CHS DESIGN & TECHNOLOGY DEPT Academic Year 2021-2022
OVERVIEW OF UNITS YEARS 7 - 11

	Food	Product Design	Textiles
Year 7	**Design Context:** Myself	**Design Context:** Home	**Design Context:** Christopher Marley & Eugene Seguy
	Assessment: Design & make a new biscuit product that reflects one of your hobbies.	**Assessment:** Design & make a light focused on client wants & needs.	**Assessment**: Design & make a bug bag.
Literacy Focus	**Capital Letters & Spelling**	**End sentence punctuation & ambitious punctuation**	**Paragraphing & ambitious vocabulary**
Revision Focus	**Mind maps**	**Use of ICT**	**Flashcards**
Year 8	**Design Context:** Health	**Design Context:** Retail (PD1) Graphics Rocks (PD2)	**Design Context:** Dawn Delver, Sarkasi Said & Saakshi Khanna – decorative techniques
	Assessment: Design and make a healthier pizza product.	**Assessment:** Design & make a metal bug. Design and make a set for a band using card and paper	**Assessment:** Design & make a cushion.
Literacy Focus	**Capital Letters & Spelling**	**End sentence punctuation & ambitious punctuation**	**Paragraphing & ambitious vocabulary**
Revision Focus	**Mind maps**	**Use of ICT**	**Flashcards**
Year 9	**Design Context:** Culture	**Design Context:** Recreation (games) (PD1) Packaging and marketing (PD2)	**Design Context:** Denna Fainelli, Sven Frommer & Ben Boothby
	Assessment: Design and make traditional cultural dishes based on British & one chosen foreign cuisine.	**Assessment:** Design and make an inspired product based on the influence of a designer. Design and make packaging for a product.	**Assessment:** Design & make a wall hanging inspired by the urban environment
Literacy Focus	**Capital Letters & Spelling**	**End sentence punctuation & ambitious punctuation**	**Paragraphing & ambitious vocabulary**

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Revision Focus	**Mind maps**	**Use of ICT**	**Flashcards**
Year 10	**AQA Food Preparation and Nutrition** Learning practical skills and theoretical knowledge from the GCSE specification to develop foundations required to complete NEA tasks in year 11 and the terminal exam	**AQA Design & Technology: Product Design** Learning practical skills and theoretical knowledge from the GCSE specification to develop foundations required to complete the NEA task in year 11 and the terminal exam	**AQA Art & Design: Textiles** Producing portfolio work using practical skills & developing ability to accurately evaluate work and refine ideas from sources in order to meet the 4 Assessment Objectives.
	Assessment: Four short DMA tasks on meal planning, special dietary needs, healthy eating and culture & religion	**Assessment**: Four iterative design and make projects focusing on three main material areas, incorporating modelling techniques	**Assessment**: Three design and make projects focusing on Fashion or Interior Design.
Literacy Focus	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**
Revision Focus	**Exam questions**	**Exam questions**	**N/A**
Year 11	**Assessment:** Non Exam assessment Task 1 Food investigation (15%) Non exam assessment Task 2 Food preparation (35%)	**Assessment:** Non Exam assessment (50%)	**Assessment:** Year 10 & 11 Non-Exam assessment PORTFOLIO WORK (60%)
	Assessment: 50% terminal exam	**Assessment:** 50% terminal exam	**Assessment:** 40% Final exam (10 hours over 2 days)
Literacy Focus	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**	**Capital Letters & Spelling** **Paragraphing & ambitious vocabulary** **End sentence punctuation & ambitious punctuation**
Revision Focus	**Exam questions**	**Exam questions**	**N/A**

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KS3

Across the key stage focused practical tasks are planned in order to develop & practise a broad range of foundation **skills** & **knowledge** (FPT). Pupils are then given opportunities to develop their **design & technology capability,** applying their knowledge and skills, through assignments in which they design & make products focusing on different **contexts** and **materials** (DMA). At Key Stage 3 a collaborative approach with Product Design, Food and Textiles is adopted in order to provide a broad and balanced curriculum with all students having access to all areas and a range of resistant and compliant materials.

KS3 - Year 7 Intent:

Food: Design & make a new biscuit product that reflects one of your hobbies within the context of 'Myself'

Year 7 focuses on introductory knowledge about safety and hygiene, essential when handling food during practical lessons, and the fundamental concepts of nutrition and meal planning. Students also complete practical lessons developing a range of basic practical skills, aimed at encouraging independence and confidence in practical situations. Product design is then explored when skills and knowledge are applied into a context during the design task, when students design, plan, make and evaluate their own biscuit design idea.

Product Design: Design & make a light focused on client wants & needs.

Pupils are asked to create a light using skills taught. The main focus of this unit of work is to gain woodworking skills, understand the materials they are using and the appropriate tools for to the task. Pupils are also asked to explore different cultures and begin designing with this in mind. Pupils should:

- Be aware of the impact that excessive use of certain resources has on the environment
- Understand how new products and materials can have both a positive and negative impact on society
- Name the common commercial stock forms of timber based materials
- Describe school based cutting, forming and processing techniques, tools and equipment
- Be able to select and use materials and components appropriate to a specific task
- Describe relevant health and safety issues when using specialist tools, equipment, techniques and processes to protect themselves and others from harm

Textiles: Design & make a bug bag.

At Key Stage 3, we intend to generate interest and enthusiasm for Textiles in its many forms by giving students a variety of creative opportunities in traditional and contemporary approaches. We aim to develop skills in a range of methods, processes and techniques and enable students to experience a wealth of approaches through various media trials. Students are prepared to use skills and knowledge in a safe and informed way to be able to design and make ambitious and challenging finished pieces that are aesthetically pleasing.

- Presentation of the visual elements and colour theory to inform and promote design composition

- Learning fundamental decorative processes: Variety of weaving to translate design in visual outcome
- Learn to thread a sewing machine to use straight and zigzag stitch
- Learn construction, joining and finishing techniques

KS3 - Year 8 Intent:

Food: Design and make a healthier pizza product within the context of 'Health'

Year 8 extends the introductory knowledge from year 7 by focusing on particular, important aspects of healthy eating. Students continue to develop a range of essential practical skills, with double lessons allowing more complex dishes to be produced. Product design skills are developed further applying skills and knowledge during the design task, when students design, plan, make and evaluate their own healthy pizza product.

Product Design: Design & make a metal bug.

During the unit pupils will gain knowledge in using metals and a material. They will also improve their drawing and sketching skills with a focus on communication of ideas. The will produce a basic manufacturing specification and learn about the importance of paper and card as both a modelling material and a material in its own right. In addition to this pupils should understand how to work with a client and gain feedback from a 3rd party to support the iterative design process. The project will conclude with an evaluation of the project and the skills they have gained. Pupils should:

- Be aware of the impact that excessive use of certain resources has on the environment
- Understand how new products and materials can have both a positive and negative impact on society
- Name the common commercial stock forms of timber based materials
- Describe school based cutting, forming and processing techniques, tools and equipment
- Be able to select and use materials and components appropriate to a specific task
- Describe relevant health and safety issues when using specialist tools, equipment, techniques and processes to protect themselves and others from harm

Textiles: Design & make a cushion through the investigation of batik & tie-dye artists/fashion designers

- Development of the visual elements and colour theory to inform and promote design composition
- Developing fundamental decorative processes: Batik & Tie-dye

- Adding to these with further techniques of hand embroidery, applique and computerised embroidery.
- Revise threading a sewing machine and greater use of stitching for decorative purposes
- Introducing embellishment
- Develop construction, joining and finishing techniques

KS3 - Year 9

Food: Design and make traditional cultural dishes based on British & one chosen foreign cuisine within the context of 'culture'

Year 9 builds on the practical skills and knowledge gained in year 7 and 8, allowing for greater individual choice when designing and making their own dishes within the context of a chosen multi-cultural cuisine. Students study traditional UK cuisine and choose an additional culture from the European cuisines of Italy and Spain or the Asian cuisines of China and India with Mexico representing the Americas. They generate ideas in answer to the task then select a savoury and sweet dish, which they design make, test and evaluate for their assessment.

Product Design: Design and make an inspired product based on the influence of a designer.

During this unit of work pupils will look at the work of other designers to create a passive amplifier based on their knowledge of materials from year 7 and 8, adding polymers to their knowledge base. They should understand the impact these materials have and be able to identify renewable and non renewable materials based on their knowledge. They will design and make a passive amplifier, drawing on their knowledge of materials and looking at the knowledge they have gained in Science about sound waves and how to amplify them without the use of electronic circuits. Product Design builds on the wealth of knowledge needed for the specification of paper and card, its properties and it's uses. In this unit pupils will look specifically at what, and how information is presented in packaging and how packaging is constructed. Pupils will look at box nets and advertising techniques. Finally,
pupils will design and make packaging and advertising for a product chosen by them, drawing on the knowledge gained from analysis and input from previous lessons.

Textiles: Design & make a wall hanging inspired by the urban environment

- Extension of the visual elements and colour theory in design work
- Extending decorative processes with further techniques of dyeing fabric & transfer printing
- Revise threading a sewing machine and greater use of stitching for decorative purposes
- Extend construction, joining and finishing techniques
- Extending embellishment
- Learn construction, joining and finishing techniques

KS4

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At Key Stage 4 pupils have the opportunity to study one Design & Technology subject in greater depth by specialising in one of the following AQA specifications:

- GCSE Food Preparation & Nutrition
- GCSE Design & Technology: Product Design
- GCSE Textiles

KS4 – Year 10 Intent:

GCSE Food:

This year is divided into three units of work which group different aspects of the specification together in order to cover relevant **knowledge** and related **practical skills** in preparation for year 11. Design tasks are set to enable pupils to apply their knowledge and practicals skills in context, which develops designing and planning skills ready for the assessment tasks in year 11. Regular homework and the end of year exam help pupils to apply knowledge and develop essential exam technique.

Unit 1 Food commodities – this unit focuses on food provenance, health and safety, quality and structure of major food commodities. The science of nutrition is a fundamental part of the knowledge covered during this unit. A wide range of practical skills are developed during practical lessons, with skills being taught that will enable students to plan and make dishes with more complex skills in year 11.

Unit 2 Food science- this unit focuses on food science. The functional properties of food are studied, such as coagulation and denaturation of protein, dextrinization and gelatinisation of starch, in order to further understanding of developing ideas and product design. Practical skills continue to be developed during practical lessons, linked to knowledge based lessons in order to consolidate scientific knowledge gained in theory lessons, enabling a greater understanding of the science through practical application when making different dishes.

Unit 3 Food safety - this unit focuses on food safety, including food hygiene, preservation and safe storage of food. A wide range of practical skills continue to be developed during practical lessons.

KS4 – Year 10 Intent:

GCSE Product Design:

Project 1 – This is a short project focussing on the knowledge gained at KS3 about metals and allows pupils to build on these skills looking at joining methods and properties of the material. There is a focus on design communication and understanding specialist processes and tools. Pupils should have gained

1. Knowledge and understanding of where Metal comes from.

2. Knowledge of classifications of metal and how to identify them.
3. The ability to identify stock forms of metal.
4. Understanding of the importance and potential application of new and modern materials.
5. Ability to differentiate between modern and new materials.
6. Ability to work with metals, using the appropriate tools and processes.

Alongside this they will gain knowledge about new and emerging technologies, metals origins, properties, stock forms and processes, and different design strategies used in the industry.

Project 2 - This project is a small challenge asking pupils to work within restrictions and be able to think outside of the box. There is a particular polymer focus. Origins and properties, working with and commercial manufacture, surface treatments and finishes should be explored and understood. There is also knowledge of environmental impact and alternative materials.

The pupils should be able to meet all the above "Metal" criteria for Polymers and understanding the origins, properties and classifications of various polymers, understand how to process and work with the material and have the ability to choose the most appropriate tools for the task. They will also gain knowledge in CAD and CAM and learn how to use the laser cutter.

The theoretical knowledge gained here will include designing for a client, design communication, CAD CAM and scales of production.

Project 3 – Pupils will undertake a mock version of the coursework needed for the NEA which they will undertake at the end of year 10 and continue through year 11. They will be required to undertake investigation, specification writing, designing based on their investigation and work with a client, manufacture specification including technical drawing, testing, evaluation and analysis. These areas will all be underpinned through theory lessons explaining their relevance in the bigger picture and looking at their application in the real world.

The theory lessons will also include knowledge of energy generation and storage, smart and modern materials and looking at systems and electronics.

NEA – On June 1st AQA release the contexts for the final Non Examined Assessment and using the skills and knowledge gained in the previous project pupils will undertake this unit from then until around March in year 11.

GCSE Textiles:

At Key Stage 4, we aim to further develop student knowledge and experience to gain a deeper understanding, leading towards increased depth of visual quality produced in designing, experimentation through media trials and final pieces. We aim to provide a range of creative opportunities through topic work, covering landscapes, seascapes,

fashion and textiles in cultures throughout the world. All projects require students to draw upon their own interests and experiences to promote individuality of response and personal innovation leading to increased depth of visual response and higher achievement.

Component 1: Portfolio

What's assessed

A portfolio that in total shows explicit coverage of the four assessment objectives. It must include a sustained project evidencing the journey from initial engagement to the realisation of intentions and a selection of further work undertaken during the student's course of study

How it's assessed

- No time limit
- 96 marks
- 60% of GCSE

Non-exam assessment (NEA) set and marked by the school/college and moderated by AQA during a visit. Moderation will normally take place in June.

Component 1: Portfolio

The content of the portfolio will be determined by the particular requirements and nature of the course of study undertaken. There is no restriction on the scale of work, media or materials used.

Each student must select and present a portfolio representative of their course of study. The portfolio must include both:

1. **A sustained project** developed in response to a subject, theme, task or brief evidencing the journey from initial engagement with an idea(s) to the realisation of intentions. This will give students the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding from across their course of study.
2. **A selection of further work** resulting from activities such as trials and experiments; skills-based workshops; mini and/or foundation projects; responses to gallery, museum or site visits; work placements; independent study and evidence of the student's specific role in any group work undertaken.

The work submitted for this component will be marked as a whole. Students should carefully select, organise and present their portfolio and must ensure that it provides evidence of meeting all four assessment objectives. They must identify and acknowledge sources which are not their own and provide evidence of drawing activity and written annotation.

Work selected for the portfolio should be presented in an appropriate format and could include: mounted studies, sketchbooks, visual diaries, journals, design sheets, design proposals, models, maquettes, prototypes, storyboards, video, photographic or digital presentations, records of transient and site-specific installations.

KS4 – Year 11 Intent:

GCSE Food:

This year is divided between three aspects of assessment for the GCSE:

Non Exam Assessment task 1 (15% of the GCSE) – the focus for this tasks is on food science and students must select a task set by the exam board from a choice of three. During this task they must research the task then formulate a hypothesis to investigate. A series of practical experiments are then planned and conducted in order to find out if their hypothesis is correct. A design folder of work is produced which includes research, planning, results and evaluation of the experiments conducted throughout the task.

Non Exam Assessment task 2 (35% of the GCSE) – the focus for this task is food preparation skills and students must choose one task from a selection of three tasks set by the exam board. During this task they research and plan possible ideas for dishes that they could make in order to answer the task set. From these ideas they select, plan and conduct practical work, producing different dishes that demonstrate their technical practical skills. A design folder of work is produced which includes research, planning, results and evaluation of ideas throughout the task. All practical work is assessed with a major final practical assessment worth 30 marks out of 70 as part of the assessment criteria.

Terminal exam (50%) – the focus is on revising and practising exam technique in preparation for the written exam which is 1¾ hours. This is divided into two sections:

- Section A (20 marks) – which is multiple choice
- Section B (80 marks) – this is longer answer questions on any aspect of the specification

GCSE Product Design:

Non Examined Assessment (50% of the GCSE) Pupils will -

- Further explore and develop ideas using sketching and modelling techniques.
- Reflect the designer/company previously researched, their ethical considerations and market research. (SOME)
- Iterative designing being understood as designs are re-visited and developed based on building knowledge.
- Freehand sketching, 2D and 3D drawings used to communicate, system and schematic drawings, annotated drawings that fully explain detailed conceptual stages.
- Students interview their client and ask them about their design ideas.

- A product or system is prototyped to show the client/user the outcome.
- Materials are used and chosen reflecting their knowledge and understanding of this area.
- The process of prototyping helps to develop the solution further and client/user feedback can form the basis of this development.
- Students look at a range of different materials that they have used in previous projects.
- Recap of properties and discussion of what students have found when using certain materials.
- Product analysis of hand-made products within your material area/s of interest.
- Consider reasons why the designer has chosen these materials.
- Key processes using tools and equipment discussed building on prior knowledge.
- Diary/planning activity used to ensure independent progress and learning. Assesses and re-visits processes, tools and techniques.
- Final prototype produced to a high standard – re-visiting the application of quality control to achieve this (3.2.8).
- Key processes using tools and equipment discussed, building on prior knowledge.
- Diary/planning activity used to ensure independent progress and learning. Assesses and re-visits processes, tools and techniques.

Terminal exam (50% of the GCSE)

Time is dedicated to preparing pupils for their upcoming exam. The subject content has been split into three sections as follows:

- Core technical principles (Section A **20 Marks**)
- Specialist technical principles (Section B **30 Marks**)
- Designing and making principles (Section C **50 Marks**)

Core technical principles covers core technical principles and all content must be taught. Specialist technical principles will cover specialist technical principles where students will go into greater depth. Each principle should be taught through at least one material category or system. Designing and making principles covers design and making principles and all content in this section must be taught.

GCSE Textiles:

Component 2: Externally set assignment

What's assessed

Students respond to their chosen starting point from an externally set assignment paper relating to their subject title, evidencing coverage of all four assessment objectives.

How it's assessed

- Preparatory period followed by 10 hours of supervised time
- 96 marks
- 40% of GCSE

Non-exam assessment (NEA) set by AQA; marked by the school/college and moderated by AQA during a visit. Moderation will normally take place in June

Component 2: Externally set assignment

AQA will provide a separate externally set assignment for Textiles, with seven different starting points. Students must select and respond to **one** starting point.
The externally set assignment provides students with the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding in response to their selected starting point.

The extended creative response must explicitly evidence students' ability to draw together different areas of knowledge, skill and/or understanding from initial engagement with their selected starting point through to their realisation of intentions in the 10 hours of supervised time.

Students must ensure that the total submission for Component 2 evidences coverage of all four assessment objectives and evidence of drawing activity and written annotation. Students must identify and acknowledge sources which are not their own.
Externally set assignments will be available to students and teachers from 2 January. They must be given to students in their entirety and must not be edited, changed or abridged in any way.

A preparation period which can begin on or after 2 January is followed by 10 hours of supervised unaided work in which students are required to realise their intentions. Students must not undertake any further preparatory studies once the first period of supervised time starts.

Preparatory period – from 2 January

- Students and teachers can access the externally set assignments on 2 January (or as soon as possible afterwards) but not before. It is at the discretion of schools to plan when their students start work on their assignments after 2 January.
- Following receipt of the externally set assignment paper, students should select one starting point from which to develop their own work.

- Students may discuss their starting points with the teacher.
- Preparatory work may be presented in any suitable two- or three-dimensional format such as mounted sheets, sketchbooks, journals, design proposals, models and maquettes, digital or non-digital presentations.
- Students must stop work on their preparatory studies as soon as the first period of supervised time starts.
- There is no restriction on the scale of work, media or material used.

Supervised time – 10 hours

- Following the preparatory period, students must undertake 10 hours of unaided focused study, under supervision.
- The first two hours of supervised time must be consecutive.
- Schools and colleges may timetable supervised sessions for the remaining eight hours at their own discretion.
- Students may refer to their preparatory work during the supervised time but must not add to it or amend it during the supervised time or between sessions.
- Students must not add to or amend work produced during the supervised time; either between sessions of supervised time or after the 10 hours of supervised time has been completed.
- Work produced in the supervised time must be clearly identified as such.
- Preparatory work and work produced during the supervised time must be kept under secure conditions between and following the supervised sessions. Work produced during the supervised time must be clearly identified as such.
- Only the preparatory work and the work produced within the 10 hours of supervised time can be submitted as assessment evidence for this component.

Students must not have access to the internet during the 10 hours of supervised time.

All work submitted for this component will be marked as a whole. Students may produce a single outcome or a series of related outcomes when realising their intentions in the supervised time. Outcomes may be evidenced in any two-dimensional, three-dimensional, digital or non-digital format. There is no restriction on scale of work, media or materials used.