Year 11 Maths (Foundation) Learning Map

- TERM 1 -

Graphs

Linear Equations
Students will build on their understanding of algebra and build connections between equations and more visible graphical representations. Students will bring together their understanding of sequences, equations and graphs. In this unit they will interpret and construct linear graphs.

Non-Linear Graphs
This unit consolidate the skills in the prior unit and will lead students to interpret and plot graphs that are quadratic, cubic and reciprocal, and they will work with different types simultaneously. Students will be able to identify roots and intercepts of quadratic graphs and recognise their graph shapes.

Using Graphs
This focuses on utilising prior skills to construct and interpret conversion graphs and other real life graphs such as distance/time and speed/time graphs to develop problem solving skills.

Algebra

Expanding & Factorising
Students will build on their prior understanding of algebra to solve a range of different types of expanding and factorising questions. Dealing with binomials, quadratic equations and then progressing onto more complex problems including completing the square and working with the quadratic formula.

Changing the Subject
This unit will encompass manipulating equations with one or more variables to achieve a solution, including when the variable appears more than once. Students will also begin to look at the iteration process.

Functions
This unit supports students in finding solutions to problems. Students will begin substituting into equations and learning functions notation. This will lead to functions of inequalities and representing quadratic functions graphically.

- TERM 2 -

Number

General
In this unit, students will cover all necessary content that is required to attain AO1 (Use and apply standard technique) problems. This will allow students to accurately recall facts, terminology and definitions, use and interpret notation correctly and accurately carry out routine procedures or set tasks requiring multi-step problems.

Fractions
Students will encounter a variety of fractional problems and draw on general skills to interpret, compare, calculate, and express answers as fractions.

Percentages
Students will encounter a variety of percentage problems, working with multipliers, different types of interest, reversing percentage changes and finding appropriate percentage multipliers.

Ratio
Students will be working with real life scenarios involving ratio. They will learn how to translate problems in a variety of contexts into a process or series of mathematical processes. Included work in the units contains working with recipes, best buy problems, exchange rates and compound units.

Algebra

General
Students will build on their knowledge of algebra and be able to manipulate, form and solve a range of different types of questions, including factorising, expanding, and substituting. This will be with both linear and quadratic equations. They will be changing the subject of multiple equations to solve for the variable they are interested in.

Sequences
This unit will encompass sequences, where students will be able to generate, continue and interpret linear sequences and express the sequence using correct terminology. They will also be testing if a number is part of a given sequence.

Geometry
Students will work with graphical representations and will both draw linear, quadratic, cubic and reciprocal graphs. All whilst learning to answer contextualised problems by bringing together their understanding of sequences, equations, and algebra. Students will be able to identify midpoints, roots, intercepts and turning points.

- TERM 3 -

Geometry

General
This unit will revisit other materials to make links across the curriculum. Accurate drawings and the understanding of properties and of 2D and 3D shapes will lead into further problem-solving questions as well as a revisit of bearings and angle facts required to solve multi-step geometry problems.

Transformations
Students will become familiar with the four types of transformations, translations, rotations, reflections, and enlargements. They will learn how to perform them themselves, interpret them on graphs and describe the full process by communicating their understanding mathematically.

Statistics & Probability

General
Students will learn how to construct a variety of different representations of information, from tally charts and pictograms to frequency trees and frequency polygons. The emphasis with these topics will be on interpretation and communication of their understanding.

LINKS TO PRIOR LEARNING

The sequence of learning is designed to build on fundamental knowledge and allow students to make connections between content from the KS3 programme of study. Students are able to consider questions that require them to apply knowledge from different areas of the curriculum.

LINKS TO PRIOR LEARNING

HT3 and HT4 are designed to give students the skills required to begin answering contextualised problems. This builds on the KS3 curriculum and it is designed to extend the thinking of students. It will allow students to build on curriculum knowledge by interpreting and inferring, as well as forming, constructing and solving.

LINKS TO PRIOR LEARNING

The learning in this term is designed to build on fundamental knowledge, students will be using knowledge from multiple areas of the curriculum to answer multiple step problem solving questions. They will use and apply standard techniques, reason, interpret and communicate mathematically and solve problems within mathematical contexts. All in preparation for their summer examinations.