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| **YEAR 11 2023-2024 TERM 3**  **‘An ambitious curriculum that meets the needs of all’**  **Medium Term Planning - Topic: Common specialist technical principles** | |
| **Curriculum Intent** | **Forces and stresses**   * Be able to recognise and characterise tension, compression, binding, torsion and shear forces and stresses * Understand the impact of different forces and stresses on materials   **Improving functionality**   * Understand how materials may be enhanced to resist and work with forces and stresses to improve functionality   **Ecological and social footprint**   * Understand that greenhouse gases and carbon are produced during the manufacture of products * Understand the impact that a consumer society has on natural resources and the environment including deforestation, mining, drilling, farming and product miles * Be aware of the need for social and governmental responsibility to address safe working conditions and pollution   **The 6 Rs**   * Be aware of the role that consumers play in reducing waste and the demand on finite resources * Understand the hierarchy of options in responsible and sustainable designs   **Scales of production –** mass, batch, one-off   * Understand how products are produced in different volumes * Explain when and why different manufacturing methods are used for different production volumes * Be able to link the use of relevant specialist processes to the appropriate level of production |
| **Skills/Assessment Objective Links** |
| **Spiritual, moral, social, and cultural development** | **SMSC:** Sustainability linking to materials and reduction in CO2 emissions, responsible design and manufacturing  **PSHE/British Values:**  **Skills Builder:**  Linking product with the type of material and the reasons why the material is used. |
| **Numeracy** |  |
| **Literacy** | **Vocabulary Tier 2:** See highlighted above  **Vocabulary Tier** 3: See highlighted above  **Reading:** exam style question, text book terminology  **Writing:** use of technical tier 3 vocabulary within an exam question and annotation  **Oracy:** when questioned pupils are able to use technical subject specific language |
| **Becoming future ready** | **Careers/Employability:** Environmental industry, various industrial links as examples |
| **Adaptation** | Throughout this topic, quality first teaching will provide differentiation:  **By product:**  **By resource:**  PG Online booklets, teacher let focus, PG Online books  **By Intervention**: by providing different levels of supervision and support  **By Progressive Questioning:** exploring pupils’ understanding through interactive dialogue.  **By Grouping:** according to prior attainment, gender, social preference, preferred learning style.  **By Task:**Pupils should be involved in the identification of targets which are meaningful to them and in the selection of an appropriate task from the given range.  **By Offering Optional Activities:** In class or as homework, to extend learning.  This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work. |
| **QFT/SEND Provision** |
| **Implementation**  **Curriculum Delivery** | * See Above   Red denotes interleaving; aspects of knowledge covered previously. See highlighted above |
| **Learning Outcomes (Knowledge)** |
| **Current learning to be developed in the future within:** |  |
| **Assessment** | End of Unit test on material areas – using PG Online resources and text book and linking to PLCs in Doddle |
| **Impact** | Pupils to have knowledge and understanding of new and emerging technologies covered in the D&T specification |