



AIM AND PURPOSE

Design and Technology helps students understand how products, systems and food are developed to meet people's needs. It combines creativity with technical knowledge, practical skill and informed decision-making.

Students learn to investigate problems, develop and communicate ideas, make purposeful outcomes and evaluate their work. They also consider the social, cultural, environmental and economic factors that influence design.

Our aim is to develop confident, capable and independent problem-solvers who can think critically, work safely and make well-reasoned decisions in an increasingly technological world.

HOW DOES THE CURRICULUM INDUCT STUDENTS INTO THE DISCIPLINE OF THE SUBJECT?

Students are taught how designers, engineers, makers and food professionals think and work. They follow an iterative process of:

Research → Design → Make → Evaluate

They learn to investigate users and contexts, analyse existing products, communicate ideas, select appropriate materials or ingredients, use tools and equipment safely, and test and refine their outcomes.

Across the curriculum, students experience a broad range of materials, processes and technologies, including hand tools, machinery, CAD, CAM and food preparation techniques. As they progress, tasks become more complex and support is gradually reduced.

This approach helps students move beyond simply making products. They develop the habits of the discipline: curiosity, precision, creativity, resilience, critical thinking and the ability to improve ideas through testing and reflection.



OVERVIEW

In Year 7, students establish the foundations of Design and Technology through a broad range of creative and technical experiences. They learn how to work safely and accurately in workshop and kitchen environments, use basic tools and equipment.

Students are introduced to timber, plastics, computer-aided design, modelling and food preparation. They develop their understanding of users, product appearance, healthy eating and the importance of planning before making. By the end of the year, students have built the confidence and core skills needed to develop more complex ideas and outcomes.

Rotation

Focus

Assessment

Concept Cars

- **Concept Cars**
 - Electronic circuits, systems and symbols
 - Properties of plastic materials
 - Designing
 - Prototyping
 - Soldering Safety and Tools
 - CAD modelling and 3D printing
 - Identification of user needs

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

The Clock Workshop

- **The Clock Workshop**
 - Health and safety in the workshop.
 - The identification and safe use of the tools and equipment to be used.
 - Types of wood/wood products.
 - Designing using isometric drawing.
 - Wood joining techniques.
 - Surface finishing.
 - Computer aided design and manufacture. CAD/ CAM.

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Kitchen Foundations

- **Kitchen Foundations**
 - Hygiene and Safety
 - The Eatwell Guide
 - Healthy Eating
 - Food Storage
 - Practical making recipes including salads, scones
 - Practical experience of using kitchen equipment, weights and measures to produce a variety of dishes.

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Home Learning
Fortnightly homework set on Carousel.

Useful resources:

- BBC Bitesize
- Carousel Learning



OVERVIEW

In Year 8, students build upon their foundational knowledge by applying it in more technically demanding contexts. They develop a greater understanding of mechanisms, structures, sustainability, materials and manufacturing processes, while becoming more confident in the use of CAD, modelling and practical equipment.

Students are expected to explain their decisions, compare possible solutions and refine their ideas through testing and feedback. In Food and Nutrition, they develop more advanced cooking skills and consider where food comes from and how it is produced.

Rotation

Focus

Assessment

Building Tomorrow

- **Building Tomorrow**
 - Design work and drawing skills
 - Investigating structures and architecture
 - 3D modelling and 3D printing
 - Understanding how engineers account for forces
 - Acrylic thermoforming
 - Plastic recycling
 - Sustainable design solutions

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Mechanical Thinking

- **Mechanical Thinking**
 - Levers, 1st, 2nd and 3rd class
 - Linkages, reverse motion and push pull
 - Cams. Snail, pear and eccentric.
 - Types of motion.
 - Using the isometric method of drawing
 - Surface finishing.

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Sustainable Cooking

- **Sustainable Cooking**
 - Food Sustainability using fresh, local ingredients
 - Food sources and origins
 - Food Safety
 - Macro and Micronutrients
 - Introducing special equipment such as Food Processors
 - Practical making a variety of recipes such as chicken fajitas
 - Food Tech rooms health and safety – including hygiene

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Home Learning
Fortnightly homework set on Carousel

Useful resources

- BBC Bitesize
- Carousel Learning



OVERVIEW

In Year 9, students work with greater independence, precision and technical depth. They explore how materials, components and processes can be combined to create refined outcomes, including the use of metals, casting, electronics, mechanisms and a wider range of digital manufacturing techniques.

Students increasingly analyse problems, justify their choices and evaluate the quality and effectiveness of their work. In Food and Nutrition, they investigate the scientific principles behind ingredients and cooking. This prepares students for the greater independence and academic challenge of Key Stage 4.

Rotation

Focus

Assessment

The Light Lab

- **The Light Lab**
 - Material research into metals, plastic and wood
 - How to select a wide range of metal work tools
 - Differentiating between ferrous, Non-Ferrous Metals and Alloys
 - How to cut, drill, bend, and polish metals.
 - 3D modelling and 3D printing
 - How to Vacuum form Plastic.
 - How to use a router

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Geometric Jewellery

- **Geometric Jewellery**
 - Using CAD to generate a mould for casting pewter.
 - Learning how a laser cutter works
 - Investigation of influential designers
 - Construction of a jewellery box
 - Melting and pouring pewter
 - Learn how to file and polish pewter
 - Evaluate project in folder

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Food Science

- **Food Science**
 - Nutritional analysis
 - Nutrients
 - Sensory analysis
 - Elasticity, thickeners and raising agents
 - Cooking techniques and heat transfer
 - Practical making recipes such as stir fry and spring rolls
 - Food Tech rooms health and safety – including hygiene
 - Practical experience of using special equipment such as electric whisks

3 project assessments per rotation

1 Mid-year exam

1 End of Year exam

Home Learning
Fortnightly homework set on Carousel.

Useful resources:

- BBC Bitesize
- Carousel Learning



OVERVIEW

In Year 10 pupils are introduced to the AQA GCSE Specification in Food and Nutrition. Students are introduced to Oriental and Middle Eastern cuisines that specialise in complex spices and unusual cooking skills such as cooking in a wok and dry frying of spices. Students learn skills in preparing specialised diets such as those for medical conditions and sports people. Students learn food investigation tasks to compare different baking methods.

Term	Focus	Assessment
Aut 1	Mini Project: Food Skills - Students investigate ingredients for a particular food product. For example, investigating different raising agents and their effect on ingredients. - Core Theory: Food Science and Food Safety	Ongoing assessment
Aut 2	Mini Project: Food, Nutrition and Health - Students investigate the properties of different nutrients and critically evaluate their work. - Core Theory: Nutrition and Health - Mock exams	Ongoing assessment Assessment
Spr 1	Mini Project: Environmental and Sustainability Task (Fairtrade Research) - Students learn how to apply sustainable cooking methods to their own practice. - Core Theory: Food Provenance.	Ongoing assessment Mock exam
Spr 2	Mini Project: Introduction to Food Preparation task (Trial NEA). - Students hone their primary and secondary research skills, building up a portfolio and creating their own menus - Core Theory: Nutrition and Health, Food Safety and Food Choice.	Ongoing assessment
Sum 1	Mini Project: Introduction to Food Preparation task (Trial NEA). continued	Ongoing assessment
Sum 2	Summer 1 Continued. Practical Mock exam Introduction to Y11 NEA	Ongoing Assessment Year end exam

Home Learning:

- Research
- Weekly homework set on Carousel

Useful resources:

- Carousel Learning
- BBC Bite size GCSE AQA Food and Nutrition



OVERVIEW

The subject content is presented under two headings: technical principles and designing and making principles. Within each area, the content is further divided into core knowledge and understanding and in-depth knowledge and understanding. Year 10 will study technical principles and designing and making principles at core level. There is no external assessment in year 10

Term	Focus	Assessment
Aut 1	Project: Can crusher (can recycling) This project reinforces skills gained during KS3, (linkages and levers) Understand that all practice takes place within contexts which informs outcomes, design brief, research and specification. Understanding user need, core technical principle and core designing and making principles.	Half termly
Aut 2	Project: Litter picker This project progresses the recycling theme by refining skills in designing and making. The project also involves 3D printing, CAD CAM, onshape software. This project will be the first of 3 mini, NEA tasks.	Half termly
Spr 1	- Biomimicry inspired LED lamp Trial NEA project - 15-page folder and made product - Core Theory	Mid year exam
Spr 2	- Biomimicry inspired LED lamp Trial NEA project 15-page folder and made product - Core Theory	Ongoing assessment
Sum 1	- Biomimicry inspired LED lamp Trial NEA project 15-page folder and made product - Designing and Making Principles	Ongoing assessment
Sum 2	NEA – GCSE - Once NEA themes have been released, pupils will start their final project. - Section 1 Investigating and research - End of year exam	End of year exam

Home Learning:

- Research
- Weekly homework set on Carousel

Useful resources:

- Carousel Learning
- BBC Bite size GCSE EDUQAS Design and Technology



OVERVIEW

The Year 11 Food Preparation and Nutrition course allows students to undertake the whole AQA GCSE specification as a mock run for a final exam. Practical AQA specification skills will be assessed throughout the year. The course has been set out to teach the students the demands of GCSE Food Preparation and Nutrition, both theory and practical skills.

Term	Focus	Assessment
Aut 1	Food Investigation Task - Students investigate ingredients for a particular food product. For example, investigating different raising agents and their effect on ingredients. - Core Theory: Food Science and Food Safety	Ongoing assessment Exam practice
Aut 2	Three dishes menu planning coursework - Students aim to start their coursework to plan prepare and present a dish in three hours. - Students learn to demonstrate a variety of food preparation/technical skills; learn how to accurately analyse and evaluate their work including with sensory evaluations. - Learn how to produce a time plan	On going assessment Exam practice
Spr 1	Three dishes menu planning coursework - Students continue with their coursework to plan prepare and present a dish in three hours. - Students learn to demonstrate a variety of food preparation/technical skills; learn how to accurately analyse and evaluate their work including with sensory evaluations. - Learn how to produce a time plan	Ongoing assessment Exam practice
Spr 2	Three dishes menu planning coursework - Students practice their final dishes and ensure they can be produced in 3 hours. - Exam practice revision sessions - Final coursework practice before final submission by the end of Spring 2 term	Ongoing assessment Exam practice
Sum 1	Exam practice and final exams Further Revision	Exam practice AQA exam
Sum 2		

Home Learning:

- Research
- Weekly homework set on Carousel

Useful resources:

- Carousel Learning
- BBC Bite size GCSE AQA Food and Nutrition



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 with the NEA final assessment in preparation for the exam. Technical principles are studied at an in-depth level along with designing and making principles. The 2-hour exam is worth 50% of their final GCSE mark.

Term	Focus	Assessment
Aut 1	NEA – GCSE - Investigations - Design brief and Specification - Generating and Developing Design Ideas	Ongoing NEA assessment
Aut 2	NEA – GCSE - Generating and Developing Design Ideas. - Realising Design Ideas - Preparation for mock exams	Ongoing NEA assessment Mock exams
Spr 1	NEA – GCSE - Realising Design Ideas - Completion of NEA	Ongoing NEA assessment
Spr 2	Core Theory revision - Evaluating the NEA project - Specialist Technical Theory revision - Designing and Making Principles revision	Ongoing assessment Mock exams
Sum 1	Exam practice - Further Revision - Final exams	Ongoing assessment
Sum 2		

Home Learning:

- Research
- Weekly homework set on Carousel

Useful resources:

- Carousel Learning
- BBC Bite size GCSE Design and Technology