Mathematics Curriculum – KS3

Intent:

The programme of study for key stage 3 is organised into 6 key areas, but pupils should develop and consolidate connections across mathematical ideas. Students should build on key stage 2 and connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge in science, geography, computing and other subjects.

Explore

Solve problems by applying mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Fulfil

Develop good working habits and skills to become independent learners. To become fluent in the fundamentals of mathematics and develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

Flourish

Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Topics: Broad topic headings below:

Year 7 and Year 8 (Depth into topics increased)

Number:

Numbers and the number system

Calculating

Checking, approximating and estimating

Counting and comparing numbers

Exploring fractions, decimals and percentages

Calculating fractions, decimals and percentages

Algebra:

Notation, vocabulary and manipulation

Simplifying expressions

Expanding brackets

Sequences

Solving equations

Graphs

Ratio, proportion and rates of change:

Simplifying ratio

Ratio of amounts

Geometry and measures:

Constructions

Angles

Investigating properties of shapes

Units of measurements

Area and perimeter

Volume

Transformations

Bearings

Compound measures

Probability:

Probability of events

Experiments and Sample diagrams

Theoretical and relative frequencies

Venn diagrams and set notation

Statistics:

Presentation of data

Measuring data

Scatter graphs



Key skills and concepts developed in Mathematics

Numeracy skills,

Developing memory and recall

Resilience and risk taking

Problem solving skills and how to link topics and transfer their knowledge to unknown contexts in maths and other subjects such as science, geography and business studies etc. How to set out workings and logically work through problems.

Develop knowledge and understanding of the 6 key areas of the curriculum:

Number, algebra, ratio, Proportion and rates of change, Geometry and measures, Probability and statistics

Wider Impact

Contribution to Cultural Capital/British Values and Wider Society/Careers/SMSC

Mathematics underpins the world around us. Just by paying bills, measuring home improvements and making everyday decisions, people do maths, often without realising. Maths helps shape our understanding of computing, art, music, science, nature and the world at large. It is used in everyday life and in many careers: Actuary, Accountant, Data analyst, Maths teacher, Statistician, Systems developer, Financial trader, Insurance underwriter, Meteorologist, Quantity surveyor, Software tester.