



Key Stage 3 Technology

Introduction/Intent

1. What is the Design and Technology Department trying to achieve through the KS3 curriculum? (Intent)

The KS3 course offered at The Heathland School is broad and balanced. It develops valuable subject specific knowledge and skills that pupils will use throughout their life. Pupils also develop an enjoyment of the practical element of the courses offered. The subject areas covered at KS3 prepare pupils to make informed choices and enable students to specialise in either Design Technology, Food Preparation and Nutrition or Art & Design:Textiles as one of their GCSE choices.

2. How is the curriculum being delivered? (Implementation)

Pupils in Year 7 to Year 9 receive a double period of Technology a week (Total time: 1 hour 40 minutes). A rotational system operates at Key Stage 3 in which pupils are usually taught four modules a year covering; Food, Textiles, Resistant Materials, Product Design and Graphics. Each module lasts approximately 9 weeks. Pupil progress during the module is monitored by their Technology teacher. Pupils are taught in classes set according to their ability and there are currently four sets in each of the three bands (with the exception of five sets in the x band). The Schemes of Work and Programmes of Study are differentiated and based on the National Curriculum Orders for Design and Technology. All pupils can access all resources (PowerPoints and pupil booklets etc) via SharePoint and are also provided with A3 pupil workbooks for each module. These outline the theory content needed for lessons and help pupils be organised with their homework. If a pupil is absent from lesson they can quickly check the homework set by referring to the front of the pupil workbook. The department maximises the amount of time pupils are carrying out practical work as we firmly believe that pupils learn best through 'doing'. There is a strong emphasis on practical work underpinned by focused theory lessons and homework (much of which is aimed at developing creativity). High quality teacher demonstrations ensure that pupils understand the practical task/process. In many areas pupils are organised in small teams and a supportive team work environment is developed. There are a wide range of extra-curricular clubs offered to enable pupils to develop their practical skills and receive additional help with Design and Technology homework.

3. What difference is the curriculum making? (Impact)

Design and Technology at KS3 helps pupils develop their creativity and practical life skills across a wide range of materials. It provides an opportunity for pupils to design, make and understand about the effect of products on the environment & people. Pupils learn how to research and solve real problems which is a skill valuable in all subjects. They learn about materials, processes and tools so that they can independently make things with different materials. We want pupils to feel proud of what they have produced and informed about the process they have taken to get to that point. Through practical lessons and clubs pupils are encouraged to engage and immerse themselves with the class materials, do the work with deep thought, interact with the teacher to understand how they can do better, seek out additional resources to deepen their understanding of the topic. This helps pupils be well-rounded citizens that have acquired the knowledge and cultural capital they need to succeed in life. The knowledge and skills they have acquired will be of use for the rest of their lives.



Year 7

Resistant Materials	Food Technology	Textiles
<p><u>Mechanical Toy Project</u> A toy shop wants a new range of wooden mechanical toys. Create a mechanical toy based on the designs and templates given to you.</p> <p>Week 1: Target setting, introduction to project, marking out wood. Homework: Complete Homework booklet task set by your teacher</p> <p>Week 2: Marking out dowel joints Homework: Complete Homework booklet task set by your teacher</p> <p>Week 3: Marking out finger joints Homework: Choose a character for your mechanical toy and print it out in a variety of sizes</p> <p>Week 4: Finishing dowel joints Homework: Complete Homework booklet task set by your teacher</p> <p>Week 5: Finishing finger joints Homework: Complete Homework booklet task set by your teacher</p> <p>Week 6: Marking out character, handle and stopper. Removal of waste.</p>	<p><u>Pizza Project:</u> The Heathland School canteen wants to extend their range of pizzas. You need to design and make a pizza which meets the requirements of the specification.</p> <p>Week 1: The basics about hygiene and safety, weighing and measuring, nutrition and the Eatwell plate. Homework – Research the Eatwell Guide</p> <p>Week 2: Practical - Fruit Salad, enzymatic browning Homework – Create your own Eatwell Guide</p> <p>Week 3: Practical - Couscous salad, make your own dressing (emulsions) Homework – Learn Nutrients (page 2)</p> <p>Week 4: Cake Investigation Homework – Practice knife skills (claw grip and bridge hold)</p> <p>Week 5: Practical - Stir fry Homework – watch videos on how to make pizza dough</p> <p>Week 6: Practical - Milkshake (Introduction to pizza project)</p>	<p><u>Storage project:</u> Storage is often a problem. Design and make an item to help you organise yourself. Your design must include your initials and reflect your personality. The product must be able to be used to store items you need in school every day e.g. functions as a pencil case.</p> <p>Week 1: Target setting, introduction to project, equipment, sewing machine and tie dye sample. Homework - Collage/Inspiration Board of fabric pencil cases- Print A3 colour</p> <p>Week 2: Complete practical samples of a range of a range of decoration techniques and stitches (page 3) Homework – Learn names and spellings of textiles equipment- page 2</p> <p>Week 3: Finish practical samples of a range of a range of decoration techniques/ Page 3 literacy skills Homework - Final design page 4</p> <p>Week 4: Practical - Production of product Homework – Design 1- page 4</p> <p>Week 5: Practical - Production of product Homework – Design 2 -page 4</p> <p>Week 6: Practical - Production of product Homework – Design 3- page 4</p>



<p>Homework: Research videos on CAM mechanisms</p> <p>Week 7: CAMs and Followers. Sanding edges Homework: Complete Homework booklet task set by your teacher</p> <p>Week 8: Dry run, use of clamps and gluing up Homework: Complete Homework booklet task set by your teacher</p> <p>Week 9: Applying finishing techniques Homework: Use the photo of your final outcome to evaluate your mechanical toy</p> <p><u>Mobile Phone Stand Project</u> A cartoon company wants you to produce a prototype of a low cost phone stand to be given away with the new Blu-ray box set of the latest series.</p> <p>Week 1: Introduction to 2D Design, image research, basic CAD drawing techniques Homework: Complete Homework booklet task set by your teacher</p> <p>Week 2: Design correction, documentation of learning and design testing Homework: Complete Homework booklet task set by your teacher</p> <p>Week 3: Product manufacture and evaluation</p>	<p>Homework – Functions and cost table page 3</p> <p>Week 7: Practical – Pizza (margarita) Homework – Nutrients and seasonal vegetable table page 3</p> <p>Week 8: Practical - Making final pizza Homework – Evaluation</p> <p>Week 9: Practical – Free Choice/ catch up lesson Homework – Green pen your work to apply improvements to all pages of the design folder</p>	<p>Week 7: Practical - Production of product Homework - Design 4- page 4</p> <p>Week 8: Practical - Production of product Homework - Design 5 -page 4</p> <p>Week 9: Practical - Production of product Homework - - Apply the Green Pen Policy to improve your work. Photograph and print a copy of your final textiles product.</p>
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Homework: Screenshot your 2D design image and evaluate the work you have produced on 2D design

Graphics Logo Project

Design a new logo for a department in the Heathland School using Adobe Photoshop.

Week 1: Research images for help with logo generation and design logos by hand using the research gathered for inspiration.

Homework: Complete Homework booklet task set by your teacher

Week 2: Introduction to Photoshop, file properties, image resolution, selection tools & colour manipulation

Homework: Complete Homework booklet task set by your teacher

Week 3: Section tools, colour manipulation and printing settings.

Homework: Research videos on how Photoshop is used in industry



Year 8

Resistant Materials	Food Technology	Textiles
<p>Skills Box Project Demonstrate your practical skills by making a multi-joint box based on the working drawings provided.</p> <p>Week 1: CAD lid design Homework: Complete Homework booklet task set by your teacher</p> <p>Week 2: Handle production, use of taps and dies Homework: Complete Homework booklet task set by your teacher</p> <p>Week 3: Finger Joints corner week 1 Homework: Research videos on sharpening chisels</p> <p>Week 4: Finger Joints corner week 2 Homework: Complete Homework booklet task set by your teacher</p> <p>Week 5: Finger Joints corner week 3 Homework: Complete Homework booklet task set by your teacher</p> <p>Week 6: Dowel Joints corner week 1 Homework: Research videos on types of welding</p>	<p>“Gregg’s - The Bakers” has hired you to extend their range of pastry products. You need to design and make a pastry that meets the specification.</p> <p>Week 1: Target setting, introduction to pastry making project, role of different ingredients, research target group and their dietary needs Homework - Complete and print the research (1 A4)</p> <p>Week 2: Practical - Tropical Granola Bar (Sustainability) Homework – mood board on finishing techniques of pastries</p> <p>Week 3: Practical - Macaroni Cheese (Gelatinisation) Homework – watch videos on making, shaping and filling pastry dough</p> <p>Week 4: Practical - Spicy Bean Burger or Meat Koftas (Role of eggs/bread crumbs as binding agents) Homework – Functions of ingredients page 3</p> <p>Week 5: Practical - Spicy Tomato Soup Homework – Costing page 3</p>	<p>Design and make a decorative item to suit the style of one of the rooms in your house.</p> <p>Week 1: Target setting, introduction to project, complete practical samples using a range of decoration techniques. Homework – Evaluate Samples (page2-3) and print A3 inspiration board on cushions</p> <p>Week 2: Finish practical samples using a range of decoration techniques. Homework - Evaluate Samples (page2-3) and draw and label final idea, include fabric swatches, colour and decoration techniques (page 4)</p> <p>Week 3: Production of product Homework – Complete additional practical work</p> <p>Week 4: Production of product Homework – Design 1 (page 4)</p> <p>Week 5: Production of product (decoration techniques) Homework - Design 2 (page 4)</p> <p>Week 6: Production of product Homework - Design 3 (page 4)</p> <p>Week 7: Production of product Homework - Design 4 (page 4)</p>



Week 7: Dowel Joints week 2

Homework: Complete Homework booklet task set by your teacher

Week 8: Housing Joints week 1

Homework: Complete Homework booklet task set by your teacher

Week 9: Housing Joints week 2

Homework: Research videos on how plywood is made

Week 10: Construction of lid and gluing up

Homework: Complete Homework booklet task set by your teacher

Week 11: Cleaning of surfaces and use of planes

Homework: Complete Homework booklet task set by your teacher

Week 12: Applying finishing techniques and marking

Homework: Use the photo of your final product to evaluate your work.

Diary Design Project

You have been tasked with designing a new cover for either Upper and/or Lower School diary for The Heathland School.

Week 6: Practical - Indian Vegetable Pulao

Homework – Nutrients page 3

Week 7: Practical - Investigation (Role of Fats)

Homework – write up results page 2

Week 8: Practical - Final pastry Idea

Homework – list sustainable ingredients used in your final idea

Week 9: Practical – Developed pastry Idea

Homework - Work on green pen/EBI's/MRI's to apply improvements to all pages.

Week 8: Production of product

Homework - Design 5 (page 4)

Week 9: Production of product

Homework - Apply the Green Pen Policy to improve your work. Photograph and print a copy of your final textiles product.



Week 1: Design 3 ideas for your diary on paper – drawing skills

Homework: Complete Homework booklet task set by your teacher

Week 2: File creation, tools and anchor points in Adobe Illustrator

Homework: Complete Homework booklet task set by your teacher

Week 3: Resolution, layers, transparency, selection tools in Adobe Photoshop

Homework: Use online tutorials to find out how to do different processes on Photoshop

Week 4: Digital collage and background design in Adobe Photoshop

Homework: Complete Homework booklet task set by your teacher

Week 5: Brushes, masks and print settings in Adobe Photoshop

Homework: Complete Homework booklet task set by your teacher

Week 6: Produce an alternative diary design using the skills you have gained during this project

Homework: Research videos on text effects in Photoshop



<p>Week 7: Presentation of solutions and selection of proposed designs Homework: Finish all diary designs and e-mail them to your teacher for selection</p>		
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Year 9

Resistant Materials	Food Technology	Textiles
<p><u>Product Manufacture Project</u> Manufacture two products chosen from those presented by your Teacher using the working drawings provided. You will need to use the practical skills you have learnt in Year 7 & 8 to select and use tools to make you practical products.</p> <p>Week 1: Research and design ideas for 1st practical project Homework: Complete Homework booklet task set by your teacher</p> <p>Week 2: Practical completion of 1st practical project Homework: Complete Homework booklet task set by your teacher</p> <p>Week 3: Practical completion of 1st practical project</p>	<p>Our food choices are benefitting from the multicultural society in which we live. Design and make a product that celebrates the food from another country/culture and meets the specification.</p> <p>Week 1: Target setting, introduction to international project, research 6 recipes you will cook Homework - Complete the research and print the recipes</p> <p>Week 2: Practical - Design idea 1 Homework – Research garnishing and decorating techniques for the products you will make (print A3)</p> <p>Week 3: Practical - Design idea 2 Homework – testing results + photo</p>	<p>Design and make a textiles product that solves a problem of your choice. Identify the user/target market. The item could be a bag, ipad case, t-shirt or simple shift dress.</p> <p>Week 1: Samples of decorative techniques, set up a Pinterest account, research ideas and decoration techniques on Pinterest. Homework – Inspiration board focusing on the theme for the product you will make, print A3.</p> <p>Week 2: Samples of decorative techniques and sketches of design ideas (page 2) Homework – Draw you final idea and add swatches on A4 or A3</p> <p>Week 3: Production of product Homework–Research a new decorative technique, including step by step and print</p>



<p>Homework: Research videos on production of materials</p> <p>Week 4: Finishing off 1st practical project and evaluation Homework: Complete Homework booklet task set by your teacher</p> <p>Week 5: Marking out materials for 2nd practical project Homework: Complete Homework booklet task set by your teacher</p> <p>Week 6: Practical completion of 2nd practical project Homework: Research videos on using CAD/CAM as a design tool</p> <p>Week 7: Practical completion of 2nd practical project Homework: Complete Homework booklet task set by your teacher</p> <p>Week 8: Practical completion of 2nd practical project Homework: Complete Homework booklet task set by your teacher</p> <p>Week 9: Finishing off 2nd practical project and evaluation</p>	<p>Week 4: Practical - Design idea 3 Homework - testing results + photo</p> <p>Week 5: Practical - Design idea 4 Homework - testing results + photo</p> <p>Week 6: Practical - Design idea 5 Homework - testing results + photo</p> <p>Week 7: Practical - Design idea 6 Homework – choose your final idea and complete nutritional analysis</p> <p>Week 8: Practical – catch up/ free choice Homework - Apply the Green Pen Policy to improve your work</p>	<p>Week 4: Production of product Homework – Complete additional practical work</p> <p>Week 5: Production of product Homework – Research a fashion designer your project is based on and print images of their work.</p> <p>Week 6: Production of product Homework – Research another fashion designer your project is based on and print images of their work.</p> <p>Week 7: Production of product Homework - Research another fashion designer your project is based on and print images of their work.</p> <p>Week 8: Production of product Homework - Research another fashion designer your project is based on and print images of their work.</p> <p>Week 9: Production of product Homework - Apply the Green Pen Policy to improve your work. Photograph and print a copy of your final textiles product and add WWW+EBI</p>
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Homework: Research videos on sustainable design

Graphic Communication & Design Project

In this module you will study presentation and design techniques intended to improve your ability to generate your own, creative design ideas and communicate your concepts. You will be required formally present some of your work to the class.

Week 1: 3D Drawing Techniques

Homework: Complete Homework booklet task set by your teacher

Week 2: Presentation boards and skills

Homework: Complete Homework booklet task set by your teacher

Week 3: Presentation boards and skills

Homework: Research videos on design presentation techniques

Week 4: How to find a design problem – preparation for GCSE NEA

Homework: Complete Homework booklet task set by your teacher

Week 5: Design ideas – mini design project

Homework: Complete Homework booklet task set by your teacher



Week 6: Realising design – mini design project

Homework: Research videos on upcycling

Week 7: Finishing design and evaluation – mini design project

Homework: Complete Homework booklet task set by your teacher

Week 8: Past/present designers (GCSE list) design task – designing

Homework: Complete Homework booklet task set by your teacher

Week 9: Past/present designers (GCSE list) design task – model making

Homework: Research videos on how designers use inspiration from nature to help their design ideas (biomimicry)