

## **Year 9 Design & Technology Curriculum Map**

### **Overview**

Year 9 students complete two major projects designed to develop creativity, technical skills, and understanding of materials and manufacturing processes. Each project builds on prior knowledge and introduces new techniques, preparing students for GCSE Design & Technology.

### **Autumn Term – Earphone Cable Wrap Project**

#### **Focus:**

- Design Brief & Specification
- CAD/CAM (Computer-Aided Design & Manufacturing)
- Material Properties (MDF)
- Product Evaluation

#### **Key Learning:**

- Writing a design brief and specification using **ACCESSFM**.
- Understanding MDF characteristics and why it is suitable for manufacturing.
- Developing CAD skills to create accurate designs.
- Using laser cutting for precision manufacturing.
- Evaluating products against design criteria.

#### **Skills Developed:**

- Creative design thinking.
- Digital design using CAD software.
- Safe use of CAM equipment.
- Critical evaluation and problem-solving.

#### **Assessment:**

- Formative: Design brief, specification, CAD design.
- Summative: Finished product and written evaluation.

### **Spring/Summer Term – LED Desk Lamp Project**

#### **Focus:**

- Materials & Construction
- Advanced Workshop Skills
- Accuracy & Quality in Manufacturing
- Product Evaluation

**Key Learning:**

- Understanding natural and manufactured timbers, polymers, and metals.
- Reading and interpreting orthographic drawings.
- Accurate marking out and tolerance allowances.
- Using tools and equipment safely (pillar drill, line bender, etc.).
- Applying finishing techniques for high-quality outcomes.

**Skills Developed:**

- Practical workshop skills.
- Advanced material knowledge.
- Precision and attention to detail.
- Evaluation using **ACCESSFM**.

**Assessment:**

- Formative: Design development, practical skills.
- Summative: Completed lamp, peer/self-assessment, full evaluation, end-of-unit test.

**Vocabulary & Concepts Across Both Projects**

- Design Brief, Specification, ACCESSFM
- CAD/CAM, Orthographic Drawing
- Materials: MDF, Acrylic, Timber
- Manufacturing processes: Laser cutting, Line bending, Drilling
- Finishing techniques and safety procedures