

Curriculum Intent Statement for Design and Technology

At Chase Terrace Academy we aspire for all of our students to achieve greater things than they ever thought possible.

We pride ourselves on being a warm and welcoming school that places community at the heart of everything we do. Our ambitious curriculum is enriching and inclusive, providing challenge and breadth for all. This empowers our students to become compassionate, confident and creative individuals who are resilient, respectful and equipped with a desire to take up a fulfilling role in society and the wider world.

In Design and Technology pupils will have a grounding in the use of specialised tools, processes and techniques needed in the manufacture of products. They will explore design throughout each key stage and enhance their problem-solving abilities through critical thinking and a variety of approaches. They will understand safe working practices. Importantly they will build resilience when things go wrong and be able to analyse their work in order to understand how to better themselves.

At KS3 pupils will rotate through projects in the specialist material areas of Product design, Textiles and Food. In this way all pupils will be taught by specialised teachers who fully understand the requirements of their material area and will be able to teach and differentiate in a way best suited to individual learners. This will enable pupils to enjoy every opportunity that Chase Terrace Academy has to offer, allow them to learn beneficial life skills and to be fully informed on their future academic choices. Along with the specialist teaching, each year group will also be taught over-arching themes such as User Needs, Commercial Production, sustainability and Environmental Factors. This ensures that students feel more prepared for undertaking a GCSE in Design and Technology as well as having an appreciation of the wider aspects that inform designs and consumer choices. Further to this the briefs used to introduce the learning will enable opportunities for Cross curricular study, Cultural appreciation of different contexts and have world of work links imbedded.

The impact of learning will be measured formally through the marking of both design booklets and practical outcomes. Short multiple-choice Knowledge Tests in each project will also test the pupils on-going knowledge and understanding of the subject as well as providing a foundation of theoretical knowledge for those wishing to progress to GCSE.

Design and Technology understands and promotes British values from the understanding of regulations in the materials they are using to the laws regarding Health and Safety. We will address where the materials they are using come from and the environmental impact of sourcing them. A respect for the environment will be explored and an understanding of cultural aspects within design will be examined. Students will also be spoken to in Year 9 particularly about the 'World of Work' as they progress through their projects.

At the heart of every project we aim for students to foster a love for the subject, for them to become confident individuals. Through working in design specialisms pupils become open to the excitement and inspiration offered by both the natural and made worlds. By engaging in purposeful, imaginative and creative activities pupils learn to take managed risks, trying out new ideas and new ways of working without

fear of failure. Through a range of processes, including CAD, hand drawings, CAM and textiles design, pupils observe and investigate the world around them, inventing and visualising with increasing independence and ambition. Through allowing their work to be driven by imagination, experience and issues in the real world they learn to explore and interpret ideas in line with a brief, and develop understanding of other's needs. By developing and using sets of values to evaluate their own and others' work, pupils are able to increase confidence in their own opinions, in their feelings of self-worth and in their ability to relate to others.

In summary our aims are:

- To develop lifelong interests and a passion for Design and technology.
- To extend an appreciation for the diverse world we live in.
- To establish a reflective & Resilience, to understand that making mistakes is part of the process. Reiteration being essential to success.
- To promote enthusiasm, Innovation & creativity developing personal confidence and self-management skills.
- For students to gain an ability to work independently and as part of a team.
- To embed knowledge of future pathways within the design industry.
- A strong foundation of the technical competencies and critical knowledge required to be a strong future learner.
- To select projects and problems that are relevant to the children in our community.
- To review the school's development plan and design projects that address areas of need.
- To ensure that our curriculum is 'scaffold' to celebrate the diverse cultures within our locality and the wider world from year 7 all the way through to year 13.

Curriculum Implementation Plan

Subject – Design & Technology						
	Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3.1	Term 3.2
Year 7 <i>(Each groups order of projects will be different)</i>	Product design– Projects dependant on pathway: 'The Boxtroll Project' You will consider and respond to a given design and make challenge. You will need to research, design and then make a new money box to help children to be encouraged to save some of their pocket money.		Textiles — 'Monsters' You will embark on a creative journey to design and create a unique monster toy for a local nursery school. This project will enable you to explore your imagination while learning essential textiles skills. The monster toys should be safe, engaging, and foster imaginative play for young children.		Food — 'Plate it Up' Foundation of knowledge, skills and understanding around food and its hygienic and safe preparation. You will learn basic knife skills and cooking methods to produce a range of dishes including fruit salad and cous cous salad. You will cover topics on nutrition, healthy eating and food choices.	

	<p>Assessment: Design process in Booklet and Practical money box.</p> <p>'Blockhead' Express your creative side by journeying through the iterative design process in design and making. Learning basic drawing and rendering skills to help you to design a seasonal blockhead toy, which you learn how to make through using different workshop tools and machines.</p> <p>Assessment: Design process in Booklet and Practical block head.</p>	<p>Assessment: Design process in Booklet and Practical monster.</p>	<p>After producing fruit crumble, pizza and breakfast muffins you will reflect and evaluate your skills.</p> <p>Assessment: Food production, planning and safety.</p>
<p>Year 7 Key Themes—Practical Skills, foundation of knowledge and build passion for subject.</p>			
<p>Year 8 (Each groups order of projects will be different)</p>	<p>Product design — Projects dependant on pathway: 'Project time' Consider and respond to a given design and make challenge. You will need to research, design, and then make a new table clock, which will be themed on Pop Art. You will need to combine skills and understanding using design history to help guide and inspire final practical outcomes.</p> <p>Assessment: Design process in Booklet and Practical clock.</p> <p>'Chocolate creation' Develop design skills by exploring why sustainability is important, conducting research to inform designs creating a brand-new chocolate brand. You will follow a brief to design wrapper and chocolate moulds.</p> <p>Assessment: Design process in Booklet and Practical packaging design.</p>	<p>Textiles — 'Marine Expressions' In this project, you'll design and make a cool drawstring or tote bag inspired by the ocean. You'll learn about sustainable practices, create colourful tie-dye and batik patterns, and explore different printing and embroidery techniques. Dive into the world of marine life and express your creativity with fun, hands-on activities!</p> <p>Assessment: Design process in Booklet and Practical Bag.</p>	<p>Food — 'Mama Meals' Introduction to more complex practical skills including sauce and bread making. Students will look at the way food intolerances and nutrition impact diet and make dishes to demonstrate this knowledge. There will be a focus on planning and evaluation skills. You will also explore food science both practically and in theory.</p> <p>Assessment: Food production, evaluation, and theory.</p>
<p>Year 8 Key Themes—Creativity, responding to a brief and context.</p>			
<p>Year 9 (Each groups order of projects will be different)</p>	<p>Product design — 'Light up' Sophisticated respond to a design brief. You will research, design, and then make a new small table light, which will be themed on Art Deco. You will need to combine skills/ understanding using design history to guide and inspire your final light.</p>	<p>Textiles — 'Print fusion' You will design and create a pencil case / make up bag featuring an abstract, bold, and modern repeat pattern inspired by natural elements. You'll use CAD software for your designs, explore various colourways, and create digital mock-ups. The project emphasizes industry-related practices, including sublimation printing, ensuring your final product reflects current trends and appeals to a young, modern audience.</p>	<p>Food — 'Food for life' Food choice, for instance culture/religion, climate change and ethical values around animals. Practical options will be linked to this. Nutritional factors will be taught, and subsequent dishes planned to show how this can be included in food dishes. You will evaluate and reflect on how you can achieve high standard of outcomes.</p>

	<p>Assessment: Design process in Booklet and Practical light.</p> <p>'Phone holder' Theory imbedded into the design process through responding to a brief. Conducting primary and secondary research to inform phone holder, you will learn drawing techniques facilitate high quality designs. Holder made using range of tools/ equipment finishing a product to high quality.</p> <p>Assessment: Design process in Booklet and Practical holder.</p>		<p>Assessment: Design process in Booklet and Practical case.</p>	<p>Assessment: Food choices, nutrition and standard of practical dishes.</p>		
<p>Year 9 Key Themes—Deeper theory (sustainability, processes, application of their knowledge), industry links, more technical practical skills.</p>						
<p>Year 10 GCSE Product design(AQA)</p>	<p>Core Principles: Material Categories & Properties.</p> <p>Absorbency, Density, Fusibility, Conductivity, Strength, Hardness, Toughness, Malleability, Ductility, Elasticity</p>	<p>Core Principles: Development in new materials. Energy Generation & Storage.</p> <p>Fossil Fuels Nuclear power Renewable Energy Energy Storage</p>	<p>Core Principles: New & Emerging Technologies.</p> <p>Modern Materials Smart Materials Composites Technical Textiles Industry and Enterprise People Culture and Society Sustainability and the Environment Production Techniques Planned Obsolescence</p>	<p>Core Principles: Mechanical devices Systems approach to designing.</p> <p>Inputs and Outputs Processors and Microcontrollers</p>	<p>Specialist Material areas (one of): Papers & Boards Timber & Textiles materials.</p> <p>Papers and Boards Timbers and Boards Metals and Alloys Polymers Textiles</p>	<p>NEA – Context, Research, Design Brief & Specification</p>
	<p>Mini Project 1</p>	<p>Mini Project 1</p>	<p>Mini Project 2</p>	<p>Mini Project 2</p>	<p>Mini Project 2</p>	
<p>Year 11 GCSE Design & Technology (AQA)</p>	<p>NEA - Design & Development Specialist Material areas in line with AQA specification.</p>	<p>NEA - Design & Development Specialist Material areas in line with AQA specification.</p>	<p>NEA - Making Specialist Material areas in line with AQA specification.</p>	<p>NEA - Making Specialist Material areas in line with AQA specification.</p>	<p>NEA- Evaluation Revision in line with AQA specification.</p>	<p>Exam</p>
<p>Year 10 NCFE food + cookery (NCFE)</p>	<p>Health and safety. Starting with Personal hygiene, Physical and chemical contaminants. Moving onto Hazards and risks in the cooking</p>	<p>Food, nutrition and the cooking environment. Understanding food manufacturing processes, the advantages and disadvantages. Learning</p>	<p>Nutrients . You will need to understand the role that, carbohydrates, sugar, fats, protein, micronutrients, vitamins, minerals, water and fibre play in our diets.</p>	<p>Food choices allergies and intolerances. You will discover factors influencing food choices including a range of allergies and intolerances as well as</p>	<p>Key skills needed for NEA You will develop skills needed to support you in your NEA completion, such as sensory evaluation, amending recipes, meal planning, nutritional labelling and interpreting a brief.</p>	

	<p>environment and how we can implement safe working practices. You will experience practical exercises, including knife skills and the use of equipment and utensils.</p> <p>Knowledge assessment– Food health and safety.</p>	<p>about balanced diets, the eat well guide and macronutrients. You will need to understand how to adapt a meal to meet dietary requirements. Practical's include the use of setting agents and a minimum of two meal outcomes.</p> <p>Knowledge assessment– Healthy eating</p>	<p>Revising and revisiting content to ensure all knowledge to date is embedded. You will experience practical lessons making dishes that use shortening, sugar, and fibre.</p> <p>Knowledge assessment– Food health, safety, and nutrition.</p>	<p>other factors such as social, cultural, personal decisions. You will gain an understanding of how food choices can affect our economy and the food production processes such as organic food production and the use of pesticides. Sustainable factors will be taught through looking at food carbon footprint, food waste and seasonality. You will experience practical lessons making dishes consider food choices as well as a meal of your design.</p> <p>Knowledge assessment– Food choices and sustainability.</p>	<p>During practical lessons you will make set meals as well as those that you have planned or amended.</p> <p>Knowledge assessment– Units to date.</p>
<p>Year 11 NCFE food + cookery (NCFE)</p>	<p>Content area 6: Recipe amendment, development, production, and evaluation</p> <p>You will respond to a set brief which will require you to understand dietary requirements of a client and adapt a recipe accordingly. You will have to both make this and be about to evaluate your rationale/ choices.</p> <p>NEA actual Task 1, 2a and 2b</p> <p>You will complete the NEA task set by NCFE using their experience from the practice task and covering all the relevant content completed in year 10.</p>	<p>Content area 7: Plan a menu, create an action plan, produce, and evaluate the dish.</p> <p>You will respond to a brief which will require you to understand dietary, health and safety and food preparation skills. You may be asked to link this to an industry context.</p> <p>NEA actual Task 3a, 3b, 3c</p> <p>You will complete the NEA task set by NCFE using their experience from the practice task and covering all the relevant content completed in year 10.</p>	<p>Model Preparing, cooking, and evaluating a dish for someone with a health-related condition.</p> <p>You will respond to a set brief but be encouraged to use your knowledge and experience to bring your personal interpretation to what you make. You may be required to relate this to a context or industry.</p> <p>NEA actual Task 4a and 4b</p> <p>You will complete the NEA task set by NCFE using their experience from the practice task and covering all the relevant content completed in year 10.</p>	<p>Preparing and revisiting the subject content (1-5) in preparation for the exam in the June. This includes regular practice of exam questions and quizzes to test retention. Practical will also be used to reinforce prior learning.</p>	<p>Exam</p>

Year 7 - Design & Technology Curriculum Implementation Plan

Knowledge and Skills – Students will be taught to...	Reading, Oracy, Literacy and Numeracy	Formative Assessment (Ongoing)	Summative Assessment (Middle and end of project)	Link to GCSE Content
<ul style="list-style-type: none"> • Develop the Practical Skills, Manufacture Processes and Materials knowledge in all projects. • Respond to a context. • Write a design Brief. • Undertake appropriate research. • Produce a small range of ideas. • Explain the strengths and weaknesses of ideas. • Develop their chosen idea. • Use the basic drawing tools of 2D design to develop their idea. • Use tools and processes of manufacture effectively. • Understand how to work safely. • Evaluate their product and suggest possible improvements. 	<p>Reading</p> <ul style="list-style-type: none"> • Written context. <hr/> <p>Numeracy</p> <ul style="list-style-type: none"> • Measuring techniques to ensure accuracy. • Weighing appropriate ingredients. • Use a ruler and understand the difference between millimetres and centimetres. • Dimension CAD files. <hr/> <p>Oracy</p> <ul style="list-style-type: none"> • Individual speaking and explanations of design intentions 	<p>Questioning in lessons</p> <p>Whole class feedback</p> <p>Individual feedback in lessons</p> <p>Marking areas of focus and identifying areas for improvement.</p> <p>Peer and self- assessment of written work</p>	<p>Three Knowledge tests throughout the year focussing on:</p> <ul style="list-style-type: none"> • Design Process • Materials • Manufacturing Processes • Equipment/Tools • Health and Safety <p>Three marked D&T project tasks focussing on:</p> <ul style="list-style-type: none"> • Analysis and Evaluation • Design and Development • Planning and Manufacture <p><i>Students in Year 7 will also be awarded a separate 'stand-alone' grade for Food Preparation and Nutrition.</i></p>	<p>Assessment reflects the 50/50 weighting between coursework and exam.</p> <p>Developing ability to respond to exam questions.</p> <p>Developing an iterative design process.</p> <p>Experiencing a wide range of material areas that can be focussed upon for GCSE courses.</p> <p>Introducing the use of CAD/CAM required in GCSE NEA's</p> <p>Developing skills using hand tools.</p> <p>Health and Safety working practices.</p>

Year 8 - Design & Technology Curriculum Implementation Plan

Knowledge and Skills – Students will be taught to...	Reading, Oracy, Literacy and Numeracy	Formative Assessment (Ongoing)	Summative Assessment (Middle and end of project)	Link to GCSE Content
<ul style="list-style-type: none"> • Respond to the overarching themes of Creativity, User Needs and Computer Aided Design and Manufacture (CAD/CAM) covered in all projects. • Respond to a context analysing the important factors. • Write a detailed Design Brief. • Undertake appropriate research. • Produce creative ideas that solve their brief. • Analyse ideas to explain their strengths and weaknesses. • Develop their chosen idea using a range of different techniques. • Use 2D design effectively to develop their idea. • Consider appropriate materials and processes to be used for the manufacture of their product • Develop their use of tools and processes in manufacture. • Demonstrate safe working practices. • Evaluate their product and suggest possible improvements. 	<p>Reading</p> <ul style="list-style-type: none"> • Written context. • Reading of gathered research prior to analysis. <hr/> <p>Numeracy</p> <ul style="list-style-type: none"> • Measuring techniques to ensure accuracy. • Weighing appropriate ingredients. • Consider dimensions for the manufacture of their product. • Dimension CAD files. <hr/> <p>Oracy</p> <ul style="list-style-type: none"> • Individual speaking: • Discussion of design work through peer feedback and through the evaluation of a product. 	<p>Questioning in lessons</p> <p>Whole class feedback</p> <p>Individual feedback in lessons</p> <p>Marking areas of focus and identifying areas for improvement.</p> <p>Peer and self-assessment of written work</p>	<p>Three Knowledge tests throughout the year focussing on:</p> <ul style="list-style-type: none"> • Design Process • Materials • Manufacturing Processes • Equipment/Tools • Health and Safety <p>Three marked D&T project tasks focussing on:</p> <ul style="list-style-type: none"> • Analysis and Evaluation • Design and Development • Planning and Manufacture 	<p>Assessment reflects the 50/50 weighting between coursework and exam.</p> <p>Developing ability to respond to exam questions building in complexity.</p> <p>Developing an iterative design process.</p> <p>Experiencing a wide range of material areas that can be focussed upon for GCSE courses.</p> <p>Developing the use of CAD/CAM required in GCSE NEA's</p> <p>Developing skills using hand tools.</p> <p>Demonstrate an understanding of Health and Safety working practice in different environments in D&T.</p> <p>Considering real world problems to solve and the ability to design to an overall theme.</p>

Year 9 - Design & Technology Curriculum Implementation Plan

Knowledge and Skills – Students will be taught to...	Reading, Oracy, Literacy and Numeracy	Formative Assessment (On-going)	Summative Assessment (Middle and end of project)	Link to GCSE Content
<ul style="list-style-type: none"> • Respond to the overarching themes of Commercial Production and 'World of Work', Environmental Factors and Enhancement Techniques. • Creatively respond to a context analysing all factors. • Write a detailed Design Brief that fully meets the need of their user. • Undertake appropriate research. • Write a comprehensive specification or criteria. • Respond to the work of others in producing a creative range of ideas that solve their brief. • Fully analyse ideas and explain how these impact on the development. • Identify and undertake appropriate further research. • Develop their chosen idea using a range of different techniques appropriate to their product. • Choose from a range of CAD programmes (such as 2D design, Photoshop, SketchUp) effectively to develop their idea. • Plan the use of appropriate materials and processes to be used for the manufacture of their product • Independently use an ever-increasing range of tools and processes in the safe manufacture of products. • Evaluate their product against all criteria and develop possible improvements. 	<p>Reading</p> <ul style="list-style-type: none"> • Written context • Reading of gathered research prior to analysis. • Development of presentations of work to showcase their learning to others <hr/> <p>Numeracy</p> <ul style="list-style-type: none"> • Measuring techniques to ensure accuracy. • Weighing appropriate ingredients. • Consider dimensions for the manufacture of their product. <ul style="list-style-type: none"> • Dimension CAD files. <hr/> <p>Oracy</p> <ul style="list-style-type: none"> • Individual speaking: • Discussion of design work through peer feedback and through the evaluation of a product. • Present the outcomes of products produced and learning through small group presentations to peers and staff. 	<p>Questioning in lessons</p> <p>Whole class feedback</p> <p>Individual feedback in lessons</p> <p>Marking areas of focus and identifying areas for improvement.</p> <p>Peer and self-assessment of written work</p>	<p>Three Knowledge tests throughout the year focussing on:</p> <ul style="list-style-type: none"> • Design Process • Materials • Manufacturing Processes • Equipment/Tools • Health and Safety <p>Three marked D&T project tasks focussing on:</p> <ul style="list-style-type: none"> • Analysis and Evaluation • Design and Development • Planning and Manufacture 	<p>Assessment reflects the 50/50 weighting between coursework and exam.</p> <p>Developing ability to respond to more sophisticated exam questions building in complexity.</p> <p>Demonstrating that their work follows a clear and iterative design process.</p> <p>Choosing from a wide range of material areas that can be focussed upon for GCSE courses.</p> <p>Independently make use of CAD/CAM required in GCSE NEA's</p> <p>Selecting appropriate tools and processes using them skilfully to create high quality products.</p> <p>Demonstrate an understanding of Health and Safety working practice in different environments in D&T.</p> <p>Meeting users or target market groups needs effectively through the development of a final product.</p>