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| **Year 11 – Design Technology** | | | | | |
| **Curriculum intent** | Design Technology is about viewing the world around us. To look at where we are now in the 21st century, and where we could be in the future. To know about past and present designers, inventors and innovators and aspire to become people that design and shape the world. In an increasingly technological society we aim to encourage students to think independently and be creatively when working on a problem. We intend to teach students to be problem solvers in a safe learning environment and explain that making mistakes is okay, and part of the development of process. To build upon theory using research and ideas across all subjects and then apply it to solve real world issues. Design Technology is an inspiring practical subject using a broad range of subject knowledge such as mathematics, science, engineering, computing, food science and art. High-quality We aim to empower students to become the people who will solve the issue of tomorrows world. For example, climate change and the quality of life. Design Technology education makes an essential contribution to the creativity, culture, wealth and well-being of the human race and how we can help the world around us. | | | | |
| **Term** | **Topic 1**  **AO2: Generate Design Ideas**  Develop your sketches and communicate ideas. Develop them using various design techniques. | **Topic 2**  **AO2: Develop Design Ideas**  Develop your sketches and communicate ideas. Using modelling techniques. | **Topic 3**  **AO2: Realise Design ideas:**  Manufacture your product using skills and processes used throughout your DT journey. | **Topic 4**  **AO3: Evaluate and Test**  Gain feedback throughout your project and test your final product. Have you met your specification? | **Topic 5**  **Core content and specialist knowledge:**  Revise and practice exam papers in preparation for your final exam in DT. |
| **Knowledge** | The knowledge element of year 11 is via retrieval of the year 10 learnt knowledge and the practical production of the NEA. Students will revisit all knowledge throughout the year, and then intense focus on theoretical knowledge post NEA submission in May. | | | | |
| **Knowledge RECAP** | Understand the main processes involved in producing workable forms of timber including:   * conversion, * seasoning and the creation of manufactured timbers   Be aware of sustainability and ethical factors in timber production and use  Understand the advantages and disadvantages of manufactured board compared with natural wood  Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities  Be aware of school based cutting, forming and processing techniques, tools and equipment | To understand the impact of new and emerging technologies. ​  To understand how new and emerging technologies have an impact upon the design and organisation of the workplace​.  Understand how new and emerging technologies have an impact upon the tools and equipment. ​  Be aware of how computers and automation have changed manufacturing through the use of robotics.​ | Know and understand how timbers and boards are selected and processed for commercial products  Learn how materials are cut, shaped and formed  to a tolerance  Learn about the preparation and application of treatments and finishes to enhance functional and aesthetic properties | Be able to recognise a range of smart materials  Understand how the functional properties of a range of smart materials can be changed by external stimuli | Knowledge gathered in the Walking and talking mock to be transferred to the launch of the NEA context on June 1st.  Students begin working on the research and investigation of the context. |
| **Skills** | Throughout the year the students will engage solely with the requirements of the NEA in year 11, until submission in May. Students will draw upon, and further develop all skills practiced during the year 10 WTM. | | | | |
| **Assessments** | Students will be assessed on:   * Learners have six lessons of DT a fortnight. They are formally assessed according to the exam board assessment objectives: Investigation of needs, Specification, Design Ideas, Review of initial designs, Development, Communication, Manufacture, Material research, Quality and Accuracy, Evaluation. * Students cannot receive individualised feedback on their NEA, all feedback will follow the guidance of the examination board. * Students will sit two mock exams, the first in Autumn 2 and the second Spring 2, followed by the 2 hour GCSE exam in the summer series. | | | | |
| **Enrichment** | * Students could visit the Manchester museum of science and industry to experience real life design and engineering projects through time * Students can attend afterschool sessions to get extra support from their teachers with their NEA   Students could visit the following websites:   * <https://designmuseum.org/> - Design Museum London * <https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-9-1-from-2017.html> - GCSE student guide   Extra-Curricular events:   * Visit to ASFC 3D department | | | | | Students could visit the following website:   * <https://www.aqa.org.uk/subjects/art-and-design/gcse/art-and-design-8201-8206> AQA course information * <https://www.studentartguide.com/> High quality examples of GCSE art work. |