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| **Year 10 Term 3.1 - Maths** | |  | | | | | |
| **Enquiry Question: Can the surface area ever be less than the volume of a cuboid?** | | | | | | | |
| **Unit title: From 2D to 3D**  **Why now?** You first learn about **area and perimeter** in **Year 8** and take this further in **Year 9** with **circles**. In this unit, we take these ideas and apply them in 3-dimension and learn about what volume means and how to find volumes in different contexts. | | | | | | | |
| **Knowledge**  Students will know about… | **Application/Skills**  Students will be able to… | | **Vocabulary**  *(Tier 2 and 3)* | **Home**  **Learning** | **Assessment** | **Extra Resources**  **Extended Reading** | **Cultural Capital** |
| 1. Names and properties of 3D shapes 2. Edges, Vertices and Faces 3. Nets 4. Isometric drawings, plans and elevations 5. Surface area of cubes, cuboids and prisms- including cylinders 6. Volume- units, cubes, cuboids, prisms, including cylinders 7. (extension) Volume and surface area of other shapes and compound shapes 8. (extension) problems with volume and surface area involving ratio, fractions, percentages and algebra 9. Euclid and the Platonic Solids | 1. Identify 3D shapes. 2. Draw 3D shapes, nets and plans. 3. Find the volumes od 3D shapes. 4. Problem solve with volume. | | ***Tier 2***  Edges  Properties  Length  compound  ***Tier 3***  Vertices  Net  Plans  Elevations  Isometric  Prism  Volume  Surface area | **Pre-classroom:**  Pre-lesson tasks on **google classroom** to get you thinking.  Diagnostic questions  **Post-Classroom:**  Post lessons online tasks:   * My Maths * Google Form Quizzes * Independent learning notes | Summative Assessment at the end of T3. | **Enrichment:**  **Investigate Euler**  Can create a piece of art using graph theory and lines/regions touching. | **Cultural Capital:**  Visit the Science Museum and experience the IMAX cinema in 3D. |
| **Numeracy**  Product  Sum  Total  Add  Subtract  Difference |