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**Mathematics Faculty**

**Year 9 Summer Term 2 - Alpha Scheme**

**Unit 11 Overview – Transformations and Constructions**

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| **Topic** | **Key Ideas** | **Progress** | | |
| **R** | **A** | **G** |
| **Transformations and Constructions** | I can transform shapes by a combination of reflections, rotations, translations and enlargements. |  |  |  |
| I can describe transformations. |  |  |  |
| I can bisect lines and angles. |  |  |  |
| I can construct a perpendicular line from a point to a line and from a point on a line. |  |  |  |
| I can construct loci. |  |  |  |
| I can calculate lengths of similar shapes. |  |  |  |
| I can calculate simple similar areas and volumes. |  |  |  |
| I can convert metric areas and volumes. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | **Transforming shapes by** a combination of reflections, rotations, translations and **enlargements by** positive, fractional and **negative scale factors** (CM clips 104a, 107, 108, 272, 275 & 325) | Formative assessment strategies e.g. MWBs, whole class questioning, Diagnostic Questions, SLOP time with self-assessment, Live Marking etc.  Assessment is also supported with our use of ILOs, set through Century Learning and Corbettmaths.  Finally, units are assessed through skills checks and half termly assessments, as part of our Assessment Calendar in Mathematics. | transformation, reflection, rotation, direction, angle, translation, vector, enlargement, scale factor, centre, positive, fractional, negative |
| **2** | **Describing transformations**  (CM clips 105, 273, 275 & 326) | transformation, reflection, rotation, direction, angle, translation, vector, enlargement, scale factor, centre |
| **3** | Bisecting lines and angles. Constructing a perpendicular line from a point to a line and from a point on a line (CM clips 72, 78, 79 & 80) | bisect, line, perpendicular, point, compass, angle |
| **4** | Constructing loci (CM clips 75 – 77) | locus, loci, construct, bisect, compass, perpendicular |
| **5** | Calculating lengths of similar shapes (CM clip 292) | length, similar, scale factor, enlargement |
| **6** | Calculating simple similar areas and volumes (CM clips 293a&b) | similar, area, volume, scale factor, linear, enlargement |
| **7** | Converting metric areas and volumes (CM clips 350 & 351) | area, volume, conversion, metric, multiply, divide, mm2, cm2, m2, mm3, cm3, m3 |