

## Mathematics

We aim to develop and encourage the full potential of every pupil in mathematics. We aim to ensure that every pupil experiences success and enjoyment in the subject whether it be equipping them with sufficient mathematical skills for their day to day life or providing them with a firm foundation for those wishing to study beyond GCSE. In addition, we hope that we can open our young people's eyes to the creative, infinite and inspiring world of mathematics. We use regular assessment and homework so students can assess their progress against their aspirational targets. All of the staff in the maths department are subject specialists who have not only a passion for the subject but an appreciation of how maths plays a part in everyday life.

All pupils study mathematics until the end of Year 11. All pupils will sit the Edexcel GCSE Mathematics, either at Higher or Foundation level.

### Staffing

|                    |   |
|--------------------|---|
| <b>Miss Corris</b> | Curriculum Leader for Mathematics         |
| <b>Mrs Taylor</b>  | 2 <sup>nd</sup> in Department             |
| <b>Mr Barnes</b>   | Teacher of Mathematics                    |
| <b>Dr Batty</b>    | Teacher of Mathematics                    |
| <b>Mr Diffley</b>  | Head of Year 8 and Teacher of Mathematics |
| <b>Mr Gill</b>     | Teacher of Mathematics                    |
| <b>Mrs Sinnett</b> | Teacher of Mathematics                    |

## Curriculum

The following topics are studied at KS3.

|               | <u>Autumn Term</u>   | <u>Spring Term</u>   | <u>Summer term</u>   |
|---------------|--|--|--|
| <u>Year 7</u> | Sequences; understand & use algebraic notation; equality & equivalence; place value; integers & decimals; FDP equivalence        | Solving problems with addition; subtraction, multiplication & division; fractions and percentages of amounts; directed number; addition & subtraction of fractions | Constructing and measuring; developing geometric reasoning; developing number sense; sets & probabilities; prime numbers & proof           |
| <u>Year 8</u> | Ratio & scale; multiplicative change; multiplying & dividing fractions; Cartesian plane; representing data; tables & probability | Brackets, equations & inequalities; sequences; indices; fractions and percentages; standard form; number sense   | Angles in parallel lines & polygons; area of trapezia & circles; line symmetry & reflection; the handling data cycle; measures of location |
| <u>Year 9</u> | Straight line graphs; forming & solving equations; conjecture; 3d shapes; congruency   | Numbers; using percentages; maths & money; deduction; rotation & translation; Pythagoras   | Enlargement & similarity; solving ratio & proportion; rates; probability; algebraic representation   |

The following units are studied at KS4.

Pupils have five lessons per week in Year 10 and four lessons per week in Year 11.

|                           | <b>Autumn Term</b>   | <b>Spring Term</b>  | <b>Summer Term</b>  |
|---------------------------|--|---|---|
| <b>Year 10 Foundation</b> | Number; Algebra; Graphs, tables and charts; Fractions and percentages  | Equations, inequalities and sequences; Angles; Averages and range; Perimeter, area and volume 1; Graphs | Transformations; Probability; Right-angled triangles; Constructions, loci and bearings                                  |
| <b>Year 10 Higher</b>     | Number; Algebra; Interpreting and representing data; Fractions, ratio and percentages                        | Angles and trigonometry; Graphs; Area, volume and limits  | Transformations and constructions; Probability; Similarity and congruence; Multiplicative reasoning; Further statistics |
| <b>Year 11 Foundation</b> | Ratio and proportion; Quadratic equations and graphs; Multiplicative Reasoning; Perimeter, area and volume 2 | Fractions, indices and standard form; Congruence, similarity and vectors; More algebra; Revision        | Exams   |
| <b>Year 11 Higher</b>     | Equations and inequalities; More trigonometry; Equations and graphs; Circle theorems                         | More algebra; Vectors and geometric proof; Proportion and graphs; Revision.                             | Exams   |

### **Extra-curricular activities and visits**

We have a weekly lunchtime Puzzle Club. This is well attended by our KS3 pupils. They are able to use not only their problem solving skills but also build friendships with like-minded individuals. Pupils are entered for the national Mathematics competitions run by the UK Mathematics Trust at Junior and Intermediate levels. We currently offer the FSMQ Additional Mathematics (OCR) after school to a small group of Year 10 pupils. This is an additional qualification aimed at outstanding mathematicians to help them bridge the gap between GCSE and A-Level studies.