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 **Mathematics Faculty**

 **Year 10 Foundation – Autumn Term 2**

 **Unit 3 Overview – Area and Volume**

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| **Topic** | **Key Ideas** | **Progress** |
| **R** | **A** | **G** |
| **Area and Volume** | I can name parts of a circle. |  |  |  |
| I can calculate the area and circumference of a circle. |  |  |  |
| I can calculate arc lengths and sector areas. |  |  |  |
| I can calculate exactly with multiples of π. |  |  |  |
| I can calculate the volume and surface area of prisms and cylinders. |  |  |  |
| I can calculate the volume and surface area of spheres, pyramids and cones. |  |  |  |
| I can calculate the volume and surface area of compound shapes. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Identifying and naming parts of a circle (CM clip 61) | 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, Corbettmaths, Dr Frost Maths and Justmaths.Finally, units are assessed through skills checks and half termly assessments, as part of our Assessment Calendar in Mathematics. | circle, radius, diameter, centre, circumference, tangent, sector, arc, tangent, chord, segment |
| **2** | **Calculating the circumference of a circle.** Calculating the radius or diameter given the circumference (CM clip 60) | circle, circumference, radius, diameter |
| **3** | **Calculating the length of arcs.** Calculating the angle subtended at the centre given the arc length. Calculating the perimeter of part circles (CM clips 58 & 62) | circle, radius, diameter, circumference, arc, angle, subtended, perimeter |
| **4** | **Calculating the area of a circle.** Calculating the radius or diameter given the area (CM clip 59) | circle, area, radius, diameter |
| **5** | **Calculating the area of sectors.** Calculating the angle subtended at the centre given the area of the sector (CM clip 46) | circle, radius, diameter, area, sector, angle, subtended |
| **6** | **Calculating the volume of prisms and cylinders (CM clips 355 – 357)** | prism, cube, cuboid, cylinder, cross section, volume, area, radius |
| **7** | **Calculating the surface area of prisms and cylinders (CM clip 310, 312 & 315)** | prism, cube, cuboid, cylinder, area, surface, face, radius, circumference |
| **8** | Calculating the volume of spheres, pyramids and cones (CM clips 359 – 361) | volume, cross section, area, sphere, pyramid, cone |
| **9** | Calculating the volume of compound shapes (CM clips 355 – 361) | volume, cross section, area, sphere, pyramid, cone, cube, cuboid, cylinder, hemisphere, compound |
| **10** | Calculating the surface area of spheres, pyramids and cones (CM clips 313 & 314) | surface area, face, curved, sphere, pyramid, cone |
| **11** | Calculating the surface area of compound shapes (CM clips 310 – 315) | surface area, face, curved, sphere, pyramid, cone, cube, cuboid, cylinder, hemisphere, compound |