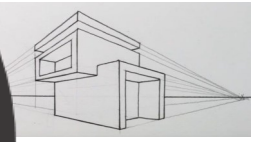
Yr10 Design Technology at CLHS

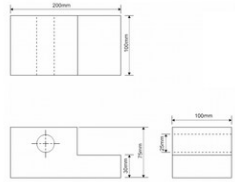
1. Product Design

Pupils work to **analyse** a problem that a given **client** has with their mobile phone. **Research** is carried out in the form of an **interview**, **questionnaire** and **survey**. Existing products are **evaluated** and **design decisions** are made using **ACCESSFM.** A **brief** and **specification** is created based on the **research**. **Initial ideas** are created and **annotated**, the best idea is carried forward and **developed** to come up with a suitable design solution that meets the needs of the **client**. The design is realised using **hand tools** and **equipment**, **CAD software** and **CAM** machines. This is then **evaluated** against the **specification**.

2. Realisation of a design

The final mobile phone **protype** is drawn in a **3D CAD package**. Pupils will demonstrate their **CAD** abilities to present the final idea. The **prototype** will then be **communicated** in a **working drawing** and **perspective drawings**.





START!

Year 10

Half term 1

Low stakes tests Performed every lesson using a do now activity, based around previous learning, knowledge and understanding.

Half term 2

Assessment: Assessed on level of work completed using the AQA mark scheme.

Theory work

Theory work is linked into the projects. There are 3 topics broken down into 7 units of study, **Technical Principles**, **Common Specialist Principles** and **Designing and Making Principles**. Pupils gain in-depth **knowledge** and **understanding** of specialist technical principles, focusing on selection of materials or components, forces and stresses, ecological and social footprint, sources and origins, using and working with materials, stock forms, types and sizes, scales of production, specialist techniques and processes, surface treatments and finishes. Pupils will also **study** a breadth of core **technical knowledge** and **understanding** that consists of, new and emerging technologies, energy generation and storage, developments in new materials, systems approach to designing, mechanical devices and materials and their working properties.

Half term 3

Half term 4

End of topic tests Taken after each topic is studied. Further tests are taken at regular intervals to show recall skills

3. Mini NEA

Pupils utilise their learning to carry out a mock NEA brief. Students will revisit skills and expand on theory notes while undertaking the mock. To begin, students **analyse** the context of **'multifunctional design'. Primary and secondary research** is then undertaken to gain an **understanding** of a **client's** wants and needs. A comprehensive set of researched data is presented and worth 10 marks. A comprehensive **brief** and **specification** is created based on the client and research carried out. This is worth 20 marks. Up to 20 marks are then awarded for coming up with a range of **innovative ideas** that solve the **client's** problem. The ideas need to be presented using a range of **techniques**. This idea is then **developed** in stages, **models** are made and project **management documents** are created to ensure a well manufactured final **prototype** is produced. **Manufacturing** commences with a mixture of **hand tools** and **CAD/CAM**. A working **prototype** is made and finished to a **commercial standard** to achieve up to 20 marks. **Evaluation** and **analysis** then takes place to pass judgement on the solution, based on **functionality, testing** and **aesthetics** among others.

Assessment: Assessed on level of work completed using the AQA mark scheme.

Half term 5

Assessment: Mock exam paper sat

Half term 6

FINISH

4. NEA research

Pupils **analyse** the contexts and select the most appropriate one. **Design possibilities** are **identified** and thoroughly explored, demonstrating excellent understanding of the problems/opportunities. Further **analysis** and **research** is undertaken and a **user/client** is clearly identified. A comprehensive **investigation** of the **clients** needs and wants, with a clear **explanation** and **justification** of all aspects is explored and **concluded.** Pupils produce a comprehensive set of researched data and present it accordingly. (Worth 10 marks).