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Curriculum Planning Template

Subject:	Maths	Year	8	Ability	Mixed

Half Term 2 / weeks	Week 1-2	Week 3-6	
Topic	Unit 3 – Negative Numbers	Unit 4 – Algebra and Sequences	Reteach and Retention
Topic overview **Pupils will learn…**	To compare and complete operations and solve problems with negative numbers	Introduction (or recap) of key algebra skills and sequences using these skills to solve problems.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
Components	- Order directed numbers using lines and appropriate symbols - Adding directed numbers - Subtracting directed numbers - Multiplication and division of directed numbers - Evaluating algebraic expressions with directed number - Use order of operations with directed numbers - Understand that positive numbers have more than one square root - Explore higher powers and roots - Problem solving with directed numbers including fractions	- Understand algebraic notation - Distinguish between like and unlike terms - Simplify algebraic expressions by collecting like terms (positive or negative) - Simplifying algebraic expressions by multiplying or dividing terms - Expand and simplify 1 or more linear bracket - Factorise linear expressions - Expand Quadratics - Expand Triple Brackets - Factorise quadratics with coefficients of 1 or greater than 1 - Expand and factorise easier quadratics - Substitute numerical values into formulae and expressions - Solve linear equations including unknowns on both sides and fractional equations - Form and solve Linear equations, including with perimeter and angles - Describe and continue a sequence given diagrammatically - Predict and check the next term(s) of a sequence - Recognise the difference between linear and non-linear sequences (including the Fibonacci sequence) - Continue linear and non-linear sequences to find next terms and term-to-term rules - To generate a sequence given the term-to-term rule - Finding missing numbers within a sequence - To find the nth term of a sequence - To be able to generate a sequence from a given nth term rule	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. 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.

		• To decide whether a number is in a sequence or not by forming and solving a linear equation • To generate a quadratic sequence when given the nth term • To find the nth term of a quadratic sequence in the form an^2+bn+c	
What pupils should already know (prior learning components)	Students should be able to read, write and order and compare numbers up to 10,000,000 and determine the value of a digit and use negative numbers in context.	Students should be able to find numbers that satisfy equations and express missing number problems algebraically. Students should be able to generate and describe linear number sequences.	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)	This topic will build pupils' confidence with negative numbers. These skills underpin almost all of subsequent maths in particular any unit which includes substitution and formulae.	This topic will build students skills using algebra which will be transferable to other topics. We can see this within the unit as we progress into sequences and algebra is used to determine if a number is within a sequence and finding terms within a sequence.	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 improve students' ability to answer these and directly sequential problems.
Key vocabulary pupil will know and learn	Integer, negative, positive, addition, subtraction, rational, decimal, algebra, expression, equation, formulae, term, coefficient, collect, expand, factorise, factor, linear, substitute, solve, subject	Integer, negative, positive, addition, subtraction, rational, decimal, algebra, expression, equation, formulae, term, coefficient, collect, expand, factorise, factor, linear, substitute, solve, subject	
Assessment activities	Homework- Unit 3 – Negative number Year 8 Test 2	Homework- Unit 4 – Algebra and Sequences Year 8 Test 2	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Maths watch clips 23, 68a, 68b, 33, 75, 81, 29, 71	Maths watch clips A11a, A11b, A11c A6, A7, A8, A9, A18, A10, A12, A19, A17	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes **Why this topic is important…**	Mathematical fluency with negative numbers will be developed within this unit which is important for students going forward. This comes up within any unit containing formulae or substitution. In addition, this unit practices basic skills of the 4 operations which will have been covered multiple times prior but are vital to future success of the student.	Algebra is a key skill required for students to use throughout maths and having basic recall and fluency within this topic will help pupils in the future. The basis of these skills will help students in upcoming topics such as perimeter and area. In KS4 students will apply their number and algebra skills to start to solve problems, as well as being now able to rearrange formulae algebraically, and form their own equations.	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.