SHIRLEY HIGH SCHOOL PERFORMING ARTS COLLEGE

Our Vision:

To develop aspirational learners who strive for excellence academically, creatively and culturally, benefitting from a wide range of opportunities led by inspirational educators.

MATHEMATICS DEPARTMENT

Intent of the curriculum:

The Shirley High School mathematics curriculum reflects the school's curriculum and aims to develop pupils as mathematicians and as people through the teaching of mathematics. The curriculum is designed to: promote the study of mathematics as opposed to the preparation for examination; inspire pupils to develop a passion for mathematics; to promote the benefits of pupils being creative and developing a growth mind set.

Our curriculum is delivered in such a way that pupils have to demonstrate and utilise all six of the Shirley High School learner characteristics. In doing so, pupils will learn to take ownership of their studies, and be well prepared for the next stage of their educational journey with a wealth of opportunities to fulfil their full potential.

A clear and systematic structure has been mapped for the curriculum for all key stages. The curriculum maintains a degree of freedom within the aforementioned structure to allow teaching staff to experiment and evolve the delivery of content with an aim to improve and refine the curriculum over time.

Implementation:

Across all key stages pupils are taught lessons linked to a specific unit of work. Pupils are stretched and challenged, regardless of their ability, in every lesson allowing for the development of their resilience and creativity. Questioning is delivered in a variety of ways but every lesson must include no hands up questioning so that each class develops a culture within their learning environment that demands engagement at all times. In addition, no hands up questioning will be used as an opportunity for teachers to develop pupils' ability to be respectful and compassionate. Pupils are required to participate in a range of tasks in order to develop skills in independent learning and written and verbal communication. After each unit is taught pupils complete an assessment. All assessments are formative and pupils are required to reflect upon their learning and understanding after each assessment as well as to respond to feedback from their teacher. These times for reflection are vital in developing pupils' aspirations and encouraging pupils to be relentless in their efforts to continually improve. Data is recorded from all assessments and used to inform teachers and the department of any gaps in knowledge or skills and plan for additional support and targeted intervention.

The Key Stage 3 (KS3) section of the curriculum is delivered across the first three years. A three year KS3 allows more time for pupils to be taught mathematics without a focus on examination. Instead year 7 pupils are first taught an inspirational week of mathematics in an attempt to ignite a passion for mathematics in our youngest students whilst also addressing any negative misconceptions from their KS2 experiences. Pupils are taught concepts first through principles, fundamental mathematical methodology and discovery.

In years 10 and 11 pupils enter the Key Stage 4 (KS4) section of the curriculum. Here pupils build on the knowledge and understanding acquired during KS3 and are challenged to identify when to use such knowledge to problem solve. Pupils are probed and stretched through tasks and questioning that demands clear and concise mathematical reasoning, interpretation and communication. Pupils are still taught concepts through first principles, fundamental mathematical methodology and discovery. In addition to this pupils learn how their work is marked in a summative assessment through analysis and discussion of marking schemes.

A-Level mathematics, Key Stage 5 (KS5), is delivered in the same manner as all other phases of the mathematical curriculum. Pupils are taught concepts through first principles, fundamental mathematical methodology and discovery. In addition to this pupils are provided opportunities to illustrate their ability to

combine their skills, knowledge and understanding with breadth and depth of the subject. As a result, not only are students required to problem solve they are expected to reason as to why the mathematical methods they used were suitable, as well as to reflect upon the validity of their answers when considering the parameters used. Success within these areas will allow pupils to fully access the next stage of their educational journey and pursue suitable careers.

Impact:

- Teaching staff will be able to reflect systematically on the effectiveness of their lessons and approaches to teaching.
- Extended learning will lead to improved pupil outcomes and measured through quantitative (assessment) or qualitative data (student voice).
- Analysis of this data will provide insight into the planning of future intervention, with the aim to refine the curriculum and points of intervention.
- Students are engaged and enjoy mathematics;
- Students make progress in line with their potential
- Outcomes reflect attainment and progress in line with similar students nationally.

We want all at SHS to believe in and maintain the values of our school: