be used to make informed policy decisions to include demographics, arts, sports and culture.

How does it cater for disadvantaged and minority groups?

Make sure these pupils aren't 'shut out' of pursuing subjects they wish to study because of too sharp a focus on exam results. By offering a variety of qualifications at the end of KS4 we will make sure they can have access to further education, always opening the possibility to higher ones by presenting different career choices including further higher education.