

**WHAT ARE THE BIG AIMS OF YEAR 7 RESISTANT MATERIALS?**

To investigate the use of a range of workshop materials and processes, including CAD/CAM, to manufacture products for real life situations. Pupils will also learn about different strategies for designing and how to work safely in a workshop when manufacturing products.

**WHAT WILL EXCELLENCE LOOK LIKE IN YEAR 7?**

Demonstrate a range of visual communication techniques (2D,3D, Hand and CAD)

Manufactured high quality completed products (shop sign prototype & cast jewellery) safely and with a good finish.

Applying understanding of graphical elements and client needs to improve an existing product (shop sign).

Topic / homework project that demonstrates sound understanding of environmental issues and how they influence product design.

**WHAT KNOWLEDGE DO THE PUPILS NEED TO ACQUIRE?**

- Why manufacturing has changed to become sustainable.
- How designers use a range of techniques to collaborate with clients and manufacturers.
- Materials can be classified by source and physical properties.
- Understanding of using graphical elements such as fonts and layouts.
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**WHAT SKILLS DO THE PUPILS NEED TO DEVELOP?**

- Visual communication techniques that highlight key points in their designs
- Respond to client needs when developing designs
- Use CAD to model ideas before manufacturing.
- Manufacture using CAM and casting processes including finishing techniques.
- Evaluate and discuss the sustainability of a range of products and their impact on the wider world.

**WHAT MISCONCEPTIONS MAY THEY HAVE FROM PREVIOUS LEARNING?**

Designers make products for themselves/in isolation.

Making does not involve planning.

Manufacturers are not responsible for products.

Materials from the same category e.g. wood, metal and plastic, have similar physical properties.

**WHAT ASSESSMENTS WILL BE USED ACROSS THE YEAR TO DEMONSTRATE HOW THE PUPILS HAVE ACQUIRED THE KNOWLEDGE AND DEVELOPED THE SKILLS?**

- Knowledge checker at start of unit of work – multiple choice questions.
- Ongoing teacher assessment of design and practical skills in order to inform planning.
- Peer and self-assessment of CAD modelling / Topic homework / visual communication techniques.
- Ongoing formative assessment of level 2 words and subject specific terminology.
- Summative assessments of design and practical tasks for practical projects – shop sign prototype and cast jewellery. End of unit knowledge checker – multiple choice questions.