



Boardworks KS3 D&T: coverage of new programme of study (2008)

Boardworks KS3 D&T is ideal for teaching the new KS3 programme of study and supporting young people to fulfil the curriculum aims and opportunities.

Overview

The product is split into 3 key areas: Food Technology, Resistant Materials and Systems and Control and Textiles Technology, with three additional mini-projects. The mini-projects are there to foster cross-curricular links and to get students to take a slightly more holistic approach to their D&T learning experience. The mini-projects show how D&T has shaped the world in which the students live and the role D&T might play in shaping their future. The three mini-projects cover: Modern Japan, The 1960s and Environmental Issues.

The three main units place a strong emphasis on the techniques involved in efficient and productive design, manufacture and evaluation. Throughout each unit emphasis is placed both on the student's personal design decisions and also on how such decisions are made on a larger scale in the commercial sector. As well as an examination of materials, tools and techniques, the units also look at the integration of modern and smart materials and help students improve their analytical skills by enabling them to evaluate existing products and their own products and prompting them to suggest ways in which they may be improved. Health and safety practices are covered with clarity whilst issues relating to ethical, environmental and social concerns are interspersed where appropriate throughout the product.

Boardworks KS3 D&T is a robust solution to integrating IT into the classroom and covering the necessary material of the new programme of study.

Pos Key Concept	Relevant Presentation in Food Technology	Relevant Presentation in Resistant Materials	Relevant Presentation in Systems and Control	Relevant Presentation in Textiles Technology
1.1 Design and Making				
1.1a Understand aesthetic, environmental, technical, economic, ethical and social impacts	Special Diets, Designing Food Products, Environmental Issues Food Packaging	Designing your Product, Evaluating your Product	Electronics ICT and Control Systems Systems and Control Sub-systems and Feedback	Designing Textile Products, Environmental Issues Evaluating Textile Products Global Textile Manufacturing Local Textile Manufacturing
1.1b Design products and produce solutions that are fit for purpose	Designing Food Products, Evaluating Food Products, Local Food Manufacturing, Global Food Manufacturing	Designing your Product, Manufacturing your Product, Evaluating your Product	Systems and Control	Designing Textile Products, Evaluating Textile Products, Local Textile Manufacturing
1.1c Understand that products and systems have an impact on quality of life	Food Safety and Hygiene, Special Diets	Smart Materials	ICT and Control Systems Systems and Control Sub-systems and Feedback	Designing Textile Products, Modern Textile Materials, Recycling Textiles
1.1d Explore how products have been designed in the past, how they are currently made and how they may develop in the future	Designing Food Products, Global Food Manufacturing, Modern Food Materials	Designing your Product, Manufacturing your Product, Industrial Processes Smart Materials	Electronics ICT and Control Systems Mechanisms Systems and Control Sub-systems and Feedback	Designing Textile Products, Environmental Issues Modern Textile Materials, Recycling Textiles, Global Textile

				Manufacturing Local Textile Manufacturing
1.2 Cultural Understanding				
1.2a Understand how products evolve and how they are influenced	Special Diets, Designing Food Products, Environmental Issues Local Food Manufacturing Global Food Manufacturing, Modern Food Materials Evaluating Food Products	Designing your Product, Manufacturing your Product, Smart Materials, Evaluating Material Products	ICT and Control Systems Sub-systems and Feedback	Designing Textile Products, Environmental Issues Modern Textile Materials, Recycling Textiles, Global Textile Manufacturing Local Textile Manufacturing
1.2b Explore how products contribute to lifestyle and consumer choices	Special Diets, Modern Food Materials	Smart Materials	ICT and Control Systems Sub-systems and Feedback	Modern Textile Materials, Using Textiles
1.3 Creativity				
1.3a Make links between principles of good design, existing solutions and technological knowledge to develop innovative products	Designing Food Products, Preparing Food, Processing Food, Modern Food Materials	Designing your Product, Smart Materials	ICT and Control Systems Mechanisms Systems and Control Sub-systems and Feedback	Designing Textile Products, Finishing and Decorative Textile Techniques, Modern Textile Materials, Using Textiles
1.3b Reinterpret and apply learning in new design contexts	Designing Food Products, Preparing Food, Processing Food, Modern Food Materials,	Designing your Product, Smart Materials, Manufacturing your Product,	Mechanisms Systems and Control	Designing Textile Products, Modern Textile Materials, Making with Textiles,

				Working with Textiles, Recycling Textiles, Finishing and Decorative Textile Techniques, Textile Properties
1.3c Explore and experiment with ideas, materials, technologies and techniques	Modern Food Materials, Nutrition, Preparing Food Processing Food, Classifying Foods, Cooking Food	Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties	Electronics Mechanisms Systems and Control	Making with Textiles, Working with Textiles, Recycling Textiles, Finishing and Decorative Textile Techniques, Modern Textile Materials, Textile Properties, Using Textiles
1.4 Critical Evaluation				
1.4 a Analyse existing products and solutions	Classifying Foods, Environmental Issues Food Types and Properties, Preparing Food, Processing Food, Evaluating Food Products	Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties, Evaluating your Product	Electronics ICT and Control Systems Mechanisms Systems and Control Sub-systems and Feedback	Environmental Issues Making with Textiles, Finishing and Decorative Textile Techniques, Recycling Textiles, Modern Textile Materials, Textile Properties, Using Textiles, Evaluating Textile Products
1.4b Evaluate the needs of users and the context in which the products are used	Evaluating Food Products, Special Diets	Evaluating your Product	Systems and Control	Evaluating Textile Products, Using Textiles

1.4c Explore the impact of ideas, design decisions and technological advances and how these provide opportunities for new design solutions.	Modern Food Materials	Industrial Processes Smart Materials	ICT and Control Systems Sub-systems and Feedback	Using Textiles, Modern Textile Materials
2 Key Processes				
2a Generate, develop and communicate ideas in a range of ways, using appropriate strategies	Designing Food Products, Cooking Food, Preparing Food Processing Food	Designing your Product, Manufacturing your Product	Systems and Control	Using Textiles, Finishing and Decorative Textile Techniques, Designing with Textiles
2b Respond creatively to briefs, developing proposals and product specifications	Designing Food Products, Evaluating Food Products	Designing your Product, Evaluating your Product	Systems and Control	Designing with Textiles, Evaluating Textile Products
2c Apply knowledge and understanding of a range of materials, ingredients and technologies to design and make products	Modern Food Materials, Nutrition, Preparing Food, Processing Food, Classifying Foods, Cooking Food, Designing Food Products	Industrial Processes Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties, Designing with Resistant Materials,	ICT and Control Systems Systems and Control	Finishing and Decorative Textile Techniques, Recycling Textiles, Modern Textile Materials, Textile Properties, Using Textiles, Making with Textiles, Designing Textile Products

2d Use understanding of other's designing to own designs	Evaluating Food Products	Evaluating your Product	Mechanisms	Evaluating Textile Products
2e Plan and organise activities, then shape, form, mix, assemble and finish materials	Designing Food Products, Cooking Food,	Designing your Product, Manufacturing your Product,	Electronics	Designing Textile Products, Using Textiles, Making with Textiles
2f Evaluate which tools/equipment are the most appropriate to use	Global Food Manufacturing, Local Food Manufacturing, Preparing Food, Processing Food	Manufacturing your Product, Mechanisms Electronics, Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties	Mechanisms Sub-systems and Feedback	Classifying Textiles, Working with Textiles, Using Textiles
2g Solve technical problems	Special Diets, Designing Food Products, Evaluating food Products	Designing your Product, Evaluating your Product	Electronics Mechanisms	Designing Textile Products, Making Textile Products, Evaluating Textile Products

2h Reflect critically when evaluating ideas and proposals throughout their development and manufacture	Designing Food Products, Evaluating food Products	Designing your Product, Evaluating your Product	Systems and Control	Designing Textile Products, Evaluating Textile Products
3 Range and Content				
3a The curriculum should include resistant materials, systems and control and at least one of food or textiles product areas	Applicable to all	Applicable to all	Applicable to all	Applicable to all
3b Designing should include an understanding of user's needs and the problems arising from them	Special Diets, Designing Food Products, Cooking Food, Evaluating Food Products	Designing your Product, Manufacturing your Product, Evaluating your Product	Mechanisms Systems and Control	Designing Textile Products, Making Textile Products, Evaluating Textile Products
3c An understanding of the criteria used to judge the quality of products	Evaluating Food Products	Evaluating your Product	Systems and Control	Evaluating Textile Products
3d An understanding of the impact of products beyond meeting their original purpose	Modern Food Materials, Evaluating Food Products	Evaluating your Product	Mechanisms	Evaluating Textile Products
3e An understanding of aesthetic, technical and relevant wider issues that may influence designing, making and product development	Special Diets, Modern Food Materials, Nutrition	Metals and their Properties, Plastics and their Properties, Structures, Smart Materials,	Electronics Mechanisms Systems and Control	Recycling Textiles, Textile Properties, Modern textile Materials

		Timbers and their Properties		
3f Food should include a broad range of practical skills, techniques, equipment and how to use them	Classifying Foods, Cooking Food, Designing Food Products, Environmental Issues Finishing and Decorative Food Techniques, Food Safety and Hygiene, Food Types and Properties, Modern Food Materials, Nutrition, Preparing Food, Processing Food			
3g How to plan and carry out a broad range of activities safely and hygienically	Cooking Food, Preparing Food, Processing Food, Food Safety and Hygiene			
3h Healthy eating models relating to a balanced diet	Environmental Issues Nutrition, Special Diets, Modern Food Materials			
3i The characteristics of a broad range of ingredients	Environmental Issues Nutrition, Classifying Foods, Evaluating Food Products			

<p>3j Resistant Materials and Textiles should include a broad range of techniques, including handcraft skills and CAD/CAM</p>		<p>Industrial Processes Metals and their Properties, Plastics and their Properties, Timbers and their Properties, Manufacturing your Product,</p>		<p>Environmental Issues Finishing and Decorative Techniques, Making with Textiles, Textile Properties, Using Textiles, Working with Textiles</p>
<p>3k The behaviour of structural elements in a variety of materials</p>		<p>Structures</p>		<p>Classifying Textiles</p>
<p>3l How to use the materials, smart materials, technology to design and make products of worth</p>		<p>Manufacturing your Product, Mechanisms Electronics, Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties, Designing your Product</p>		<p>Designing with Textiles, Finishing and Decorative Techniques, Making with Textiles, Textile Properties, Using Textiles, Working with Textiles, Modern Textile Materials</p>

3m How to prepare and assemble components to achieve functional results		Manufacturing your Product, Metals and their Properties, Plastics and their Properties, Structures, Smart Materials, Timbers and their Properties		Finishing and Decorative Textile Techniques, Making with Textiles, Textile Properties, Using Textiles, Working with Textiles, Modern Textile Materials
3n The study of Systems and Control should include the practical application of systems and control in design			Systems and Control	
3o Electrical, electronic, mechanical, microprocessor and computer control systems and how to use them effectively		Structures	Systems and Control, Electronics, Mechanisms,	
3p Using systems and control to assemble sub-systems into more complex systems			Systems and Control	
3q Feedback and how inputs can give rise to outputs			Systems and Control	

4 Curriculum Opportunities				
4a Analyse products to learn how they function	Classifying Foods, Evaluating Food Products	Metals and their Properties, Plastics and their Properties, Timbers and their Properties	Systems and Control	Textile Properties, Using Textiles
4b Undertake focused tasks that develop skills in relation to design and make assignments	Designing Food Products, Cooking Food	Designing Your Product, Manufacturing Your Product	Electronics Systems and Control	Designing Textile Products, Making with Textiles, Using Textiles
4c Engage in design and make assignments in different and more progressively complex contexts	Designing Food Products, Cooking Food, Evaluating Food Products	Designing your Product, Manufacturing your Product, Evaluating your Product	Electronics Mechanisms Systems and Control	Designing Textile Products, Making with Textiles, Using Textiles, Evaluating Textile Products
4d Work individually and in teams taking on different roles	Designing Food Products, Cooking Food, Evaluating Food Products	Designing Your Product, Manufacturing Your Product, Evaluating Your Product	Electronics Mechanisms Systems and Control	Designing Textiles, Making with Textiles, Evaluating Textile Products

4e Work with designers and makers where possible to develop an understanding of the product design process	Local Food Manufacturing			Local Textile Manufacturing
4f Use ICT as appropriate	Local Food Manufacturing	Manufacturing your Product	Systems and Control ICT and Control Systems Sub-systems and Feedback	Global Textile Manufacturing Local Textile Manufacturing
4g Make links between design and technology and other areas of the curriculum	Modern Food Materials, Nutrition, Special Diets	Smart Materials	Electronics ICT and Control Systems Mechanisms Systems and Control Sub-systems and Feedback	Modern Textile Materials, Recycling Textiles, Global Textile Manufacturing Local Textile Manufacturing