

YEAR 8 DESIGN TECHNOLOGY CURRICULUM PROGRESSION OVERVIEW

Design and Technology is an inspiring and practical subject. Using creativity and technical knowledge, students design and make products for real life situations. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Students will learn how to take risks and problem solve, encouraging them to become more resourceful, innovative and creative. They will study designers, manufacturers and products and through the analysis and knowledge of these, they develop a critical understanding of design and technology and its importance within the industry.

Within Food and Nutrition, students will cover a wide and varied curriculum based on food preparation and building practical skills. Students will study an array of food commodities and investigate their properties and functions within recipes, thus building a solid understanding of the dishes and ingredients they have used. Throughout KS3, students will acquire a sound knowledge of nutritional principles which allow the learner to make informed choices in diet as well as provide a smooth progression in knowledge into KS4. Alongside this, the curriculum offers essential knowledge of economic, ethical and environmental education surrounding this subject area. KS3 Food and Nutrition provides a solid foundation for progression to KS4 courses whilst delivering key knowledge and understanding of the entire food industry for students' future careers.

The Design Technology department at Huntcliff offer a fully inclusive and supportive working environment where all students can access all areas of the subject equally. Pupil premium students will be provided with all ingredients for any recipes required for Food and Nutrition lessons, they will also be provided with any design materials for both Graphics and Engineering. We recognise that students may need extra help and intervention and the Design and Technology department offer full support to ensure that all students regardless of background or ability achieve and exceed their potential. SEND students are offered alternative resources based on their individual needs. We work closely with the SEND inclusion provision within the school to ensure that they receive any extra support and the correct education depending on their needs.

We aim to stretch and challenge student's personal development by including topics designed to educate them on relevant and intriguing concepts. We focus on themes such as nutrition and maintaining healthy balanced diets and looking after their health. Students will examine how industries such as design, engineering and food effect the environment and be proactive in suggesting ways that these can be reduced. In food and Nutrition, students will study other cultures, religion and dietary needs and apply their knowledge by adapting recipes to cater for others besides themselves. Students will develop key life skills such as problem solving, team work and empathy as well as leadership and self-belief.

Year 8 is an important year in DT. It allows students to take knowledge and skills from their studies of DT at Year 7 and build on their experiences and knowledge so far. Students develop their skills with more complex practical techniques while investigating key knowledge imperative to each subject area in a more focussed and detailed way. Thus building the basis of a successful transition into KS4. As Design Technology is taught on a termly rotation, all Year 8 students will get the opportunity to experience each subject area and develop technical knowledge and a growing practical skill set in each one.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	Food & Nutrition		Graphic Communication		Materials Technology	
Core Knowledge/ Threshold Concept	<p>Health Safety & Hygiene Key storage temperatures Prevention of cross contamination Food poisoning bacteria</p> <p>Nutritional Principles Macronutrients Micronutrients – Vitamins and Minerals Energy Balance</p> <p>Practical Skills</p>		<p>Extended Project – Professional Doodling</p> <ul style="list-style-type: none"> Looking at artist Hattie Stewart, experimenting with the same techniques she uses. Using photoshop to create their own digitally manipulated design ideas while being influenced by the artist. Using a secondary photo observation of a portrait and using it as the base of their design. 		<ul style="list-style-type: none"> Safety in the workshop and safe use of equipment Specification – considerations of design & manufacture Research – Material properties - plastics Tools – Uses and safe use. Development – design development using CAD/CAM Product Manufacture – practical skills and techniques Evaluation and testing of products. 	

	Pizza Rolls Mini Carrot Cakes Chicken Chow Mein Spaghetti Bolognese Chicken Parmesan and Layered Salad Chocolate Mousse and Shortbread Biscuits	<ul style="list-style-type: none"> Developing their best design until they get to their final design. The art formal elements are used for the development and final design process. 	
Why this learning now?	<p>Theory Year 8 studies in Food and Nutrition build on those covered in Year 7. In the first half term of Year 8, students will begin by recapping and reviewing food hygiene and health and safety, prior knowledge and understanding is developed further by introducing new concepts such as key storage and cooking temperatures and their effects on bacteria, and terms such as cross contamination and its prevention. Leading on from this, students will focus on their nutritional principles and build on their prior knowledge of food groups and their functions. Here, students expand their understanding of nutrition by focussing on Macronutrients, micronutrients and energy balance. Students will use discussion and research to gain valuable knowledge into these concepts and will allow them abilities to adapt recipes and cater for others from different walks of life to their own.</p> <p>Practical Outcomes The first practical the students produce is Pizza Rolls. Here, the students expand their bread making skills and practice of use of the oven. Again, students are encouraged to discuss the nutritional advantages and disadvantages of the finished dish. Similarly the second practical, Carrot cakes building on the basic cake making completed in Y7 and introduces more complex processes such as creaming methods, piping techniques and understanding the role of each ingredient. The third practical lesson in Year 8 is Chicken Chow Mein. This recipe draws upon their previous lesson of food hygiene, key storage temperatures and cross contamination. It also includes new skills of handling raw chicken and ensuring its safe preparation and cooking. They will also explore the nutritional properties of the dish and evaluate their advantages and disadvantages.</p> <p>Following the students understanding and knowledge of multicultural food, they will produce spaghetti Bolognese, again practicing new skills of handling, preparing and cooking raw mince safely. They will also focus on the concepts of reduction of sauces and</p>	<p>Year 8 studies in graphics follow a similar structure to Year 7. The design process that the curriculum is designed around is the same as what is followed in KS4. As the learners progress to year 8, they will acquire new skills and knowledge in another important program – Photoshop. The learners begin Year 8 by being introduced to workings of photoshop. Here they will be taught to use basic tools to manipulate images that will become essential to their studies at KS4. Following on from this, learners will produce an analysis of existing designs. This is another new skill and another aspect of the design process that learners will require for KS4 studies. This step in in place of artist contextual studies and demonstrates to the learner another way of gaining inspiration for their own design. Following on from these stages, the learners next lesson will include them producing some initial designs. These will then be peer assessed and reviewed to assess which one the learners will take forward. This final design will then be transferred onto photoshop producing their final design. The project is then extended by using photoshop to produce a design. Learners then continue to develop their design by use of the art formal elements. Learning how to design correctly is imperative to the learner's success at KS4 hence the repeat of design techniques and increase in skill level throughout KS3. Increased levels of skill in photoshop are then practiced by transferring designs to the program before being printed.</p> <p>All graphics classwork is accessible to all abilities of all learners. Templates and additional/alternative resources are available for any learner who requires more support, whereas learners have opportunities to stretch and challenge themselves with independent study and infinite design possibilities. SEND learners are provided with individual learning plans depending on their needs. Additional support resources are available to all by means of help desk booklets and instruction manuals to promote independent learning.</p>	<p>Year 8 engineering sees the students experience more complex tools and equipment such as the belt sander and the drill, as well as more specialist engineering tools. It is essential that students are aware of their correct usage as well as their place within the engineering industry. Year 8 engineering will follow the same design process as year 7, however this terms work will see the introduction of industrial process and heavier links to the KS4 specification. This allows the student a growing basic knowledge of this component to ease their progression to KS4. Students will also have the opportunity to study sustainability of materials and expand their personal development with environmental issues surrounding the engineering and product design industry. Students will evaluate materials on their effectiveness, usage and environmental sustainability. This also provides excellent subject knowledge for KS4 in component 2 of the BTec course which requires students to investigate materials and suggest correct ones for specific products.</p>

	<p>addition and effects of cultural ingredients such as herbs and spices.</p> <p>The fifth practical that Year 8 will undertake will be Chicken Parmesan and Layered Salad. This is completed as a practical assessment where students will be assessed on their ability to utilise resources such as recipes and live demos as well as their experience and knowledge of food safety in order to work independently.</p> <p>Finally, they will produce a chocolate mousse with new skills of separating and aerating eggs along with safe melting of chocolate. Dishes are increasingly encouraged to be presented professionally and these are recorded in their booklets.</p>		
Assessment Opportunities:	<p>Every lesson has:</p> <ul style="list-style-type: none"> - A recall starter - Self-assessment opportunities (set against ARE's) these are visible to the students and act as success criteria. - Formative assessment from teachers (set against ARE's) - Food and nutrition practical work is reflective with mark scheme that mirrors KS4 techniques and skills. <p>End of Unit Assessments</p> <ul style="list-style-type: none"> - Each subject has both a theoretical assessment (teacher assessed) based on learning of each term - Each subject has a practical assessment based on either the final product outcome (MT/GC) or a targeted practical (FN) 		
Learning at Home	<p>Homework will be set and teacher assessed once per topic (minimum).</p>		
Key Vocabulary	<p>Hygiene Macronutrient Micronutrient Vitamin Minerals Carbohydrate Protein Energy</p>	<p>Artist research, colour block collage, doodling, design development, formal elements.</p>	

Spiritual, Moral, Social and Cultural concepts covered	<p>The Design Technology curriculum provides students with the opportunity to learn about and discuss current issues in the design and manufacturing industry as well as food production.</p> <p>More specifically, concepts covered are:</p> <p>Spiritual – Food and religions, analysing artists/designers work.</p> <p>Moral - Ethics in food provenance, recycling materials, sustainability.</p> <p>Social – impact of food choice and influences. Social influences into design. Examining social factors of products and why they are successful.</p> <p>Cultural – farming in different countries. Use of materials in other cultures. Designers and artists cultural links.</p>
Links to careers and the world of work	<p>Strong links to careers in each subject – discussions on food industry careers beyond the 'chef role'. Links with engineering industry – investigating different types of engineering and their roles. Teaching professional skills and techniques.</p>