

# Maths Curriculum Map

## Key Stage 3

### Year 7

Students in year 7 will initially be taught in mixed ability classes, after the October half term they will all be set by their maths ability. All pupils at Seva School are encouraged to demonstrate their understanding by showing all relevant working out.

A key focus in Year 7 Mathematics is teaching students to show all their working out in a logical manner, rather than just concentrating on the correct answer.

Topics covered include:

#### **Autumn**

- Ratio (simplifying and sharing).
- Using numbers (adding and subtracting numbers including negative numbers).
- Sequences (linear sequences).
- Statistics (averages as well as statistical diagrams).
- Perimeter, area and volume.
- Decimal numbers (adding, subtracting, multiplying and dividing)

#### **Spring**

- Algebra (simplifying expressions and substitution).
- Fractions (adding, subtracting, multiplying and dividing).
- Angles (measuring, drawing and solving problems involving angle rules)
- Coordinates and graphs (straight line graphs).
- Percentages (increase, decrease and link to fractions and decimals).

#### **Summer**

- Probability (use of scale and mutually exclusive events).
- Symmetry (transformations).
- Equations (solving).
- 3D shapes (constructing nets of shapes and investigate properties).

All topics covered have elements of problem solving incorporated into the topic.

### Year 8

In Year 8, the skills developed in Year 7 are extended and students are expected to further develop their problem solving and become even more independent. Topics include:

#### **Autumn**

- Geometry (angles on parallel lines, angles and properties of polygons).
- Probability (experimental probability).
- Percentages (increase, decrease and reverse percentages).
- Sequences (Fibonacci numbers).
- Area and surface area of 2D shapes (trapeziums, parallelogram, cuboids, prisms and compound shapes).

## Spring

- Graphs (linear and quadratic).
- Interpreting data (pie charts, scatter graphs and correlation).
- Algebra (multiplying out of brackets).
- Congruence and scaling.
- Fractions and decimals.

## Summer

- Proportion.
- Circles (circumference and area).
- Equations and formulae (solving complex equations and rearranging formulae).
- Comparing data (frequency tables).

# Key Stage 4

## Year 9

In Year 9, students continue to develop their skills and are expected to be able to analyse, evaluate and develop a range of strategies to solve problems and so become more independent in their work.

We begin the Edexcel GCSE syllabus in Year 9. Topics include:

- Indices and standard form.
- Probability (sets, tree diagrams and theoretical probability)
- Formulae (substitution and rearranging).
- Sequences (linear and quadratic).
- Graphs (linear, quadratic, cubic and reciprocal).
- Perimeter, area and volume (2D and 3D shapes including cones, spheres and pyramids).
- Angles, Pythagoras' theorem and trigonometry.
- Percentages (simple and compound interest).
- Ratio and proportion direct and indirect).
- Statistics (box plots and cumulative frequency)

## Assessment

Regular feedback is given in class and in exercise books. Students are expected to respond to the feedback and do any corrections.

Students are assessed at the end of each topic and there will be termly assessments that will give a grade so that they can see the progress they have made and what they will need to do in order to progress further.