



OVERVIEW

KS3 Design and Technology follows a carousel system and in Year 7 pupils will rotate between Product Design and Food and Nutrition. All pupils in Year 7 will design and make products in their retrospective rotation subject. Within the Year 7 curriculum, elements of the AQA GCSE in Design and Technology course are introduced in Product Design lessons and projects are delivered to get pupils prepared for GCSE style NEA coursework. This allows pupils to be more familiar in the style and type of work that is expected at GCSE level. Pupils will complete all theory and design work in booklets and product a piece of practical work, which will be assessed at the end of the rotation. Pupils are assessed against three categories: Design, Make, Evaluate.

Rotation	Focus	Assessment
Product Design	<ul style="list-style-type: none"> • Illumination project (Electronics & Polymers) <ul style="list-style-type: none"> • The design cycle • Computer Aided Design • Introduction to Techsoft 2D Design and Sketchup • Computer Aided Manufacture • Laser cutting and 3D printing • Plastic structures and types • Soldering Safety and Tools • Plastic Production cycle 	Assessment against Design/Make/Evaluate headings during rotation
Product Design	<ul style="list-style-type: none"> • Siege Engine project (Timber) <ul style="list-style-type: none"> • GCSE standard tolerances in measuring • Developing ideas • Designing in groups/consultancies • Workshop practice • Woodworking tools and use • Leverage Theory • Health and Safety • Tool recognition 	Assessment against Design/Make/Evaluate headings during rotation
Food and Nutrition	<ul style="list-style-type: none"> • Key Skills rotation <ul style="list-style-type: none"> • Star evaluations • The Eatwell Guide • Food Assurance • Macronutrients • Practical making recipes including stir-fry, jar salads • Food Tech rooms health and safety – including hygiene • Practical experience of using kitchen equipment, weights and measure to produce healthy dishes. 	Assessment against Design/Make/Evaluate headings during rotation

Home Learning:

- Design and CAD based homework.
- Creating and developing recipes homework

Useful resources:

- www.technologystudent.com
- www.sketchup.com



OVERVIEW

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Rotation	Focus	Assessment
Product Design	<ul style="list-style-type: none">• Audio Amplifier project (Electronics & Polymers)<ul style="list-style-type: none">• Art Deco – the work of Walter Teague• Design work and drawing skill• Circuit components• Soldering Safety• Advanced machinery• Plastic thermoforming• Soldering Safety and Tools• Resistor Values	Assessment against Design/Make/Evaluate headings during rotation
Product Design	<ul style="list-style-type: none">• Eco Mechanicm Project (Timber)<ul style="list-style-type: none">• Computer aided design / Computer aided manufacture• Workshop practice and joinery• Woodworking tools and use• Types of motion / levers• Health and Safety• Tool recognition• Health and Safety• Categorisation of Timbers	Assessment against Design/Make/Evaluate headings during rotation
Food and Nutrition	<ul style="list-style-type: none">• Food Science rotation<ul style="list-style-type: none">• Seasonality• Nutritional Values• Raising Agents• Food sources and origins• Equipment• Practical making recipes• Food Tech rooms health and safety – including hygiene• Practical experience of using kitchen equipment	Assessment against Design/Make/Evaluate headings during rotation

Home Learning:

- Design and CAD based homework.
- Creating and developing recipes homework

Useful resources:

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- www.sketchup.com



OVERVIEW

KS3 Design and Technology follows a carousel system and in Year 9 pupils will rotate between Product Design and Food and Nutrition. All pupils in Year 9 will design and make products in their retrospective rotation subject. Within the Year 9 curriculum, elements of the AQA GCSE in Design and Technology course are introduced in Product Design lessons and projects are delivered to get pupils prepared for GCSE style NEA coursework. This allows pupils to be more familiar in the style and type of work that is expected at GCSE level. Pupils will complete all theory and design work in booklets and product a piece of practical work, which will be assessed at the end of the rotation. Pupils are assessed against three categories: Design, Make, Evaluate.

Rotation	Focus	Assessment
Product Design	<ul style="list-style-type: none"> • Zero-Waste Jewellery project (Metals and Alloys) <ul style="list-style-type: none"> • Designing avoiding fixation • CAD/CAM • Multi material application in the workshop • Environmental design concerns – the 6 R's • Plastics recycling • Metal categorisation • Advanced workshop skill • Casting Techniques 	Assessment against Design/Make/Evaluate headings during rotation
Product Design	<ul style="list-style-type: none"> • Bauhaus Clock (Polymers and Timber) <ul style="list-style-type: none"> • Computer aided design / Computer aided manufacture • Plastic categorisation • Advanced design skills • Isometric drawing • Paper and board categorisation • ACCESSFM • Plastic manipulation • Advanced workshop skill 	Assessment against Design/Make/Evaluate headings during rotation
Food and Nutrition	<ul style="list-style-type: none"> • Diet and Nutrition rotation <ul style="list-style-type: none"> • Nutritional analysis • Micronutrients • Sensory analysis • Elasticity and thickeners • Cooking techniques and heat transfer • Practical making recipes • Food Tech rooms health and safety – including hygiene • Practical experience of using kitchen equipment 	Assessment against Design/Make/Evaluate headings during rotation

Home Learning:

- Design and CAD based homework.
- Creating and developing recipes homework

Useful resources:

- www.technologystudent.com
- www.sketchup.com



OVERVIEW

In Year 10 pupils are introduced fully to the AQA GCSE Specification and the requirements need to gain a qualification in Design and Technology. Pupils will undertake several focussed design & make tasks to introduce them to material properties, characteristics and give them the confidence to design with a variety of materials. In the final term pupils will complete a mini NEA's to prepare them for their final NEA coursework which is started in the final summer term. Theory is also embeded throughout Year 10

Term	Focus	Assessment
Aut 1	Project: Childs Toy (Timbers/Polymers) - Pupils work to a brief to produce an extensive, skilled project. Creativity, manufacturing skill and design (CAD / sketching) are all explored and developed. THEORY: - 1.2 - Energy generation and storage - 1.1 - New and emerging technologies.	On going assessment
Aut 2	Project: Childs Toy (Timber/Polymers) - Continued. Practical with CAD/CAM applied to correct tolerances. THEORY: - 1.3 – Developments in new materials - 1.6 – materials and their working properties - 2.1 – Selection of materials	On going assessment Assessment of Childs Toy Project
Spr 1	Mini Rotations – material specialisms: Pupils produce small projects in all material areas to gain experience, knowledge and skill. This term: Metals/Polymers THEORY: - 1.6 – materials and their working properties - 1.5 - Mechanical devices - 2.1 - Selection of materials / 2.4 / 2.5	On going assessment
Spr 2	Mini Rotations – material specialisms: Pupils produce small projects in all material areas to gain experience, knowledge and skill. This term: Timber/Board/Textiles THEORY: - 1.6 – materials and their working properties - 1.5 - Mechanical devices - 2.1 - Selection of materials / 2.4 / 2.5	On going assessment
Sum 1	NEA – Mini practice coursework and Unit 3. Designing and making principles - Designing for disability / the elderly - focus on rapid concept development through CAD modelling / physical / sketch THEORY: - Units 2.6 /2.7/2.8 and 2.9 - 1.4 - Understanding a systems approach when designing.	On going assessment
Sum 2	NEA – GCSE • Once NEA themes have been released pupils will start their final project. • AO1 Section A and B – Identify, investigate prototypes that are fit for purpose.	AO1- Section A and B in NEA

Home Learning:

- Research
- Designing activities

Useful resources:

- www.senecalearning.com
- BBC Bite size GCSE Design and Technology



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Sum 2	NEA – GCSE • Once NEA themes have been released pupils will start their final project. • AO1 Section A and B – Identify, investigate prototypes that are fit for purpose.	AO1- Section A and B in NEA

Home Learning:

- Research
- Designing activities

Useful resources:

- www.senecalearning.com
- BBC Bite size GCSE Design and Technology



OVERVIEW

In Year 11 pupils continue to undertake their final NEA project which contributes to 50% of their final GCSE grade. Recap and revision of Units 1, 2 and 3 takes place in conjunction of the NEA final assessment in preparation for the exam. The exam element is also worth 50% of their final GCSE mark.

Term	Focus	Assessment
Aut 1	<p>NEA – GCSE</p> <ul style="list-style-type: none"> • AO2 Section C – Designing and design development <p>Unit 1. Core technical principles recap and revision 1.1, 1.2, 1.3.</p>	On going NEA assessment
Aut 2	<p>NEA – GCSE</p> <ul style="list-style-type: none"> • AO2 Section C – Designing and design development • AO2 Section D – Prototyping <p>Unit 1. Core technical principles recap and revision 1.4, 1.5, 1.6.</p>	On going NEA assessment
Spr 1	<p>NEA – GCSE</p> <ul style="list-style-type: none"> • AO2 Section E – Making final piece • AO3 Section F – Evaluation <p>Unit 2. Specialist technical principles recap and revision.</p>	On going NEA assessment
Spr 2	<p>Unit 2. Specialist technical principles recap and revision.</p> <p>Unit 3. Designing and making principles recap and revision.</p>	On going assessment
Sum 1	Recap and revision for Unit 1, Unit 2 and Unit 3.	On going assessment
Sum 2		

Home Learning:

- Quizzes
- Revision activities

Useful resources:

- www.senecalearning.com
- BBC Bite size GCSE Design and Technology