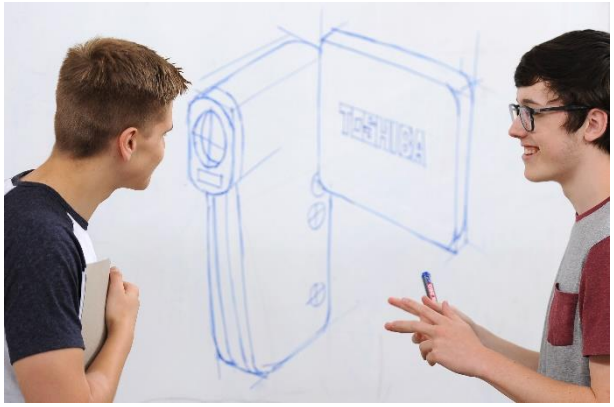
Design and Technology



Why Choose Design and Technology?

Learning about Design and Technology will encourage learners to develop design and thinking skills that open up a world of possibility, giving them the tools to create the future. This specification will excite and engage learners with contemporary topics covering the breadth of this dynamic and evolving subject. It will generate empathetic learners who have the ability to confidently critique products, situations and society in every walk of their lives now and in the future.

Design and Technology is a subject that brings learning to life, requiring learners to apply their learning to real-life situations. This qualification aims to relate authentic real-world awareness of design practices and strategies used by the creative, engineering and manufacturing industries. Learners will be required to use critical thinking, leading towards invention and design innovation, to design and make prototypes that solve real and relevant problems, considering their own and others' needs, wants and values.

Design and Technology enables learners to progress from their learning in Key Stage 3, developing critical thinking and practical skills that will serve them well in their futures, with A levels, Further Education, Higher Education or in the workplace. Learners will build and develop their broad knowledge and understanding from Key Stage 3, whilst also having the freedom to focus in more depth on areas of Design and Technology that most interest them.

Design and Technology will encourage learners to:

- develop an awareness and understanding of real-life experiences in designing and in the developments and opportunities seen in creative, manufacturing and engineering industries
- demonstrate their understanding that all design and technological activity takes place within contexts that influence the outcomes of design practice
- develop an experienced understanding of an iterative design process and the relevance of these to industry practice
- develop realistic design proposals as a result of the exploration of design opportunities and users' (and stakeholders) needs, wants and values
- use imagination and experimentation and combine ideas when designing
- develop the skills to critique and refine their own ideas whilst designing and making
- communicate their design ideas and decisions using different media and techniques, as appropriate for different audiences at key points in their designing
- develop decision making skills, including the planning and organisation of time and resources when managing their own project work
- develop a broad knowledge of materials, components and technologies and practical skills to develop high quality, imaginative and functional prototypes
- become independent and critical thinkers who can adapt their technical knowledge and understanding to different design situations
- be ambitious and open to explore and take design risks in order to stretch the development of design proposals, avoiding clichéd or stereotypical responses
- consider the costs, commercial viability and marketing of products
- demonstrate safe working practices in Design and Technology
- use key Design and Technology terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics
- engage learners with routes that are open to them when progressing to a (Post 16) GCE qualification, apprenticeship or in a future career in the field.

Overview of Assessment

This GCSE comprises of 2 main components for assessment. Component 1 is a written exam and Component 2 is a Non Examined assessment (coursework project). See the outlines of the two components below. During The first year of the course students will be learning and preparing for the assessments that will take place in Year 11, through a mixture of theory lessons and lots of project based learning.

Component 1 - 2 hour written paper - 50% of total GCSE

This component brings together the learner's 'core' and 'in-depth' knowledge and understanding.

- **'Core'** knowledge of Design and Technology principles demonstrates learners' broad understanding of principles that all learners should have across the subject.
- **'In-depth'** knowledge allows learners to focus more directly on at least one main material area. The question paper is split into two sections. A minimum of 15% of the paper will assess learners' mathematical skills as applied within a design and technology context.

Component 2 – portfolio - 50% of total GCSE (approx 20-25 slides or A3 sheets)

This component offers the opportunity for learners to demonstrate understanding of and skills in designing, in particular:

- the interrelated nature of the processes used to identify needs and requirements (explore)
- creating solutions to meet those needs (create)
- evaluating whether the needs have been met (evaluate)

As an outcome of their challenge, learners will produce a chronological portfolio and one final prototype(s). It is through the iterative processes of designing that learners draw on their wider knowledge and understanding of Design and Technology principles. Contextual challenges will be released in the summer term at the end of Year 10 for the following year.