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| **YEAR 11 2023-2024 TERM 2**  **‘An ambitious curriculum that meets the needs of all’**  **Medium Term Planning - Topic: New and Emerging Technologies** | |
| **Curriculum Intent** | **In addition to working further on objectives from Year 9 , pupils will be taught, following National Curriculum guidelines, the following this term:**  **Industry and enterprise**   * Understand the impact of new and emerging technologies on the design and organisation of the workplace and tools and equipment * Be aware of how computers and automation have changed manufacturing through the use of robotics * Understand how innovation can drive product development and enterprise including the use of crowd funding and virtual marketing * Understand co-operative and fair trade organisation   **Sustainability and the environment**   * Understand that new technologies need to be developed and produced in a sustainable way * Be aware of the impact that excessive use of certain materials has on the environment * Understand how the environment can be protected by responsible design and manufacturing * Understand how waste can be disposed of with the least impact on the planet * Understand the positive and negative impacts new products have on the environment   **People, culture and society**   * Understand how technology push and market pull affect consumer choice and employment * Understand changes in job roles due to the emergence of new ways of working * Be aware of changes in fashion and trends and how they affect designers and manufacturers * Understand how new products can have both a positive and negative impact on society   **Production techniques and systems**   * Understand contemporary and potential future use of automation, Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) * Be able to recognise and characterise the use of Flexible Manufacturing Systems (FMS)   Understand how Just in Time (JIT) and Lean Manufacturing contribute to manufacturing efficiencies  **Informing design decisions**   * Be able to evaluate the advantages and disadvantages of planned obsolescence from different perspectives * Understand how products can be designed to be repaired and recycled |
| **Skills/Assessment Objective Links** |
| **Spiritual, moral, social, and cultural development** | **SMSC:** Sustainability linking to materials and reduction in CO2 emissions  **PSHE/British Values:**  Crowd funding, Links to British car industry  **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 teminology  **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. |
| **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 |

