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Curriculum Planning Template

Subject: Maths Year 11 Ability Higher

Half Term 1 / weeks	**Week 1-2**	**Week 3-4**	**Week 5-6**	**Final week of the half term**
Topic	Unit 32 - Function notation	Unit 33 - Time series graphs	Unit 34 - Sequences	Reteach and Retention
Topic overview **Students will learn…**	To use and understanding function nation, both numerically and algebraically	Students should be able to use and understand a time series graphs and calculations associated with them.	Students should be able identify sequences and the rules they work to.	Focus on the process of reteach and retention for this half term, knitting together the learning in reaction to the assessments completed. Students will follow a bespoke set of lessons looking at errors seen this in the work covered in this half term and any supporting knowledge. If this is covered staff will look forward to cover historic supporting knowledge for the next half term.
Components	Students should be able: • To use substitution in functions • To apply transformations to graphs • To find the domain and range • To find composite functions • To find inverse functions	Students should be able: • To plot and interpret distance time graphs • To calculate acceleration from a velocity time graph • To calculate distance from a velocity time graph • To calculate the rate of change at a particular point	Students should be able: • To find the nth term of a sequence. • To generate sequences using an nth term. • To find the nth term for a quadratic sequence • To find the common ratio of a geometric sequence.	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups that have been flagged in this block of learning. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
What students should already know (prior learning components)	Students should be able to recall and use the hierarchy of operations. Students should be able to use a function machine and understand the concepts of 'input' and 'output'	Students can identify coordinates of given points in the first quadrant or all four quadrants.	Students should have prior knowledge of some of these topics, as they are encountered at Key Stage 3: • the ability to use negative numbers with the four operations and recall and use hierarchy of operations and understand inverse operations; • dealing with decimals and negatives on a calculator; • using index laws numerically	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
Transferrable knowledge (skills)	Algebraic substitution and manipulation underpin this unit and will be continuously revisited in future aspects. The ability to find compound functions and inverse functions will become a big part of KS5. In KS4 the function notation will be used	The unit starts the processes that will be connected to integration in KS5. The ability to find gradients and tangents both support KS4 learning for graphs and sets out the basics for the ability to complete questions in mechanics at KS5.	The creation and use of formulae in this unit will be used in other contexts that are unrelated, however sequences will be extended into quadratics a Fibonacci.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and

	explicitly in the transformations of graphs units.			improve students' ability to answer these and directly sequential problems.
Key vocabulary student will know and learn	function notation, inverse, evaluate	Coordinate, axes, graph, speed, distance, time, velocity, solution, function, linear, approximate, gradient	substitute, term, 'like' terms, quadratic, linear, simplify, arithmetic, geometric, function, sequence, nth term, derive	
Assessment activities	Homework Sparx – Functions Year 11 Test 14. This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	Homework Sparx – Time Series Graphs Year 11 Test 14. This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	Homework Sparx – Sequences Year 11 Test 14. This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Sparx Clips U637, U455, U895, U448, U996 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Sparx Clips U914, U403, U462, U966, U800 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Sparx Clips U498, U530, U206, U958 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes **Why this topic is important…**	The unit starts with students knowing how to substitute into f(x) before extending this to compound and inverse functions. The conceptional aspects of this unit should be covered cementing earlier skills looking at excluded and undefined values. This lays work for understanding answers at KS5 and graphical asymptotes.	The unit starts with students needing to recall gradient and simple areas questions for time series before moving to variable rate changes. The use of tangents and the introduction to the trapezium rule should allow students to develop this further in KS5 to integration.	The unit starts with students understanding that sequences have a link and how this can be used to find the next term from linear sequences. This is then moved to an algebraic form to allow a wide range of values to be found with ease. The use of the nth term to establish if a number is or is not in a given sequences provides the first elements to proof.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.