

Subject: Design and Technology

Design and Technology Lead: Andrew Turner

Exam Board: OCR

Qualification type: GCSE

Intent

Principles of the Design and Technology Curriculum

The United Curriculum for Design and Technology is built upon the core United Curriculum principles available **here**.

Design and Technology will raise awareness about the design process and creativity products go through in their life cycle. From the raw materials, to the preparation and manufacture. The learners will look at what customers expect from a product, how it is designed, made and used and finally how it is disposed of and how these stages affect the environment, raising the understanding and appreciation of the products we use and how it changes the world in which we live. They will follow this strategy to produce a series of product solutions to a variety of briefs across four material areas. They will explore Food Preparation and Nutrition, Textile Design, Timber, Polymers and Systems throughout their school journey.

The rationale behind the sequencing of lessons:

The learners will develop their understanding of key materials and the NEA through key building blocks throughout the year, developing a clear development cycle that is informed by material choices as the year progresses giving student opportunities explore the iterative design process but also develop knowledge of key design decisions.

Implementation

In Key Stage 4 the Design and Technology curriculum is implemented as follows:

Year 10 & 11

We complete a range of practical tasks based on real world problems, from tooling to sports equipment. They will develop specialist tooling knowledge across a range of materials with the focus on timber, polymers and metals. The design process is backed up with use of the Computer Aided Design, through gaining knowledge of

Onshape/Blender and vector graphics software. Students will have weekly exam content knowledge lessons and extensive long answer question support

Impact

The careful sequencing of the curriculum – and how concepts are gradually built over time – is the progression model. If pupils keep up with the curriculum, they are making progress. Formative assessment is prioritised and is focused on whether pupils are keeping up with the curriculum.

In general, this is done through:

- Questioning in lessons. Teachers check understanding so they can fill gaps and address misconceptions as required.
- Pupil conferencing with books. Subject leads and SLT talk to pupils about what they have learnt – both substantive and disciplinary knowledge – and how this connects to the vertical concepts that they have been developing in previous years and other subjects.
- Post-learning quizzes at the end of each unit. These give teachers an understanding of the knowledge that pupils can recall at the end of the unit and can be used to identify any remaining gaps to be filled.
- Pre-learning quizzes at the start of each unit. These assess pupils' understanding of the prior knowledge that is required to access the new content in the unit. These are used to identify gaps to be filled prior to teaching the new unit.