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**Mathematics Faculty**

**Year 10 Unit 7 Overview**

**Area and Volume**

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| **Topic** | **Key Ideas** | **Progress** | | |
| **R** | **A** | **G** |
| **Area and Volume** | I can calculate the perimeter and area of compound shapes |  |  |  |
| I can calculate the circumference and area of circles |  |  |  |
| I can calculate arc lengths, angles and areas of sectors |  |  |  |
| I can convert metric units of area and volume |  |  |  |
| I can calculate the volume and surface area of prisms, cylinders, spheres, pyramids and cones |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Calculating the perimeter and area of compound shapes.  (CM clips 41, 44, 45, 48, 49 & 241) | 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. | perimeter, area, square, rectangle, parallelogram, triangle, trapezium, compound |
| **2** | **Calculating the circumference of circles** and the perimeter of semi-circles and quarter-circles.  (CM clips 60 & 62) | circle, circumference, radius, diameter, pi, perimeter, semi-circle |
| **3** | **Calculating the area of circles**, semi-circles and quarter-circles.  (CM clips 59) | circle, area, radius, diameter, pi, semi-circle |
| **4** | **Calculating arc lengths, angles and areas of sectors**.  (CM clips 46 & 58) | circle, circumference, arc, sector, radius, diameter, angle, area |
| **5** | Converting metric units of area and volume.  (CM clips 350 & 351) | unit, metric, area, volume, square, cube, multiply, divide |
| **6** | Calculating the volume and surface area of prisms.  (CM clips 310, 312, 355 & 356) | volume, surface area, face, length, width, height, cube, cuboid, prism, unit |
| **7** | **Calculating the volume and surface area of cylinders** and spheres.  (CM clips 313, 315, 357 & 361) | volume, surface area, face, circle, cylinder, sphere, circumference, height, radius, diameter |
| **8** | Calculating the volume and surface area of pyramids and cones.  (CM clips 314, 359 & 360) | Volume, surface area, face, rectangle, circle, pyramid, cone, base, height, slant, pi, radius |