St Joseph's Maths Department

Intent, implementation and impact September 2022

INTENT

The intention of our well engineered mathematics curriculum is to provide all learners, including those who are most disadvantaged and pupils with SEND, the opportunity to access a broad and challenging programme of study, which builds upon and stretches prior learning. In maths, the national curriculum provides a very extensive set of criteria which pupils are required to have access to throughout each key stage. In recent years our scheme of learning has been evolving to take account of research into curriculum design and sequencing of units and lessons to ensure these criteria are met. We want the pupils at St Joseph's to become enthusiastic learners, who understand the beauty and power of maths and its relevance in everyday life and their future careers.

Every pupil will undertake a baseline assessment to allow teachers to develop an understanding of the strengths and weaknesses in their teaching groups, that will then inform a diet of retrieval through starters and support lessons. We, the maths department, need to ensure that all pupils have a secure foundation of mathematical processes in order to become fluent in problem solving and reasoning. Through closely working with other subject leaders we have a better understanding of where maths is used across the curriculum, in different key stages, and we have used this to inform our scheme of learning in order to best equip our pupils with the logical, reasoning and analytical skills required to be successful across a range of subjects. The development of a school calculation and numeracy policy will ensure a common vocabulary within the school.

IMPLEMENTATION

Firstly, through high quality, adaptive teaching our pupils will be expected to become mathematically fluent in all areas of the curriculum; number; algebra; ratio and proportion; geometry; probability and statistics. They will be expected to apply their learning to situations that are both familiar and unfamiliar. In order to support pupils to do this, the curriculum has been designed in order to allow significant time to be spent on each topic, as well as having support/extension lessons written into the scheme of learning. These lessons will be used by the teacher to revisit a topic that pupils need further support with, problem solving or using IT to enhance their learning.

There is a strong diet of retrieval built into the curriculum in order to allow pupils to recall and revisit knowledge from last week, last month, last cycle etc… Pupils will be given the opportunity to explore maths in 'real world' context and reason and problem solve. They will also be introduced to key words, their meanings and how some of these words have a different meaning in different subjects (etymology). There is wider reading around the subject for all year groups and pupils in KS3 will be undertaking a 'writing like a mathematician' key task each cycle.

Lessons will begin with either a retrieval starter or some prerequisite knowledge needed in order to be successful during the lesson. The teacher will provide high quality teaching with an introduction to the main body of the lesson. This will vary from classroom to classroom, but will likely be in the form of questioning, scaffolded examples and the use of plickers and mini whiteboards. Staff will adapt all lessons for the needs of the pupils they are teaching, with these adaptations being seen in the classroom. Resources used during lessons will be high quality and pupils are expected to self assess their working during and at the end of each lesson. The lesson will end with a plenary, which can take many forms, such as exit tickets, exam style questions etc … Homework will be set each Monday, and

will be online for all pupils on the SPARX platform. Support for those without the technology at home to complete this will be given in the form of a homework club which will take place once per week.
All pupils' work will be used to assess their learning and support adaptive teaching. This will include both summative and formative assessments as well as work completed in class. Following a formal assessment, which take place 5 times per cycle, pupils will be given the opportunity to improve their answers through the use of action and challenge questions, which have been successfully embedded into the curriculum in previous years.

There is a high proportion of high quality teachers within the department, who are specialists with excellent subject knowledge. Extensive support is given to those teachers who are not subject specialists, or training teachers. This support comes from within the department and externally through work with the MathsHub and AMSP.

IMPACT

Through high quality first teaching and a well engineered curriculum the impact we expect to see is pupils who are passionate, enthusiastic and resilient mathematicians. We will produce students who are able to transfer their skills and knowledge not only across problems in maths, but also in other subjects and in real-life. This will be seen in lessons, their books and assessments. These assessments are cumulative, rather than unit based, in order for pupils to continually revisit prior learning.

The impact will be measured by pupils' progress throughout each year, and ultimately with their GCSE results, along with their improved understanding of maths and the development of life long skills.