Key Stage 3 Curriculum Overview – Design Technology
Year 9

Curriculum Intent

Vision / Intent:
To provide a fun, stimulating, inspiring and enthusiastic environment for students to thrive in.
To ensure students reach their full Technology potential: to stimulate originality and enterprise, develop practical capability in designing and making and encourage the adaptability needed to cope with a rapidly changing society.
We aim to equip students with the creativity, practical skills, enthusiasm and determination to realise their ideas. We want to prepare them to be the designers of our future.
Approach / Philosophy / Implementation:
The students undertake 'real' design problems and skill projects using a range of materials including card, electronics, fabric, food, metal, plastic and wood. The individual problems set are generally relevant to the students' experience, e.g. items for the home.
Students are taught to develop their design and technological capability through combining their 'designing' and 'making skills' with 'knowledge and understanding' in order to complete a product.

Through engaging, stimulating lessons students will:

- Develop their creativity
- Develop their practical skills and application of them
- Develop greater problem-solving skills
- Develop resilience and a positive mindset to enable them to overcome obstacles to ensure they complete all work
- Take a real pride in their work and produce work to the best of their ability

Students complete 3 units of learning throughout the year on rotation.

Unit 1	Introduction into workshop safety. **Main focus:** Develop the use of casting to create a piece of jewellery. **By the end of this unit students will be able to:** Communicate design idea Sequence order of work Understand the process of casting Understand how to create a mould Use CAD/CAM to strengthen and improve the accuracy and detail of their work Recognise that the quality of a product depends on how well it has been made Use CAD/CAM to make a single product to ensure accuracy and consistency. Test how well their product works. Evaluate their work, stating what is going well and what they need to improve on.

Evidence of learning	By the end of these units of work, students should show: To communicate design ideas in writing and drawings. Evaluate their work and the work of others. Develop their use of hand saws and other tools Develop their use of machines Be able to cast a product. Develop their ability to create a quality finish to their products. Develop their use of CAD/CAM
Links to prior learning	All projects link to drawing and communication of their design ideas, and evaluation of theirs and others work. Develops the use of hand tools and machines from the year 7 box project and year 8 Lamp project Develops their use of CAM/CAM from the year 7 box lid and mobile phone holder projects.
Links to future learning	Transition toward more independent GCSE studies GCSE Coursework Preparation: Developing a portfolio that meets Assessment Objectives Specialised Disciplines: Laying groundwork for future studies in Food Preparation and Nutrition (sensory analysis, food properties) Product Design (iterative modelling, consumer appeal)
Unit 2	Introduction to room and machinery safety **Main focus**: Design a product to a set specification, using research to inform their design. Develop an understanding of meeting a design brief to successfully design and make a product. A clock. **By the end of this unit students will be able to:** Research information around their product, looking at a design style or key designer. Evaluate an existing product. Communicate design idea Understand simple electronical components. Understand how to permanently join electrical components to for a circuit. Use CAD/CAM to strengthen and improve the accuracy and detail of their work Recognise that the quality of a product depends on how well it has been made Use CAD/CAM to make a single product to ensure accuracy and consistency. Test how well their product works. Evaluate their work, stating what is going well and what they need to improve on.
Evidence of learning	All projects link to drawing and communication of their design ideas, and evaluation of theirs and others work.

Links to prior learning	All projects link to drawing and communication of their design ideas, and evaluation of theirs and others work. How to use hand tools, machinery and CAD. Also, use of knowledge of materials from the different projects in years 7 and 8.
Links to future learning	Transition toward more independent GCSE studies GCSE Coursework Preparation: Developing a portfolio that meets Assessment Objectives Specialised Disciplines: Laying groundwork for future studies in Food Preparation and Nutrition (sensory analysis, food properties) Product Design (iterative modelling, consumer appeal)
Unit 3	Introduction to Food safety and hygiene **Main focus:** Further develop their cooking skills and the ability to design and adapt recipes **By the end of this unit students will be able to:** Develop use of cutting skills (bridge and claw) Develop and create a recipe Follow instruction to create a dish Shown through making a granola bar Mix ingredients and use the hob safely. Using the oven to make a variety of dishes. Use a variety of raw meats, understand how to prepare them and cook them. Develop their understanding of pastry, cooking a variety of sweet and savoury dishes. Understand different cooking methods to make cakes E.g. Swiss roles and muffins. Develop different cooking techniques. Understand food safety and how to separately prepare meat and ensure meat is cooked though making sausage rolls. Understand the baking process and how the different ingredients affect the end product by experimenting with cup-cake mixes.
Evidence of learning	Both written and drawing work in their booklets. Exploration of design ideas that are developed into a final design. Evaluate their work and that of others in all projects. End food products have been cut up accurately and combined, showing the ability to follow a set of instructions.
Links to prior learning	All projects link to drawing and communication of their design ideas, and evaluation of theirs and others work. Develops the use of combining foods, using methods such as the rubbing in, making pastry, cooking with raw meat etc.
Links to future learning	Transition toward more independent GCSE studies GCSE Coursework Preparation: Developing a portfolio that meets Assessment Objectives Specialised Disciplines: Laying groundwork for future studies in Food Preparation and Nutrition (sensory analysis, food properties) Product Design (iterative modelling, consumer appeal)

Reading in the curriculum (Literacy & Vocabulary)

Students are introduced to appropriate and subject specific language throughout the course and the development of the student language is constantly developing. Different meanings for words are emphasised e.g. the different meaning for Square in DT and Maths.

Careers in the curriculum

Architect, designers of any product, engineer, food scientist, any career that involves the making of any product, chief, and work in the food industry, any working trade in the construction industry or maintenance, involvement in the design or making of any items involving fabrics, product researcher, product buyers.

Protected Characteristics in the curriculum

Holywell's DT curriculum and extra-curricular provision is designed to ensure there are opportunities for all our students, regardless of race; gender; where they live; their previous experience; parental income; whether they have special educational needs or disabilities; and whether they are looked after children.

All pupils receive the same lessons and are able to develop to their potential and have access to all the design projects. There are no restrictions.

The curriculum covers a diverse range of designers and influences from a wide range of cultures.

Safeguarding including safety in the curriculum

The provision for health and safety for students and teachers in the school is essential. All DT staff undergo regular training required for the processes and equipment that they use. Risk Assessments have been adopted from BS4163 to cover all aspects of DT, all processes and equipment used.

Specific PPE is required for certain activities, (apron, goggles etc).

All students are taught about general workshop and workroom safety and all are given specific training on all pieces of equipment that they will use.

Students are briefed before all lessons on aspects of safety and are checked to ensure they are not only wearing the correct/appropriate

Values across the curriculum

The DT curriculum promotes and develops many of our Holywell values regularly - Equality, Courage, Responsibility, Resilience, Self- worth and Self-Regulation, Respect, Joy and Peace

Spirituality in the curriculum

Though DT pupils are able to experience and develop their spirituality that the flowing;

Celebrate the success of their work and that of others. See their work enjoyed by others.

Peer on peer feedback, allows pupils to enjoy success and take critical feedback with grace.

Develop a personal pride an owe in the end products they design and make.

Develop their ability to allow them to push their creative talents.

Develop an open-minded approach to their work and willingness to explore ideas.

Celebrate their successes, but also allow them to try and fail with grace, developing their perseverance to try again. Especially when casting in pewter.

Understand where we get our materials from, the wonder in how they look and how they grow. Use materials in a sustainable way, making sure we use materials in an economic way, and not waste precious materials.

Looking at key designers and the impact they have had on our lives.

Teaches them to look after their physical wellbeing through a healthy diet.

How we track your progress Progress is tracked as pupils move through the projects with verbal feedback on their design work and ongoing feedback as pupils move through the making side of their work. All projects are evaluated and marked at the end of the project.
Parents/Carers can support their child by: Encouraging your child to explore designers and design and make items at home. Show your child how to cook and encourage them and give them opportunities to cook at home. https://www.bbc.co.uk/bitesize/subjects/zbtvxyc https://www.bbc.co.uk/bitesize/subjects/zdn9jhv https://www.bbc.co.uk/bitesize/subjects/zvg4d2p https://www.bbc.co.uk/bitesize/subjects/z9qy6yc https://www.technologystudent.com/
Sustainability within the subject Pupils are shown how to mark out and cut out materials using as little waste as possible. We use off cuts where possible for small pieces of work to be used We look at where wood comes from, sustainability and the use of man-made woods and their characteristics. We discuss the use of foods, food waste and ingredient alternatives.