Key Stage Three Curriculum Overview for D+T Faculty

Curriculum Intent

At Witchford Village College Design and Technology at Key Stage 3 is delivered through a range of specialist areas, including **Product Design, Textiles** and **Food Technology**. Throughout KS3, students are exposed to a variety of materials, processes and design contexts that provide a broad understanding of the **iterative design process** (design, make and evaluate). By the end of Key Stage 3, all students will have had the opportunity to complete a range of projects, develop practical and creative skills, and gain an understanding of how design and technology influences the world around them.

Students will learn to:

- Use creativity and imagination to design and make products that solve real and relevant problems.
- Apply the iterative design process to develop, test and improve ideas.
- Work within a range of contexts, considering their own and others' needs, wants and values.
- Develop resilience and confidence when facing challenges and taking risks in their learning.
- Become resourceful, innovative, enterprising and capable citizens in an increasingly technological world.

Throughout the discrete areas of DT, Health and safety is conveyed as paramount with students taking an 'active' part in risk identification and mitigation (guided heavily by teaching staff)

How does the KS3 curriculum build on that from KS2?

Pupils at Key Stage 2 tend to experience DT as part of creative 'making' tasks that have less of an impact and link to the creative design industries. Products are limited in scope and tend to be directly linked to a local context, it is normal for outcomes to have a set form that is limited and shows a strong element of design fixation. – Moving beyond this happens in all areas of the DT curriculum building on prior knowledge.

Project briefs are taken further away from focused practical tasks and have greater elements of real-world problem solving. One key area of this is Identifying design issues (development) and using research actively to solve the arising design issues.

Materials and tools are increased in complexity and range to give students a broader ability. Combining these skills with accuracy is a mark of high ability and is rewarded in the grading systems at KS3.

Recording and developing ideas in a range of ways; including exposure to CAD, Isometric, orthographic and various rendering techniques is built into projects along with a modern digital record keeping process that will supports students' ability to move to the next key stage successfully as needed. At KS2 this skill set tends to be limited to hand based drawing skill that often use pre-made templates.

The Food Technology curriculum has a heavier focus on the need to be able to cook and manage a diet holistically giving access to the skills needed for safe selfcare. It also includes design and creative skills where appropriate, moving beyond following an exact recipe, by having some choice within ingredients. This will also support the knowledge and skills needed to progress confidently to the next Key stage.

What do students do with their acquired knowledge and skills?

This Falls into to distinct categories:

1) Practical elements and knowledge will enable the grass root skills to be developed that are applicable to use in a wider context of life, making, building fixing, preparing (food). This practical understanding of how materials, resources and tools are used will enable wiser decisions later in life. It will also prepare them for development to the next Key stage if they choose to take it. We relate this skill set to the wide range of professions that may be applicable.
2) Theoretical wider design knowledge will support students to have a strong cultural understanding of design and manufacture in the context of industry, this will also support them in progression in Design and Engineering careers but the structure and content has been carefully selected so students can make active use of the developing cognitive skills no matter the future career.

How does the curriculum align to and go beyond the National Curriculum?

Students at Witchford Village College are given greater access to digital resources and working methods then would be typical of key stage 3 secondary education. Encouraging larger scale thinking and designing, and organised record keeping that is more typical of KS4 by the end of the key stage.

By teaching Creativity as a skill set that can be controlled and mastered by the student, we enable a greater access to this area of study. This holistic skill will support confidence in a wider range of career opportunities beyond the key stage limits of DT. In each project we include work that goes beyond the standardised practical work to support learning that encourages avoidance of design fixation.

We are proud of the built-in links to design eras, influences and industry that support a wider subject awareness – Giving student greater wisdom then the scope of KS3 national curriculum and supporting the students to understand how other subjects are integral a range of demanding design careers.

What new knowledge are students taught?

Term	Year 7	Year 8	Year 9
Product Design	**Boxy** • Basic health and safety in the workshop • Marking out, cutting, sanding Plywood and MDF, drilling, cold forming, finishing. • Using machinery and hand tolls with a degree of control. • Understand basic construction methods. • Understand the properties of basic materials, wood and metal.	**Photo Frames** • Developing accuracy of joins (mitre, rebate). • Strengthen understanding of tolerances. • Using machinery and hand tools with a degree of control and precision. • Understand and apply the properties of materials (ply, acrylic). • Show a higher level of independence in the workshop.	**Lamps** • Master accuracy to produce durable and well-designed products. • Apply quality controls when using machinery and hand tools. • Introduction of systems and controls. • Construction that includes more complex and advanced skills and techniques. • Use the properties of materials to create functional products.
Textiles	**Monsters Keyrings** • Investigating Current Design Trends • Designing to meet a brief • Making and using pattern pieces. • Basic hand stitching techniques. • Showing understanding of construction to make a functional product.	**Weave – Fast Fashion** • Introduction of 6 R's of sustainability within Design and Technology. • Build their own hand looms. • Design and make a piece of woven fabric. • Apply designs to wider contexts • Present and articulate their ideas for a more sustainable design within their chosen interests.	**Plastic Bags – 6 R's** • Develop an understanding of sustainability and its importance within the design industry. • Create fabric using recycled plastic bags. • Design and model a new bag using paper prototypes. • Make a prototype bag using recycled plastic fabric. • Develop hand and machine stitching skills to construct and decorate products. • Evaluate designs and products to identify strengths and areas for improvement.
Food Technology	**Key skills and understanding** • Following health and safety. • Following and amending a recipe. • Weighing and measuring. • Eatwell guide, 5 a day, portion sizes. • Knife skills. • Using the hob and oven. Dishes Made: Pasta Salad, Pizza, Chicken Goujons, Vegetable Stir-fry, fruit Crumble.	**Mastering skills and understanding** • Understanding food safety. • Developing recipes. • Accuracy and control. • Cooking methods for health, convenience and quality. • Presentation. • Heat control. Dishes Made: Pizza Wheels, Swiss Roll and Custard, Cheesey Pasta, Jam Tarts, Burger and chips.	**Applying skills and understanding** • Applying hygiene and safety. • Accompaniments and side dishes. • Dietary requirements. • Garnishes and plating up. • Specific equipment and techniques. Dishes Made: Carbonara, Bacon and Mushroom risotto, Asian fishcakes and law, Bakewell Tart (no nuts)
Grading	***Grading is on a 1-9 scale and is reduced to a single grade to go home but in school students will see how this breaks down into different core skill areas and how this applies to the projects they study through the year.***		

How and where do students build knowledge through KS3?

The sequencing of units and lessons allow for a logical progression of skills in a safe manner – many units have a research and style focus the enables a wide knowledge of the development of design. Each project targets new knowledge and skills discreetly within the consistent use of the design process.

We use a standardised design assessment criteria which helps to ensure students development is tracked across the years and gives students a static ground to measure progress and improvements.

We aim to give students practical application of skills wherever possible to support long term knowledge retention, building on theoretical concepts.