Stuart Bathurst Catholic High School

Mathematics Department

Long-term sequencing Year 10 Foundation

The curriculum has been designed to ensure that students develop the skills required to be successful in reaching their goals. We want students to be numerate and understand the Mathematics of the world around them, whilst also having an appreciation and love of Mathematical concepts.
Problem solving is embedded from year 7 all the way through to year 13, with a 5-year SOW in year 7 to 11, based upon students' current level of knowledge and understanding. Teaching is based around a mastery curriculum, with links made between multiple topics. Students are first taught to fully understand the knowledge, and then given time to fully master the skill. Students are then given opportunities to apply their understanding and skills to practical applications. Each stage of students 5-year plan builds upon students' prior knowledge and seeks to develop this further. Our curriculum is designed to be fluid, data-led and student-centric, with it being adapted as and when necessary.

TERM 1:
STUDENTS MUST KNOW:

Number properties – four operations with fractions/decimals and directed numbers, out numbers in and out of standard form, multiply and divide in standard form, add and subtract in standard form, laws of indices.

FDP – find a percentage multiplier, to increase and decrease by a given amount with or without a calculator, to apply compound interest.

Geometry and measure – recognise angles in parallel lines, problem solve with angles in parallel lines, draw nets of 3D shapes.

Algebra 1 – collecting like terms, substitution including decimals fractions and integers.

Approximation – rounding to a given number of decimals, rounding to a given number of significant figures, estimating solutions.

Collecting data – construct graphs including pie charts, bar charts, pictograms, two-way tables, stem and leaf diagrams, and time series graphs.

Algebra 2 – expand and factorise single brackets, solve one and two step linear equations, solve equations with unknowns on both sides, expand double brackets, factorise quadratic expressions.

Sequences – find missing terms in a sequence, find the nth term of a linear sequence.

HOW THIS WILL BE ASSESSED:
End of unit assessments at least twice a half term.
Learning review windows twice a year.
Formative assessment in lessons - mini white boards.

TERM 2:
STUDENTS MUST KNOW:

Proportion – simplifying rations, sharing in a given ration, writing ratios in the form 1:n.

Shape – Angles in parallel lines recap, recognise scale factors, find missing lengths in similar shapes.

Algebra 3 – recap substitution, changing the subject of a formulae, work with function machines to find missing inputs and outputs.

Transformations – to rotate/translate/enlarge/translate a shape, to be able to describe all four transformations, to complete multiple transformations, to understand how to apply vectors to transformations.

Probability – create sample spaces and calculate probabilities, find single event probabilities, work with frequency trees and probability trees, find probabilities from Venn and tree diagrams.

Triangles – complete angle bisectors, know and use Pythagoras, recognise SOCAHTOA, apply trigonometry to finding missing angles and sides in right-angled triangles.

HOW THIS WILL BE ASSESSED:
End of unit assessments at least twice a half term.
Learning review windows twice a year.
Formative assessment in lessons - mini white boards.

TERM 3:
STUDENTS MUST KNOW:

Interpreting data – finding averages from a list, averages from ungrouped data, averages from grouped data, averages from diagrams, plotting and interpreting scatter graphs.

Area and volume – area of 2D shapes, parts of a circle, area and circumference of a circle, compound area, area of a sector, volume of a prism, volume of a sphere, surface area of cubes and cuboids.

Proportion – unitary method, recipes, percentage change and profit, reverse percentages.

Equations and inequalities – forming and solving equations, solving one and two step inequalities and plotting them on a number line, solving simultaneous equation using elimination.

HOW THIS WILL BE ASSESSED:
End of unit assessments at least twice a half term.
Learning review windows twice a year.
Formative assessment in lessons - mini white boards.

Home learning set will consist of a combination of: 3-part homework (spiral, develop, apply), and additional worksheets where appropriate.

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