



Design Technology – Product Design

Unit 1 – Technical Principles

Core knowledge and understanding is presented in five clear and distinct topic areas:

- design and technology and our world
- smart materials
- electronic systems and programmable components
- mechanical components and devices
- materials

Students are required to study all of the content in these five areas, to ensure they have a broad knowledge and understanding of design and technology and that they are able to make effective choices in relation to which materials, components and systems to utilise within design and make activities.

In-depth knowledge and understanding is presented in six clear and distinct topic areas:


- electronic systems, programmable components & mechanical devices
- papers & boards
- natural & manufactured timber
- ferrous & non-ferrous metals
- thermoforming & thermosetting polymers
- fibres & textiles

Students are required to study at least one of these six areas, to ensure they have an in-depth knowledge and understanding of a specific material area and/or components and systems to support their design and make activities.

Unit 2 – Designing and Making Principles

Core knowledge and understanding that learners are required to develop and apply is presented in ten clear topic areas:

- understanding design and technology practice
- understanding user needs
- writing a design brief and specifications
- investigating challenges
- developing ideas
- investigating the work of others
- using design strategies

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- communicating ideas
 - developing a prototype
 - making decisions

Students are required to cover all of the content in these ten areas, to ensure they are able to apply a broad knowledge and understanding of design and technology principles within design and make activities.

In-depth knowledge and understanding is presented in five clear topic areas:

- selecting and working with materials and components
- marking out
- using tools and equipment
- using specialist techniques
- using surface treatments and finishes