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| **YEAR 9, 2023-2024 Project**  **‘An ambitious curriculum that meets the needs of all’**  **Medium Term Planning - Topic: USB Light** | |
| **Curriculum Intent** | **In addition to working further on objectives from Year \_\_, pupils will be taught, following National Curriculum guidelines, the following this term:**  To be able to gain knowledge and skills in the following areas:   * Soldering * CAD/CAM – using the laser cutter * CAD – design skills using software such as inkscape * Making skills (measuring and marking out) * Use of hand tools ( coping saw, tenon saw, files, sandpaper) * Use of workshop machines/equipment ( belt sander, line-bending machines) * Graphic design skills (rendering, shading), applying a theme * Research skills * Applying health and safety * Producing a design specification * Communicating design ideas |
| **Skills/National Curriculum Links** |
| **Spiritual, moral, social, and cultural development** | **SMSC**: Cultural awareness with designs/artefacts; Collective responsibility for H&S; Spiritual development in the creative design process.  **PSHE/British Values**: Tolerance- listening to others ideas; Rule of Law – following H&S; Mutual Respect – discussions and supportive comments in evaluations |
| **Numeracy** | * Measuring components in mm * deciphering resistor colour banding * Angles, geometry |
| **Literacy** | **Vocabulary Tier 2:** design, evaluate,  **Vocabulary Tier 3:** Specific subject terminology i.e. resistor, light dependent resistor, light emitting diode, transistor  **Reading: Following written instructions,**  **Writing: evaluation of products/design**  **Oracy:** Q and A, Evaluations |
| **Becoming future ready** | **Careers/Employability:** |
| **Adaptation** | Throughout this topic, quality first teaching will provide differentiation:  **By product: differentiation by outcome**  **By resource:**  Past examples, writing mats  **By Intervention**: by providing different levels of supervision and support, extra demonstration  **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** | To be able to:   * Design and make a plywood base focussing on materials, properties and joining techniques * To build upon knowledge and understanding of electrical components and how they work in the design process * Knowledge of electrical components i.e. resistors, LDRs and variable resistors * Advantages of using CAD/CAM * Materials – timbers and polymers along with properties   Red denotes interleaving; aspects of knowledge covered previously. |
| **Learning Outcomes (Core Knowledge)** |
| **Current learning to be developed in the future within:** | To be able to apply the skills learnt in this project in KS4 and develop them further |
| **Assessment** | Formative: i) Design Ideas using research ii) Making – comb joints and acrylic lid  Summative: i) Final Design ii) Final Practical product iii) Timbers – theory booklet |
| **Impact** | Pupils have the knowledge and understanding of the materials and processes as stated in the NC at KS3 |

