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**Mathematics Faculty**

**Year 10 Unit 8 Overview**

**Transformations and Constructions**

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| **Topic** | **Key Ideas** | **Progress** |
| **R** | **A** | **G** |
| **Transformations and Constructions** | I can draw plans and elevations of 3D solids |  |  |  |
| I can transform shapes by reflection, rotation, translation and enlargement |  |  |  |
| I can draw and use scales on maps and scale drawings |  |  |  |
| I can calculate, draw and solve problems involving bearings |  |  |  |
| I can construct triangles using a compass |  |  |  |
| I can bisect lines and angles |  |  |  |
| I can draw the locus of a point or points |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Drawing plans and elevations of 3D solids. | 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 which alternate between Basic Skills Checks one week and then a more individual ILO the following set through Century and Corbettmaths.Finally every unit is assessed half termly as part of our Assessment Calendar in Mathematics. | plan, view, elevation, face, solid |
| **2** | **Reflecting 2D shapes in a mirror line.** Describing reflections.(CM clips 272 – 274) | transformation, reflection, mirror line, symmetry, axis, horizontal, vertical, diagonal  |
| **3** | **Rotating 2D shapes about a centre of rotation.** Describing rotations.(CM clip 275) | transformation, rotation, direction, (anti)clockwise, angle, degree, centre |
| **4** | **Translating shapes using vectors.** Describing translations.(CM clips 325 & 326) | transformation, translation, vector, direction |
| **5** | **Enlarging shapes by** fractional and **negative scale factors.** Describing enlargements.(CM clips 104 – 109) | transformation, enlargement, positive, negative, fractional, scale factor, centre |
| **6** | Drawing and using scales on maps and scale drawings.(CM clips 283 & 284) | scale, scale factor, ratio, enlargement |
| **7** | Solving problems involving bearings.(CM clips 26 & 27) | bearing, angle, degree, direction, clockwise, north line |
| **8** | **Constructing perpendicular bisectors**, perpendiculars to a point and perpendiculars through a point on a line.(CM clips 78 – 80) | construct, line, bisect, perpendicular, point, compass |
| **9** | Bisecting angles using a ruler and a compass. Constructing angles using a ruler and a compass.(CM clips 68 – 72) | construct, angle, bisect, compass |
| **10** | Constructing triangles and shapes made from triangles using a ruler and a compass. (CM clips 68 – 73 & 83) | construct, triangle, compass, angle, bisect |
| **11** | Constructing loci. Using loci to solve problems.(CM clips 75 – 77) | construct, locus, loci, bisect, angle, line, perpendicular |