SoW Outline Summer 2020 Year 9

This document provides an overview and possible timetable for some key topics and skills practice that students could work on whilst normal lessons are disrupted.
This is based on the Hampshire Scheme of Learning, which is available to schools subscribing to Moodle Plus' (https://maths.hias.hants.gov.uk) and seeks to cover a wide range of key ideas across the domains of the maths curriculum.
It is important that teachers provided a range of tasks to support the objectives as appropriate to their students. This should include a variety of tasks that are accessible from home such as teacher prepared materials and problem-solving opportunities such as those provided by 'Nrich'.
https://nrich.maths.org/
In this way, we are aiming for all students to experience the best study aids and opportunities, given the circumstances under which we are all working.
In addition to this, we will offer one or two 'Problems of the Week' for each unit to support teachers and students with further study.

Summer 1

Week	Domain	Unit Objectives
1	Geometry: Congruence and Pythagoras	• Know and use the criteria for the congruence of triangles • Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs
2	Statistics: Bivariate data	• Describe simple mathematical relationships between two variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs. • Describe and interpret correlation. • Develop statistical reasoning and begin to express arguments formally
3	Proportion: Direct and inverse	• Solve problems involving direct and inverse proportion, including graphical and algebraic representations
4	Compound units	• Use compound units such as density to solve problems
5	Algebra: Linear and quadratic graphs	• Recognise, sketch and produce graphs of linear and quadratic functions in one variable with appropriate scaling, using equations in x and y and the Cartesian plane Reduce a given linear equation in two variables to the standard form y=mx+c

Summer 2

Week	Domain	Unit Objectives
1	Number: Standard form Accuracy	• Calculate and solve problems involving numbers in both ordinary and standard form. • Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]. • Use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation a<x≤ b
2	Probability	• Enumerate sets and unions / intersections of sets systematically, using tables, grids and Venn diagrams • Solve probability problems and calculate theoretical probabilities using sample space and tree diagrams for mutually exclusive and independent events
3	Statistics: Averages, charts and calculations	• Construct and interpret tables, charts and diagrams • Describe, interpret and compare measures of central tendency and spread
4	Geometry: Area and perimeter	• Calculate and solve problems involving the perimeters and areas of 2-D shapes including circles, areas of circles and composite shapes. • Interpret mathematical relationships both algebraically and geometrically
5	Algebra: Functions	• Find contextual approximate solutions to problems from the given graphs of a variety of functions, including piece-wise linear, exponential and reciprocal graphs.
6	Number: Inters, powers and roots	• Apply appropriate calculation strategies and degrees of accuracy to increasingly complex problems • Use integer powers and roots to solve problems Introduce fractional and negative powers • Number
7	Statistics: Stem and leaf, frequency tables	• Construct and interpret tables, charts and diagrams including stem and leaf diagrams and frequency tables