Year 11 Curriculum Overview

The Year 11 for 2021-22 will be following the White Rose Maths "Express" curriculum. As this year group missed a significant proportion of Year 10, this scheme of learning covers the topics from Year 10 along with the Year 11 content.

Year 11		HT1	HT2	HT3	HT4	HT5	HT6
Mathematics	Topic	Algebra 1, FDP, Shape 1 and Number 1	Graphs, Ratio and Proportion, Shape 2	Data, Algebra 2, Pythag and Trig, Probability	Number 2, Transformations, Constructions and Algebra 3	Vectors and Similarity	Revision
	Areas of study Bold denotes topics for students aiming for 7/8/9	Simplifying expressions Substitution Solving linear equations Linear inequalities Solving quadratics **Completing the square** FDP equivalence Calculating percentages Reverse percentages **Recurring decimals** Basic angle facts Properties of shapes Interior / exterior angles Bearings **Circle theorems** Four rules with integers and fractions Rounding and estimation Directed number arithmetic Roots and indices Limits of accuracy **Fractional indices** **Upper and lower bounds**	Plot y=mx+c Interpret real life graphs Plot quadratics Parallel lines Equation of a line Cubic and reciprocal graphs **Perpendicular lines** Simplify ratios Share in a ratio Direct proportion Use fractions in ratios Density and pressure Inverse proportion **Equations with proportion** **Gradients of curves** Perimeter and area of 2D shapes Volume and SA of prisms Arc length and area of sector Volume of cones etc Plans and elevations	Finding averages Charts and graphs Recognise correlation Cumulative Frequency Box Plots LOBF **Histograms** Laws of indices Linear sequences Subject of formula Quadratic sequences Factorise quadratics **Geometric sequences** **Complex subject of formula** **Proof functions** Pythagoras SOHCAHTOA Trig in 3D **Sine / cosine rules** **Area of a triangle ½absinc** Single event probability Listing outcomes Tree diagrams – independent events **Dependent events** **Conditional probability**	Reflections Rotations Translations Positive, negative and fractional enlargements Identify and describe transformations **Transform graphs (incl trig graphs)** Construct triangles Construct bisectors **Loci** Simultaneous equations Read from graphs **Quad simultaneous equations** **Iteration** **Quadratic inequalities**	Add and subtract column vectors Multiply vectors by scalars **Proof with vectors** Find missing sides in similar shapes Understand congruency Solve complex similar triangle problems Recognise congruent triangles **Solve problems with similar areas and volumes** **Proves triangles are congruent**	Recap on GCSE content and past paper practice.
	Why this and why now?	This scheme of work builds on the basics of each strand within the GCSE. The algebra 1 units provide the building blocks for students to access algebra 2 later in the year etc. This is the same for shape and number strands.	We now look at graphs to break up the different strands. After ratio and proportion and shape 2, a consolidation week at the end of this section will allow any gaps in knowledge to be closed before moving on with the scheme and any	After the data unit, algebra 2 is the next unit. This builds on the first algebra unit. Pythagoras and trig are taught one after another so we can highlight the differences and ensure that pupils know which one to use and when to use them.	The number 2 unit builds on the skills from the number 1 unit. Here we look further into percentages and interest. Transformations and constructions are placed after each other as they are both maths topics that involve	Vectors and similarity are the final two units to be taught before the revision begins. Both of these units include proof topics, considered as some of the toughest topics to master and hence, left until last in the scheme of learning.	Revision of all GCSE content.

			necessary reteaches can be taught.		skilled drawings using mathematical equipment. The final algebra unit is then taught with the more complex equation solving questions being taught here.		
	What is the essential knowledge that needs to be remembered?	To be able to simplify expressions Know how to substitute Solve linear equations, linear inequalities and quadratics **To solve by Completing the square** To know the FDP equivalences, to calculate percentages including reverse percentages and **recurring decimals** To use basic angle facts Know properties of shapes and apply to Interior / exterior angles questions Bearings **Circle theorems** To use the four rules with integers and fractions To apply rounding and estimation to problems Directed number arithmetic Be able to calculate using roots and indices Limits of accuracy **Fractional indices** **Upper and lower bounds**	Plot y=mx+c Interpret real life graphs Plot quadratics on a graph Apply Parallel lines rules Work out the equation of a line Draw and interpret cubic and reciprocal graphs **Draw and interpret perpendicular lines** Be able to simplify ratios, share in a ratio Calculate direct proportion Use fractions in ratios Calculate density and pressure Calculate inverse proportion **Equations with proportion** **Calculate the gradients of curves** Calculate perimeter and area of 2D shapes Calculate volume and SA of prisms Calculate arc length and area of sector Calculate volume of cones etc Draw and interpret plans and elevations	Finding averages Read, draw and interpret charts and graphs Recognise correlation Calculate cumulative frequency and be able to draw and interpret CF graphs. Draw and interpret box plots Use a LOBF correctly to read from a scattergraph. **Draw and interpret histograms** Apply the laws of indices Discover linear sequences Be able to change the subject of formula Find quadratic sequences Factorise quadratics **Geometric sequences** **Complex subject of formula** **Proof functions** Apply Pythagoras' Theorem to problems Use SOHCAHTOA to find sides and angles Calculate Trig in 3D **Use the Sine / cosine rules** **Calculate the area of a triangle ½absinc** Use single event probability Listing outcomes Tree diagrams – independent events **Dependent events** **Conditional probability**	Identify and describe transformations **Transform graphs (incl trig graphs)** Construct triangles using compasses and ruler Construct bisectors using compasses and ruler **Loci using compasses and ruler** Find unknowns using simultaneous equations Read from graphs **Find unknowns using Quad simultaneous equations** **Use Iteration** **Calculate quadratic inequalities**	Add and subtract column vectors Multiply vectors by scalars **Proof with vectors** Find missing sides in similar shapes Understand congruency Solve complex similar triangle problems Recognise congruent triangles **Solve problems with similar areas and volumes** **Proves triangles are congruent**	Recap on GCSE content and past paper practice.
	What is the assessment intent and how will you assess?	The assessment takes place every two weeks through Mini Mocks. These consists of learnt topics (section A) and unseen topics (section B). The section B topics are then taught in the following weeks and become the section A of the next mini mock etc. Teachers check the progress and areas of concern are addressed through whole class teaching with targeted Do Nows and HW. Previous blocks are also assessed each week to assess Covid learning losses so that gaps can be filled whilst continuing with the curriculum.					

	What should the end point look like?	Pupils will be fluent in basic algebra, FDP, angles and number topics. They will be able to apply reasoning and will be able to solve problems with these topics.	Pupils will be fluent in graphs, ratio and proportion and shape 2 topics. They will be able to apply reasoning and will be able to solve problems with these topics.	Pupils will be fluent in Data, Algebra 2, Pythag and Trig, and Probability topics. They will be able to apply reasoning and will be able to solve problems with these topics.	Pupils will be fluent in Number 2, Transformations, Constructions and Algebra 3 topics. They will be able to apply reasoning and will be able to solve problems with these topics.	Pupils will be fluent in vectors and similarity topics. They will be able to apply reasoning and will be able to solve problems with these topics.	Pupils will be revising for their final GCSE examination.
		Mini mocks and actual Mock Exams will be accompanied by question level analysis to aid in closing any gaps in knowledge. This will be further assessed in the future with "Can you still" questions showing learning embedded into long term learning. These tests will be used weekly to assess Covid learning losses so that gaps can be filled whilst continuing with the curriculum.					
	How does it cover the NC?	The NC guidance for this half term can be found on pages 24-25. Edexcel GCSE and GCE 2014 (pearson.com)	The NC guidance for this half term can be found on pages 24-26. Edexcel GCSE and GCE 2014 (pearson.com)	The NC guidance for this half term can be found on pages 25-27. Edexcel GCSE and GCE 2014 (pearson.com)	The NC guidance for this half term can be found on pages 25-27 & 29-30. Edexcel GCSE and GCE 2014 (pearson.com)	The NC guidance for this half term can be found on pages 29-30. Edexcel GCSE and GCE 2014 (pearson.com)	The NC guidance for this half term can be found on pages 29-30. Edexcel GCSE and GCE 2014 (pearson.com)