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:**
Skills/National Curriculum Links	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
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:
QFT/SEND Provision	**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.

Implementation Curriculum Delivery	To be able to: • Design and make a plywood base focussing on materials, properties and j 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