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Curriculum Planning Template

Subject: Maths Year 10 Ability Foundation

Half Term 1 / weeks	**Week 1-2**	**Week 3-5**	**Week 6**	
Topic	Unit 13 - Ratio And proportion	Unit 14 - Congruence and transformations	Unit 15 - Indices and surds	Reteach and Retention
Topic overview **Pupils will learn…**	To understand and use ratio in a range of context. To find and use percentages including percentage change.	To use and identify transformations and extend this knowledge into similar shapes.	To use the laws of indices in a range of problems and difficulty. To use and understand surds in maths and how this can be helpful for accuracy.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
Components	• To use ratio notation. • To simplify a ratio. • To write a ratio in the form 1:n and n:1. • To divide a quantity into a given ratio. • To solve reverse ratio problems. • To use direct proportion to solve problems. • To calculate fractions and percentages of amounts without a calculator. • To calculate percentages of an amount using a calculator • To increase and decrease an amount by a given percentage.	• To understand the term congruence. • To recognise lines of symmetry. • To reflect a shape in a given mirror line. • To recognise rotational symmetry and give the order of rotational symmetry. • To rotate shapes given a centre and an angle. • To translate a shape given a column vector. • To describe transformations. • To transform a shape given multiple transformations. • To enlarge a shape given a scale factor • To enlarge a shape given a scale factor and centre. • To understand the properties of similar shapes.	• To be able to use the laws of Indices. • To evaluate numerical expressions with negative and fractional powers. • To know how to find squares, cubes, square roots and cube roots of a number. • To understand the meaning of a surd. • To simplify surds.	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.
What pupils should already know (prior learning components)	Students should be confident at fractions and percentages conversions and be able to calculate fractions of amounts.	Pupils should be able to plot co-ordinates in the 4 quadrants. Students should also know the different types of shapes and be able to work with linear scales	Pupils should know their square numbers, and be confident at working with indices.	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)	Ratio will be used in numerous multi step questions throughout the course. A grounding her is essential to accessing these questions.	The skills used in plotting and manipulating coordinates will be used in all future graph work with the skill of enlargement being visited more than once. This will be used in the	Indices and surds are used in many harder questions in algebra when answering some of the higher level questions on the tier.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key

	Percentage change will be used again in harder questions involving % change as well as with compound and simple interest.	similar and congruent shape problems as long with more complicated LAV style questions later in the course when changing units.	For those moving to KS5 this underpins the first units in pure that move towards differentiation.	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	Ratio, Simplify, Express, Divide, Share, Calculate, Amount, Fractions, Percentages, Problem solving	Congruent, Reflection, Rotation, Translation, Describe, Transformation, Enlargement, Similar shapes, Plans and elevations	Index laws, Indices, Simplify, Evaluate, Express, Algebraic, Negative powers, Fractional, Negative powers, Powers, Surds	
Assessment activities	Year 10 Test 7 Homework Unit 13 Ratio and Proportion	Year 10 Test 7 Homework Unit 14 Congruence and Transformations	Year 10 Test 7 Homework Unit 15 – Indices and Surds	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Mathswatch clips 38, 40, 42, 106, 108	Mathswatch clips 48, 49, 50, 148, 166, 182	Mathswatch clips 9, 29, 46, 82, 131, 154, 207	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 start of this unit moves through the basic ideas to ratio simplifying and sharing before moving to questions in a range of context. The use of exam style question in this topic is essential as the range and type of these questions is very varied including proportion style questions. The move to percentages with and without a calculator moves students to using multipliers when dealing with percentages that will allow students to answer interest-based questions understanding the notation required.	The four basic transformations is where this unit starts with students required to understand movements seen in KS2 but now using more specific mathematical language. The enlargement element of this topic should be stressed heavily as understanding this allows students to access scale factors and similar shapes later in the curriculum. The unit will also be used for students completing the higher tier when they meet transformation of graphs which will be used in KS5	The unit uses the ideas outlined earlier in the curriculum with using and handing the four index laws. This now extends that knowledge to include fractional and negative powers then to different base numbers. Handling surds in this unit is one of the harder topics for many students as they require more abstract knowledge that is use to solve increasingly harder questions including within other questions.	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.