

DESIGN & TECHNOLOGY GSA Curriculum Map 2023-24

We aim to develop students of Design and Technology who:

- Have a coherent framework of knowledge about past and present design, understanding its impact on daily life and the world around them;
- Develop the skills needed to design and make prototypes that solve real and relevant contexts;
- Benefit from the opportunity to develop creative, technical and practical expertise.

We aim to develop students of Cooking and Nutrition who:

- Gain knowledge and understanding of the importance of healthy eating and the principles of nutrition;
- Build the skills to cook a wide range of predominantly savoury dishes;
- Benefit from the opportunity to explore flavours and textures whilst using a variety of techniques and processes;

Year 7

Topic Covered	Cooking and Nutrition	Product Design	Textile Design
Knowledge Deepened	<ul style="list-style-type: none"> • Hygiene and Safety for Cooking and Nutrition • Food preparation • Nutrition and a balanced diet • Functions of ingredients • Introduction to food science <p>Design process</p> <ul style="list-style-type: none"> • Planning and following a method - sequencing • Manufacturing quality products 	<ul style="list-style-type: none"> • Health and Safety for Product Design • Sources of materials for Product Design • Basic materials and their categorisations • Disposal of materials • Scales of production <p>Design process</p> <ul style="list-style-type: none"> • Introduction to the iterative design process • Identifying and analysing design briefs and specifications • Producing design ideas • Prototype modelling • Evaluating products • Manufacturing quality products • Analysis and evaluation of products 	<ul style="list-style-type: none"> • Health and Safety for Textile Design • Sources of materials for Textile Design • Fibre, Yarn and Fabric • Culture in design • Branding <p>Design process</p> <ul style="list-style-type: none"> • Introduction to the iterative design process • Identifying and analysing design briefs and specifications • Producing design ideas • Evaluating products • Manufacturing quality products • Analysis and evaluation of products
Skills Developed	<ul style="list-style-type: none"> • Hygiene and Safety practice for the Cooking and Nutrition kitchen • Using basic equipment • Knife skills • Use of the hob, grill and oven • Safe handling and preparation of food • Accurate weighing and measuring • Food presentation skills 	<ul style="list-style-type: none"> • Health and Safety practice for the Product Design workshop • Development of basic practical skills • Choosing the correct tools for certain tasks • Design communication skills including: Sketching and drawing in 2D and 3D as well as rendering 	<ul style="list-style-type: none"> • Health and Safety practice for the Textile Design workshop • Development of basic decorative techniques • Basic construction techniques • Use of tools and equipment - hand tools • Manufacturing skills - use of the sewing machine and overlocker

Links to National Curriculum	National Curriculum for Design and Technology: Key stage 3 - <ul style="list-style-type: none"> • Cooking and Nutrition • Make • Evaluate 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> • Design • Make • Technical Knowledge 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> • Design • Make • Evaluate • Technical Knowledge
Flagship Links	Science & Cooking and Nutrition - Food Groups and Nutrition	Art and Design & Technology: HT2 - Sketching and Drawing skills	
Cross Curriculum Connections	Science: HT5 digestion Growth: HT3 health and wellbeing H&S - Factors affecting growth	Maths:Yr 8 HT3 - Properties of 2D shapes and representations of 3D shapes ICT: HT2 Input and output devices. Physics: HT1 Forces and Motions.	Art: HT1 Drawing skills: shape and tone, colour blending colour theory. Maths: HT 1-6 Problem solving.
Resources to Support Learning	Food Fact of life https://www.foodfactoflife.org.uk/11-14-years/ Oak National Academy: https://classroom.thenational.academy/units/catering-for-needs-400c https://classroom.thenational.academy/units/future-food-and-the-application-of-science-4e11 https://classroom.thenational.academy/units/chilled-read-y-meals-ead3	BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/zjgyb82/revision/1 Technology student: https://www.technologystudent.com/	BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/4 https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/9 https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/10 Oak National Academy: https://classroom.thenational.academy/lessons/fibres-to-fabric-6djk6c

Year 8

Topic Covered	Cooking and Nutrition	Product Design	Textiles Design
Knowledge Deepened	<ul style="list-style-type: none"> • Review of Hygiene and Safety for Cooking and Nutrition • Review of nutrition and a balanced diet • Food preference and choice • Different dietary groups • Where our food comes from • Safe and hygienic food storage and preparation • Food science - functions of fats <p>Design process</p>	<ul style="list-style-type: none"> • Review of Health and Safety for Product Design • Further understanding of materials • An introduction to material properties • Further understanding of manufacturing <p>Design Process</p> <ul style="list-style-type: none"> • Design brief and specification • Ergonomics and Anthropometrics • Product analysis • Design communication: Producing design ideas 	<ul style="list-style-type: none"> • Review of Health and Safety for Textiles Design • Collaboration in design / working with others • Marketing <p>Design Process</p> <ul style="list-style-type: none"> • Design brief and specification • Design communication: introduction to Computer Aided Design (CAD) • Fabric construction: knitted, woven and felted • Introduction to standard components • Further knowledge of manufacturing

	<ul style="list-style-type: none"> • Planning and following a method - safety and hygiene • Manufacturing quality products using a range of ingredients and techniques 	<ul style="list-style-type: none"> • Ergonomic modelling • Further knowledge of manufacturing • Evaluation of product against a specification 	<ul style="list-style-type: none"> • Evaluation of product against a specification
Skills Developed	<ul style="list-style-type: none"> • Development of Hygiene and Safety practice for the Cooking and Nutrition kitchen • Using equipment - hand and electrical • Development of Knife skills • Development of presentation skills • Safe handling of raw meat • Following a recipe independently 	<ul style="list-style-type: none"> • Development of Health and Safety practice for the Product Design workshop • Gathering, analysing and using data • Product analysis • More advanced design communication skills • More advanced manufacturing skills including machinery • Assessing quality 	<ul style="list-style-type: none"> • Development of health and safety practice for the Textile Design workroom • More advanced decorative techniques including Computer Aided Design and Manufacture • More advanced construction and decorative techniques
Links to National Curriculum	National Curriculum for Design and Technology: Key stage 3 - <ul style="list-style-type: none"> • Cooking and Nutrition • Make • Evaluate 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> • Design • Make • Technical Knowledge 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> • Design • Make • Evaluate • Technical Knowledge
Flagship Link		Maths and Design & Technology - Statistical data/collecting data	
Cross Curriculum Connections	Science: HT5 Health & Disease H&S - Factors affecting growth	ICT: HT3&4 Programming	Art: HT1 Observation skills, HT5 Colour theory extended Maths: HT 1-6 Problem solving
Resources to Support Learning	BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/z7yttv4/revision/1 Food a fact of life https://www.foodafactoflife.org.uk/7-11-years/where-food-comes-from/interactive-resources/ Oak Academy https://classroom.thenational.academy/lessons/cooking-techniques-and-preparing-food-safely-68r3ct	Technology student: https://www.technologystudent.com/	BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/4 Oak Academy: https://teachers.thenational.academy/units/textiles-technology-and-sustainability-6f46

Year 9

Topic Covered	Cooking and Nutrition	Product Design	Textiles Design
Knowledge Deepened	<ul style="list-style-type: none"> ● Embedded understanding of Hygiene and Safety for Cooking and Nutrition ● Deeper understanding of food preference and choice ● International cuisine ● Food science - raising agents and gelatinisation ● Food production and the environment <p>Design process</p> <ul style="list-style-type: none"> ● Planning and following a method - quality and dovetailing 	<ul style="list-style-type: none"> ● Embedded understanding of Health and Safety for Product Design workshop ● Motion, Mechanisms and mechanical advantage ● Working with materials and properties ● Electronics <p>Design process</p> <ul style="list-style-type: none"> ● Brief and specification ● Product analysis ● Design communication to inform manufacture ● Modelling - design and development ● Analysis and evaluation of prototypes including testing and improvements 	<ul style="list-style-type: none"> ● Embedded understanding of Health and Safety for Textiles Design ● Introduction to more complex decorative techniques ● Understanding the work of others ● Inclusive and sustainable design <p>Design process</p> <ul style="list-style-type: none"> ● Brief and specification ● Design communication to inform manufacture ● Design development ● Analysis and evaluation of prototypes including testing and improvements
Skills Developed	<ul style="list-style-type: none"> ● Further development of Hygiene and Safety practice for the Cooking and Nutrition kitchen ● Adapting recipes ● Cooking techniques ● Knife skills - accuracy and advanced technique ● Further development of presentation skills ● Versatile meal planning 	<ul style="list-style-type: none"> ● Further development of Health and Safety practice for the Product Design workshop ● Advanced manufacture including forming and deforming ● Manufacture using electronic components ● Working with standard components ● Working with timber and polymer based materials 	<ul style="list-style-type: none"> ● Further development of Health and Safety practice for the Textile Design workroom ● Complex decorative and construction techniques ● Further development of manufacturing skills
Links to National Curriculum	National Curriculum for Design and Technology: Key stage 3 - <ul style="list-style-type: none"> ● Cooking and Nutrition ● Make 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> ● Design ● Make ● Evaluate ● Technical Knowledge 	National Curriculum for Design and Technology: Key Stage 3 - <ul style="list-style-type: none"> ● Design ● Make ● Evaluate ● Technical Knowledge
Flagship Link			
Cross Curriculum Connections	Geography: HT1&2 Climate change		Art: Personal creative design. Mixed media skills: accuracy and control Maths: Problem solving

Resources to Support Learning	<p>Oak Academy: https://teachers.thenational.academy/units/future-food-and-the-application-of-science-4e11</p> <p>Food a Fact of life: https://www.foodafactoflife.org.uk/14-16-years/healthy-sustainable-diets/</p>	<p>Technology student: https://www.technologystudent.com/</p>	<p>BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/zic3rwx/revision/6</p>
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Year 10 Design and Technology: Product Design

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) <p>Project / Practical work:</p> <ul style="list-style-type: none"> Design Ventura. 	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) <p>Project / Practical work:</p> <ul style="list-style-type: none"> Design Ventura. 	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) Designing and Making principles <p>Project / Practical work:</p> <ul style="list-style-type: none"> Treat dispenser and the work of others. 	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) Designing and Making principles <p>Project / Practical work:</p> <ul style="list-style-type: none"> Design portfolio - Nature and the Environment. 	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) Designing and Making principles <p>Project / Practical work:</p> <ul style="list-style-type: none"> Design portfolio - Nature and the Environment. 	<p>Theory:</p> <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Timbers) Designing and Making principles <p>Non Examined Assessment (NEA): Begin the NEA - 50% of GCSE - Context set by the exam board</p>
Knowledge deepened	<ul style="list-style-type: none"> Investigation, primary and secondary data Forces and stresses Materials and their working properties (textiles and timbers) Design strategies 	<ul style="list-style-type: none"> Design strategies Prototype development Materials and their working properties (Papers and Boards, Metals and Polymers) Specialist techniques and 	<ul style="list-style-type: none"> The work of others Design strategies Communication of design ideas New and emerging technologies Energy generation and storage 	<ul style="list-style-type: none"> Specialist tools and equipment (timbers) Specialist techniques and processes (timbers) Developments in new materials Systems approach to designing 	<ul style="list-style-type: none"> Ecological and social footprint Scales of production Selection of materials or components Sources and origins 	<ul style="list-style-type: none"> Specialist tools and equipment Specialist techniques and processes

	<ul style="list-style-type: none"> • Communication of design ideas • Specialist techniques and processes (timbers) 	processes (timbers)	<ul style="list-style-type: none"> • Developments in new materials 	<ul style="list-style-type: none"> • Mechanical devices 		
Skills developed	<ul style="list-style-type: none"> • Iterative design strategies • Product analysis • Design communication 	<ul style="list-style-type: none"> • Design communication • Computer Aided Design • Computer Aided Manufacture • Use of tools & equipment 	<ul style="list-style-type: none"> • Design communication • Manufacturing quality products • Cutting, shaping, smoothing, finishing, forming and deforming • Use of tools & equipment • Computer Aided Design • Computer Aided Manufacture 	<ul style="list-style-type: none"> • Investigation, primary and secondary data • Environmental, social and economic challenge • The work of others • Communication with a client 	<ul style="list-style-type: none"> • Iterative design strategies • Design communication with a client • Development • Prototyping and modification • Evaluation • Design strategies • Communication of design ideas • Prototype development • Specialist techniques and processes • Surface treatments and finishes 	<ul style="list-style-type: none"> • Investigating problems • Primary and secondary research • Communication with a client • Identifying a problem
Links to Specification	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles.	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles.	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles. 3.3 Section C – Designing and making principles.	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles. 3.3 Section C – Designing and making principles.	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles. 3.3 Section C – Designing and making principles.	3.1 Section A – Core Technical Principles 3.2 Section B – Specialist technical principles. 3.3 Section C – Designing and making principles.
Flagship Link	Product Design & Construction: HT1&2 - Specialist Technical Knowledge (Timbers)			Product Design & Construction: HT1&2 - Specialist Technical Knowledge (Ecological and social footprint)		
Cross Curriculum Connections	Maths: (HT1) - SOHCAHTOA. Health & SS: (HT1) - Y11 Core Values (H&S). Chemistry HT5 Polymers.		Science: (Y10 HT5) - Forces. Science: (Y10 HT2) - Complete electric circuits. Art: Drawing skills. English: (HT1) Paper 1 Lang - analysis/evaluation.	Design & Technology and Chemistry -(HT5) Sustainability/Using Resources		

Resources to support learning	BBC Bitesize: https://www.bbc.co.uk/bitesize/examspecs/zby2bdm Technology student: https://www.technologystudent.com/ Seneca: https://app.senecalearning.com/classroom/course/b4e64de8-a5d1-411b-81e2-aa4e2016e908/section/32cf34cb-5489-4210-9c3c-c504c87aadf7/session Oak Academy: https://teachers.thenational.academy/units/textiles-technology-and-sustainability-6f46 https://teachers.thenational.academy/units/para-triathlete-design-challenge-c859 https://teachers.thenational.academy/units/design-in-the-natural-world-cc65 GCSE POD https://members.gcsepod.com/login
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Year 10 Design and Technology: Fashion Textiles

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Project / Practical work: <ul style="list-style-type: none"> Decorative skills. 	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Project / Practical work: <ul style="list-style-type: none"> Decorative skills. 	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Designing and Making principles Project / Practical work: <ul style="list-style-type: none"> Decorative skills. Jacket project mini Non Examined Assessment (NEA) 	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Designing and Making principles Project / Practical work: <ul style="list-style-type: none"> Decorative skills. Jacket project mini Non Examined Assessment (NEA) 	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Designing and Making principles Project / Practical work: <ul style="list-style-type: none"> Decorative skills. Jacket project mini Non Examined Assessment (NEA) 	Theory: <ul style="list-style-type: none"> Core Technical Principles. Specialist Technical Principles (Textiles) Start Non Examined Assessment (NEA) worth 50% of GCSE from 1st June.
Knowledge Deepened	<ul style="list-style-type: none"> Forces and stresses Sources and origins Using and working with materials 	<ul style="list-style-type: none"> Using and working with materials Materials and their working properties (textiles, timbers, papers and boards, metals and plastics) 	<ul style="list-style-type: none"> New and emerging technologies Energy generation and storage Developments in new materials Investigation, primary and secondary data Design strategies 	<ul style="list-style-type: none"> Developments in new materials Systems approach to designing Mechanical devices The work of others 	<ul style="list-style-type: none"> Ecological and social footprint Sources and origins Scales of production Environmental, social and economic challenge 	<ul style="list-style-type: none"> Stock forms, types and sizes Surface treatments and finishes Investigation, primary and secondary data The work of others Design strategies
Skills developed	<ul style="list-style-type: none"> Specialist techniques and processes 	<ul style="list-style-type: none"> Specialist techniques and processes 	<ul style="list-style-type: none"> Specialist techniques and processes 	<ul style="list-style-type: none"> Design development 	<ul style="list-style-type: none"> Prototyping and modification Evaluation 	<ul style="list-style-type: none"> Investigating problems

	(addition techniques and surface decoration)	(wastage, deforming and reforming) <ul style="list-style-type: none"> Fabric construction 	(garment construction) <ul style="list-style-type: none"> CAD/CAM Communication of design ideas 	<ul style="list-style-type: none"> Investigation, primary and secondary data 		<ul style="list-style-type: none"> Primary and secondary research Communication with a client Identifying a problem
Links to Specification	3.3 Section C – Designing and making principles. 3.2 Section B – Specialist technical principles.	3.3 Section C – Designing and making principles. 3.2 Section B – Specialist technical principles.	3.3 Section C – Designing and making principles. 3.2 Section B – Specialist technical principles.	3.3 Section C – Designing and making principles.	3.3 Section C – Designing and making principles.	3.3 Section C – Designing and making principles.
Flagship Link						
Cross Curriculum Connections	Art: HT1-6 Drawing skills. Science: (Y10 HT5) - Forces. English: (HT1) Paper 1 Lang - analysis/evaluation.		Business: Interpretations from graphs and charts. Media: Textual analysis, understanding of industry. Business: Job, batch and flow production. Science: (Y10 HT2) - Complete electric circuits. Art: Drawing skills. Maths: (Graphs).		Computer Science: Problem solving & analytical skills. Media: Graphic Design. ICT, Business & Computing: Data collection & analysis. Presenting information. ICT: Y9 -ICT in Today's World - Problem Solving. Creative I media: Design skills, Brief Analysis, Time Planning, Evaluation. Design skills, Time Planning. Art: Drawing skills. Maths: (Scale drawing).	
Resources to support learning	BBC Bitesize: https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/1 Technology student: https://www.technologystudent.com/ GCSE POD https://members.gcsepod.com/login					

Year 10 Food Preparation & Nutrition

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Unit 1 Food Nutrition and Health <ul style="list-style-type: none"> Healthy eating, eatwell guide, government guidelines, Dietary needs at different life stages, needs and balance. Macro and Micronutrients 	Unit 2 Food Science Heat transference <ul style="list-style-type: none"> Different methods of cooking and selecting appropriately. Functional and Chemical properties of ingredients. Raising agents. 	Unit 3 Food Safety <ul style="list-style-type: none"> Food spoilage and contamination, how it happens and how to prevent it. Microorganisms in food production. Bacterial contamination. 	Unit 4 Food Choice <ul style="list-style-type: none"> Factors affecting food choice. British & International cuisine. Sensory analysis & testing. Food labelling & marketing. 	Non Examined Assessment (NEA) 1 - Food investigation Task (Mock)	Unit 5 Food provenance <ul style="list-style-type: none"> Food production. Effects on the environment. Primary and secondary food production.

			<ul style="list-style-type: none"> Principles of food safety 			
Knowledge Deepened	<ul style="list-style-type: none"> Lifestages. Government guidelines on healthy eating. Functions and source of nutrients. Effect of poor diet on health. 	<ul style="list-style-type: none"> How and why we cook foods. How cooking affects foods. How to choose the most appropriate method. The functional and chemical properties of fat,protein & carbohydrates. How and why raising agents work. 	<ul style="list-style-type: none"> How and why food can spoil. Safe and hygienic food storage and preparation. How microorganisms are used in food production. Food handler hygiene. 	<ul style="list-style-type: none"> Understand the factors that affect food choices. Understand what a cuisine is and have an understanding of a range of different cuisines. The needs of people with special dietary requirements. How and why food is packaged and labelled. 	<ul style="list-style-type: none"> The functional and chemical properties of fat,protein & carbohydrates. Accurately carrying out investigations. 	<ul style="list-style-type: none"> Food sustainability. Food safety principles of using leftovers. Primary and secondary processing of foods. Technology in food production.
Skills Developed	<ul style="list-style-type: none"> Advanced knife skills Meat preparation. Dough formation Sauce making - reduction Forming and shaping Use of the hob, grill, oven Presentation and garnish 	<ul style="list-style-type: none"> Advanced knife skills Aeration, foam formation Gelatinisation Dough formation Sauce making - roux Presentation and garnish 	<ul style="list-style-type: none"> Advanced knife skills Caramelisation, setting Bain marie Sauce making - custard Cooking methods bain marie Presentation and garnish. 	<ul style="list-style-type: none"> Advanced knife skills How to carry out sensory testing. Selecting appropriate dishes 	<ul style="list-style-type: none"> Carry out a fair test Investigation of a task Analyse and evaluate the process and your findings 	<ul style="list-style-type: none"> Advanced knife skills Filleting Processing of a range of commodities Presentation and garnish
Links to Specification AQA Food Preparation and Nutrition: Specification code 8585. https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585/	3.1 Food preparation skills. 3.2 Food, nutrition and health. 3.7 Food preparation and cooking techniques.	3.1 Food preparation skills. 3.3 Food Science. 3.7 Food preparation and cooking techniques.	3.1 Food preparation skills. 3.4 Food Safety. 3.7 Food preparation. and cooking techniques.	3.1 Food preparation skills. 3.4 Food Choice. 3.7 Food preparation and cooking techniques.	3.1 Food preparation skills. 3.3 Food Science. 3.7 Food preparation and cooking techniques. 2.2 Assessments	3.1 Food preparation skills. 3.6 Food provenance. 3.7 Food preparation and cooking techniques.
Flagship Link						

Cross Curriculum Connections	PE (HT2): Macro and micro nutrients, fats, protein, carbohydrates. Vitamins, Fibre. Minerals.					
Resources to support learning	Illuminate Publishing https://www.illuminate.digital/aqafood/ BBC Bitesize https://www.bbc.co.uk/bitesize/guides/z3fpv4j/revision/2 Seneca: https://app.senecalearning.com/classroom/course/d59d0e60-4fa8-11e8-bbba-738ab127bed6/section/3a2ecae0-5aac-11e8-8337-b1fe33357061/session Oak Academy: https://teachers.thenational.academy/units/future-food-and-the-application-of-science-4e11 GCSE POD					

Year 11 Design and Technology: Product Design and Fashion Textiles

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Non Examined Assessment (NEA): <ul style="list-style-type: none"> Section B producing a design brief and specification Section C generating design ideas Theory: <ul style="list-style-type: none"> Review of Section A - Core technical principles 	Non Examined Assessment (NEA): <ul style="list-style-type: none"> Section C generating design ideas Section D developing design ideas Theory <ul style="list-style-type: none"> Review of Section A - Core technical principles 	Non Examined Assessment (NEA): <ul style="list-style-type: none"> Section E Realising design ideas Section F analysing and evaluating Theory: <ul style="list-style-type: none"> Review of Section B - Specialist technical principles 	Revision: <ul style="list-style-type: none"> Specialist technical principles - Timbers Core technical principles Theory: <ul style="list-style-type: none"> Review of Section B - Specialist technical principles 	Revision and GCSE exams: <ul style="list-style-type: none"> Designing and making principles 	Revision and GCSE exams: <ul style="list-style-type: none"> Designing and making principles
Knowledge Deepened	<ul style="list-style-type: none"> Understanding the iterative design process Advanced design communication strategies New and emerging technologies Energy generation and storage 	<ul style="list-style-type: none"> Understanding the iterative design process Developments in new materials Systems approach to designing Mechanical devices 	<ul style="list-style-type: none"> Understanding the iterative design process Selection of materials or components Forces and stresses Ecological and social footprint Sources and origins 	<ul style="list-style-type: none"> Stock forms Types and sizes Scales of production Specialist techniques and processes Surface treatments and finishes design process 	<ul style="list-style-type: none"> Investigation, Primary and Secondary data the work of others Selection of materials and components Tolerances Material management Specialist tools and equipment 	<ul style="list-style-type: none"> Environmental, social and economic challenge Design strategies Communication of design ideas Prototype development

		<ul style="list-style-type: none"> Materials and their working properties 	<ul style="list-style-type: none"> Using and working with materials 		<ul style="list-style-type: none"> Specialist techniques and processes 	
Skills Developed	<ul style="list-style-type: none"> Analysing data Writing a brief and specification 	<ul style="list-style-type: none"> Develop and refine design ideas Computer Aided Design and Manufacture Select and work with a range of suitable materials and components shaping, fabrication, construction and assembly 	<ul style="list-style-type: none"> Analysis, testing and evaluate Testing of final prototypes 	<ul style="list-style-type: none"> Developing retrieval skills Exam question practice 	<ul style="list-style-type: none"> Developing retrieval skills Exam question practice 	<ul style="list-style-type: none"> Developing retrieval skills Exam question practice
Link to Specification	AQA GCSE Design and Technology (8552) : AO1 Identify, investigate and outline design possibilities, A02 Design and make prototypes that are fit for purpose, A03 Analyse and evaluate					
Flagship Link						
Cross Curriculum Connections	<p>ART (HT1): Developing personal ideas. Business: Interpretations from graphs and charts. Business: Job, batch and flow production. Media: Understanding of contexts. ICT, Business & Computing: Data collection & analysis. Chemistry: (HT5) - Using resources (6Rs). Maths: (Measures / Scale drawing / Statistics).</p>					
Resources to support learning	BBC Bitesize: https://www.bbc.co.uk/bitesize/examspecs/zby2bdm Technology student: https://www.technologystudent.com/ Seneca: https://app.senecalearning.com/classroom/course/b4e64de8-a5d1-411b-81e2-aa4e2016e908/section/32cf34cb-5489-4210-9c3c-c504c87aadf7/session GCSE POD https://members.gcsepod.com/login					

Year 11 Food Preparation & Nutrition

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Non Examined Assessment (NEA) 1 15%.	Non Examined Assessment (NEA) 2 35%.	Non Examined Assessment (NEA) 2 35%.	Exam revision 50%.	Exam revision 50%.	Exams

			3 hour practical exam.			
Knowledge Deepened	<ul style="list-style-type: none"> How and why we cook foods. How cooking affects foods. How to choose the most appropriate method. The functional and chemical properties of ingredients. How and why raising agents work. 	<ul style="list-style-type: none"> Understand the factors that affect food choices. Understand what a cuisine is and have an understanding of a range of different cuisines. The needs of people with special dietary requirements. 	<ul style="list-style-type: none"> Adapting recipes for specific needs or dietary requirements. Food hygiene, safety and quality principles for HACCP. 	<ul style="list-style-type: none"> Food nutrition and health Food Science Food safety Retrieval of prior knowledge 	<ul style="list-style-type: none"> Food Choice Food Provenance Retrieval of prior knowledge 	
Skills Developed	<ul style="list-style-type: none"> Carrying our fair testing. Interpreting and analysing data and results. 	<ul style="list-style-type: none"> Using advanced food preparation skills dependent on NEA 2 route 	<ul style="list-style-type: none"> Using advanced food preparation skills dependent on NEA 2 route 	<ul style="list-style-type: none"> Developing retrieval skills Exam question practice 	<ul style="list-style-type: none"> Developing retrieval skills Exam question practice 	
Link to Specification	AQA Food Preparation and Nutrition: Specification code 8585. https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585/ - AO2, AO3, AO4					
Flagship Link						
Cross Curriculum Connections						
Resources to support learning	BBC Bitesize https://www.bbc.co.uk/bitesize/guides/z3fpv4j/revision/2 Seneca: https://app.senecalearning.com/classroom/course/d59d0e60-4fa8-11e8-bbba-738ab127bed6/section/3a2ecae0-5aac-11e8-8337-b1fe33357061/session Oak Academy: https://teachers.thenational.academy/units/future-food-and-the-application-of-science-4e11 GCSE POD: https://members.gcsepod.com/login					

Year 12 Design & Technology: Product Design - this curriculum map may be amended with a vertical group

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Technical principles: Papers and boards, Polymers & Woods			Technical principles: Metals, Composites, Smart materials and Modern materials	Technical principles: Metals, Composites, Smart materials and Modern materials Designing and Making principles Non-Examined Assessment (NEA) - Section A	Technical principles Designing and Making principles Non-Examined Assessment (NEA) - Section A & B
Knowledge Deepend	<ul style="list-style-type: none"> • Materials and their applications. • Performance characteristics of Materials. <ul style="list-style-type: none"> • Enhancement of materials • Forming, redistribution and addition <ul style="list-style-type: none"> • The use of finishes (Papers and boards, Polymers & Woods)			<ul style="list-style-type: none"> • Materials and their applications. • Performance characteristics of Materials. • Enhancement of materials • Forming, redistribution and addition • The use of finishes (Metals, Composites, Smart materials and Modern materials) 	<ul style="list-style-type: none"> • Materials and their applications. • Performance characteristics of Materials. • Enhancement of materials • Forming, redistribution and addition • The use of finishes (Metals, Composites, Smart materials and Modern materials) • Design methods and processes • Design theory 	<ul style="list-style-type: none"> • Modern industrial and commercial practice • Digital design and manufacture • Requirements for product design and development • Health and safety • How technology and cultural changes can impact on the work of designers • Design methods and processes • Design theory
Skills Developed	<ul style="list-style-type: none"> • Working with materials • Cutting, shaping, smoothing, finishing materials <ul style="list-style-type: none"> • Deforming and reforming • Working with surface finishes 			<ul style="list-style-type: none"> • Working with materials • Cutting, shaping, smoothing, finishing materials • Deforming and reforming • Working with surface finishes 	<ul style="list-style-type: none"> • Working with materials • Cutting, shaping, smoothing, finishing materials • Deforming and reforming • Working with surface finishes 	<ul style="list-style-type: none"> • Design processes • Critical analysis and evaluation • Selecting appropriate tools, equipment and processes

Link to Specification	AQA A-Level DDesign and TEchnology: Product Design https://filestore.aqa.org.uk/resources/design-and-technology/specifications/AQA-7552-SP-2017.PDF					
Flagship Link						
Cross Curriculum Connections	Cambridge Technical. Information Technology: Communication: Problem solving, Time management. Maths: Using Graphs.	Computer Science: Data Representation, communication. Information Technology: Communication, Decision making. Maths: Using Graphs. Geography: (HT2) - Globalisation.	Computer Science: Data Representation, communication, Problem Solving.	Computer Science: Data Representation, communication, Problem Solving. Information Technology, Communication, Problem solving, Time management Communication, Decision making.	Computer Science: Critical Evaluation & Testing, Design and Modelling. Y12 Core Maths: Perimeter. Circumference and area / Similarity and Pythagorean theorem / Surface area and similarity. Information Technology: Communication, Critical thinking, Team working, Communication, Decision making. Art: Design periods.	Computer Science: Critical Evaluation & Testing, Design and Modelling Information Technology: Communication, Critical thinking, Team working, Communication, Decision making. Maths: (HT4) - Y11 -Trig; recap & Extension.
Resources to support learning	Student Hub: https://sites.google.com/george-spencer.notts.sch.uk/designtech/a-level/start-here Classroom: https://classroom.google.com/c/MTU4Njg5NDMzNTEw					

Year 13 Design & Technology: Product Design - this curriculum map may be amended with a vertical group

	Autumn 1 (HT1)	Autumn 2 (HT2)	Spring 1 (HT3)	Spring 2 (HT4)	Summer 1 (HT5)	Summer 2 (HT6)
Topic Covered	Technical principles Non-Examined Assessment (NEA) - Section C	Designing and Making principles Non-Examined Assessment (NEA) - Section C & D	Designing and Making principles Non-Examined Assessment (NEA) - Section D	Revision Non-Examined Assessment (NEA) - Section E	Revision and A-level exams	Revision and A-level exams
Knowledge Depend	<ul style="list-style-type: none"> ● Protecting designs and intellectual property ● Design for manufacturing, maintenance repair and 	<ul style="list-style-type: none"> ● Accuracy in design and manufacture ● Responsible design ● Design for manufacture and project management 	<ul style="list-style-type: none"> ● Accuracy in design and manufacture ● Responsible design ● Design for manufacture and project management 	<ul style="list-style-type: none"> ● Technical principles ● Designing and Making principles ● Retrieval of prior knowledge 		

	disposal <ul style="list-style-type: none"> • Feasibility studies • Enterprise and marketing in the development of products • Design communication 	<ul style="list-style-type: none"> • National and international standards in product design 				
Skills Developed	<ul style="list-style-type: none"> • Development of design proposals 	<ul style="list-style-type: none"> • Development of design proposals • Development of design prototypes 	<ul style="list-style-type: none"> • Development of design prototypes • Selecting appropriate tools, equipment and processes 	<ul style="list-style-type: none"> • Design processes • Critical analysis and evaluation • Selecting appropriate tools, equipment and processes 	<ul style="list-style-type: none"> • Developing retrieval practice • Exam question practice 	<ul style="list-style-type: none"> • Developing retrieval practice • Exam question practice
Link to Specification	AQA A-Level DDesign and TEchnology: Product Design https://filestore.aqa.org.uk/resources/design-and-technology/specifications/AQA-7552-SP-2017.PDF					
Flagship Link						
Cross Curriculum Connections	Cambridge Technical. Information Technology: Communication: Problem solving, Time management. Maths: Using Graphs.	Computer Science: Data Representation, communication. Information Technology: Communication, Decision making. Maths: Using Graphs. Geography: (HT2) - Globalisation.	Computer Science: Data Representation, communication, Problem Solving.	Computer Science: Data Representation, communication, Problem Solving. Information Technology, Communication, Problem solving, Time management Communication, Decision making.		
Resources to support learning	Student Hub: https://sites.google.com/george-spencer.notts.sch.uk/designtech/a-level/start-here Classroom: https://classroom.google.com/c/MTU4Njg5NDMzNTEw					

