



September 2025

Dear Parent/Carer

Key Stage 3 Design Technology

All students in Key Stage 3 experience a wide range of design activities and develop exciting practical work alongside knowledge-based skills, whilst studying Design Technology.

As a faculty we strive to maximise their practical experience whilst ensuring students have access to the latest technologies and equipment through a variety of specialisms in Years 7 to 9.

To enable the faculty to deliver an exciting, innovative, design led course, which leads to students manufacturing their own products using a range of high-quality materials with the latest technology such as 3D printers, we ask for a voluntary workshop contribution of £20 from each student to support the work we complete throughout Key Stage 3. This is a one-off payment that covers the majority of the materials the students will use during Key Stage 3 (Years 7 to 9) and will enable them to take products home.

To make your payment please pay via the School Shop on the Arbor Parent Portal or app ([Arbor Shop](#)).

If you wish to discuss the contribution, then please do not hesitate to contact me. Please see the attached document for information about the projects we currently deliver that this contribution supports.

Thank you for your continued support.

Yours sincerely

Mr T Williams

Programme Leader, Design Technology

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Learning Trust Alliance Teacher Training Teaching School Hub

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Design Technology KS3

Year 7

Desk Tidy



CAD/CAM



Timbers and Plastics

- H&S Workshop introduction.
- Selecting of materials for their properties.
- Selection and use of tools, machines and processes of manufacture.
- Plastic processes – HIPS vacuum forming.
- Introduction to timbers – manufactured vs natural.
- Designing to scale.

CAD/CAM + Plastics

- Intro to CAD – techsoft design.
- Laser cutting.
- Prototyping and modelling in card.
- Working with Plastics Designing for purpose.
- 2D into 3D sketching.

Year 8

Jewellery



LED acrylic light



Timbers and Metals

- Biomimicry designing – speed sketching and presentation techniques.
- CAD/CAM – moulding designing/manufacture.
- Introduction to Metals – casting, finishing, properties.
- Working with timbers, manufactured vs natural woods.
- Using adhesives.

Work of others - CAD/Electronics/ Materials

- CAD/CAM Development.
- CAM development – Laser etching, cutting and 3D printing.
- Investigate the work of others (architecture).

Year 9

Time Piece



Passive Speaker



Avoiding fixation

- Introduction to the work of designers - 'Vitra' Design.
- Designing a clock without fixation.
- CAD expertise – techsoft design.
- CAM expertise – laser cutting.
- Iteration – modelling.
- Understanding and using timbers – veneers.
- Using Acrylic.

Iterative Design

- Analysing existing products.
- Orthographic Drawing.
- Sound travel (STEM).
- Creative Designing.
- Physical designing via prototyping.
- Manufacturing high quality.
- Timber processes – addition and wasting.
- Introduction to Sketchup 3D CAD modelling.
- Evaluation techniques.