


Subject	Year	Month	
Mathematics	11	January	
Topic:			
Similarity and congruence			5 lessons
Content (Intent)			
Prior Learning Year 9 Similarity and congruence in 2D February		Future Learning	
<ul style="list-style-type: none"> Understand and use <i>SSS</i>, <i>SAS</i>, <i>ASA</i> and <i>RHS</i> conditions to prove the congruence of triangles using formal arguments, and to verify standard ruler and pair of compasses constructions; Solve angle problems by first proving congruence; Understand similarity of triangles and of other plane shapes, and use this to make geometric inferences; Show that two shapes are similar by showing that all corresponding angles are equal in size and/or lengths of sides are in the same ratio/one is an enlargement of the other, giving the scale factor; Use formal geometric proof for the similarity of two given triangles; Understand the effect of enlargement on angles, perimeter, area and volume of shapes and solids; Identify the scale factor of an enlargement of a similar shape as the ratio of the lengths of two corresponding sides, using integer or fraction scale factors; Write the lengths, areas and volumes of two shapes as ratios in their simplest form; Find missing lengths, areas and volumes in similar 3D solids; Know the relationships between linear, area and volume scale factors of mathematically similar shapes and solids; Use the relationship between enlargement and areas and volumes of simple shapes and solids; Solve problems involving frustums of cones where you have to find missing lengths first using similar triangles. 			
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)	
<p>Encourage students to model consider what happens to the area when a 1 cm square is enlarged by a scale factor of 3.</p> <p>Ensure that examples involving given volumes are used, requiring the cube root being calculated to find the length scale factor.</p> <p>Make links between similarity and trigonometric ratios.</p>		End of half term no End of Year 2nd mocks in Feb & March	
		How can parents help at home? MathsWatch clips (Qualification GCSE) 12b, 144, 166, 201	
Further reading/discussion			
Reading / Enrichment http://passyworldofmathematics.com/similar-triangles-applications/	Literacy	Numeracy Links	Careers Links Groundsperson Architect Medical Imaging