

Design and Technology

Overview of the year: During this academic year students will be completing their NEA for submission. Their project is independently generated with guidance from their Design Technology teacher. The outcome is based around a need for a product and the use of research and investigations to develop a product that could be successful in a real-life situation. Students will also be continuing to study theory content of the course to be able to undertake an exam to demonstrate their ability to apply their knowledge of Product Design. The combined result of students completed NEA (50%) and exam (50%) will provide their overall grade.		Ways to consolidate and extend your learning in Design and Technology: Students to familiarizing themselves with processes, materials and systems in industry such as the manufacture of common items and how the world of design is ever evolving. Websites such as Technologystudent.com, GCSE bitesize and 'How It's Made' are good platforms to help students develop their understanding of processes and the theory knowledge for successful completion of the exam as well as information required to support and convey their ideas in their NEA.		
Half Term	Unit title	Knowledge	Skills	Assessment
1	NEA sections: Mood-board, Work of others, Design Brief, Specification, Design Ideas, Design evaluations, Client feedback for choices. Theory Units: 1.1-1.4	Theory units: 1.1: Industry and Enterprise, 1.2 Sustainability and the Environment, 1.3 People, Culture and Society, 1.4 Production Techniques and Systems	To make use of client feedback, interviews as well as previous research to produce a range of ideas that are suitable for both client and to meet specifications.	On-going submission with generic feedback for NEA. End of unit tests
2	NEA sections: Designer and class feedback for choices, Drawn development, CAD development, Modelling development. Theory Units: 1.5-2.3	Theory units: 1.5 Informing Design Decisions, 2.1 Energy Generation, 2.2 Energy Storage, 2.3 Modern Materials	To be able to develop several possible solutions from client, designer and third-party feedback. To be able to make an informed choice as to which design is most likely to be successful against a specification and Design Brief.	On-going submission with generic feedback for NEA. End of unit tests.
3	NEA sections: Chosen design exploded diagram, Cutting List, Further research, Practical testing and development, Making (teaching Onshape). Theory Units: 2.4-2.6	Theory Units: 2.4 Smart Materials, 2.5 Composite Materials and Technical Textiles, 2.6 Systems Approach to Designing	To be able to communicate and inform industry to manufacture a prototype. Undertake practical testing methods to demonstrate expected performance of a prototype for manufacture.	On-going submission with generic feedback for NEA. End of unit tests
4	NEA sections: Making (using Onshape), Manufacturing specification, Final evaluation, Final Testing and submission Theory Units: 2.7-2.8	Theory Units: 2.7 Electronic Systems Processing, 2.8 Mechanical Devices	To make use of digital CAD design packages to be able to produce a 3D working model of a prototype. Demonstrate a products success through evaluation and testing methods.	On-going submission with generic feedback for NEA. End of unit tests before final examination.