



Curriculum Overview

Curriculum Area: Design Technology Year: 9

Year 9 Curriculum: Food and Nutrition

All pupils will learn about and discover different cake making methods and learn some of the science which occurs when making cakes, for example creaming, whisking, sieving and how eggs aerate and increase in volume. They will put this into practice by using three different cake making methods in the practical sessions.

Pupils will learn about the main ingredients used in pastry and develop knowledge on different varieties of pastry and their use in dishes. They will begin to understand some of the functions of the ingredients in pastry and the important role they play in the recipe.

Macro nutrients (fat, protein and carbs) will be revisited with pupils recalling knowledge initially from Year 7 and 8 and then building upon it by learning more in depth about the primary functions of each nutrient in the body and food sources for each. Pupils will learn about fibre, which food we obtain it from and its importance (both soluble and insoluble) in our diet. Knowledge on energy balance will be built upon and pupils will consider energy balance in more detail by using person scenarios to show understanding on energy in V's energy out.

Pupils will learn what the term 'food provenance' means with particular focus on seasonal foods and food miles and understanding the term carbon footprint with food production. We will consider how all these factors affect wider food choices and look at realistic ways we can reduce our own carbon footprint when shopping, preparing and cooking food.

Pupils will focus on the following commodities for their final topic; meat, poultry, fish and dairy, understand how these animals are reared and farmed, how these foods are categorised and learn about the nutritional benefit of these foods in the diet.

Links to the KS3 National Curriculum

Understand and apply the principles of nutrition and health. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.

Become competent in a range of cooking techniques. For example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes.

Understand the source, seasonality and characteristics of a broad range of ingredients.

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end.

Pupils will be assessed practically during two recipes (savoury tart with a focus on pastry making) and fish fingers (with the focus being on handling and cooking fish and the coating technique).

Cultural Capital

Give pupils the opportunity to experience new foods/dishes/recipes.

Empower them to know and understand food science and its effects.

Become aware that people in society/other cultures and individuals around us have different food preferences or needs and teach them to be tolerant and inclusive of others.

Year 9 Curriculum: Textiles

All pupils will complete a series of decorative and functional skills to allow them to inform their final culture design project. This project is a capsule collection inspired by a chosen and researched culture.

Pupils will learn about functional samples: plain seam, French seam, overlocked seam, dart, sewing a button on. They will also learn about decorative samples: machine embroidery, 3D printed button, CAD embroidery, batik.

All pupils will learn how to use the different presser feet on the sewing machine for different functions such as decorative machine embroidery. They will learn to thread the top and bottom of the sewing machine. Pupils learn what interfacing is and why/ where it is needed.

All pupils will learn how to use CAD in a textile setting by exploring Cad embroidery and designing a 3D printed button. Pupils will learn what defines a culture. Research into their own chosen culture. They will learn how draw fashion illustrations and incorporate their technical and functional samples into their design work.

Pupils will learn how to present a capsule collection to show the design journey.

Links to the KS3 National Curriculum

Design: Use research and exploration, such as the study of different cultures, to identify and understand user needs. Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations, and computer-based tools.

Make: Select from and use specialist tools, techniques, processes, equipment, and machinery precisely, including computer-aided manufacture. Select from and use a wider, more complex range of materials, components, and ingredients, considering their properties.

Evaluate: Investigate new and emerging technologies. Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers, and technologists.

Technical knowledge: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. Understand how more advanced mechanical systems used in their products enable changes in movement and force.

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end.

Critical and summative evaluation of own product designed and made.

Formative assessments of product design and completion throughout the unit.

A photo of the finished product should also be included.

Cultural Capital

Pupils research and explore one culture to submerge into the history of culture, languages, art, food, landmarks, historical figures to be able to further the understanding of the cultural norms and formalities. Pupils also discuss options and jobs available to them and a career path through the textiles industry.



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Curriculum Area: Design Technology Year: 9

Year 9 Curriculum: Timbers

All pupils will learn how to design, create, make and evaluate a designer inspired clock. Pupils will develop their cultural design knowledge by learning about design movements and their work. These will include Alessi and Memphis. Pupils will learn how to take inspiration from other designers to inspire and improve their existing product research. All pupils will learn to build on their design skills by being introduced to scamp design to help to improve diversity within their own design range as well as revisiting isometric drawing and perspective drawing. Pupils will practise the technique of vacuum forming by making a tea bag holder. They will learn how to use the vacuum former, how it works, and what materials it uses.

Links to the KS3 National Curriculum

Design: Use research and exploration, such as the study of different cultures, to identify and understand user needs. Identify and solve their own design problems and understand how to reformulate problems given to them. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations, and computer-based tools.

Make: Select from and use specialist tools, techniques, processes, equipment, and machinery precisely, including computer-aided manufacture. Select from and use a wider, more complex range of materials, components, and ingredients, considering their properties.

Evaluate: Analyse the work of past and present professionals and others to develop and broaden their understanding. Test, evaluate and refine their ideas and products against a specification, considering the views of intended users and other interested groups.

Technical knowledge: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end.

Critical and summative evaluation of own product designed and made.

Formative assessments of product design and completion throughout the unit.

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Cultural Capital

Pupils learn about metal casting and where metal comes from and how it can be cast into beautiful shapes to make designs. Pupils talk about the design movement art deco and what time period it is associated with looking at designers and icons from the art deco designers at the time.

Year 9 Curriculum: Polymers

All pupils will learn how to design, create, make and evaluate a bespoke USB pen. They will learn about the source origins and diversity of plastic and how this affects its working properties. Pupils will learn to plan and develop sketches from 2D designs into 3D designs using rendering and fine liners.

Pupils will learn how to measure accurately and translate this to a computer aided design to enable them to use the laser cutter accurately to create their bespoke USB drive design. Pupils will learn how to write a design brief and detailed specification for their own work and then test their evaluation against it to see if the design meets the criteria set out.

Pupils will learn the safety rules regarding the use of Tensol liquid cement for gluing acrylic. (As the acrylic has been laser cut, the hand finishing required is minimal.) This project is centered on accuracy and attention to detail during the CAD element of the design. Pupils will learn how to evaluate and critically analyse their own work.

Links to the KS3 National Curriculum

Design: Identify and solve their own design problems and understand how to reformulate problems given to them. Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations. Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations, and computer-based tools.

Make: Select from and use specialist tools, techniques, processes, equipment, and machinery precisely, including computer-aided manufacture.

Evaluate: Test, evaluate and refine their ideas and products against a specification, considering the views of intended users and other interested groups. Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers, and technologists.

Technical knowledge: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end. Critical and summative evaluation of own product designed and made. Formative assessments of product design and completion throughout the unit. A photo of the finished product should also be included.

Cultural Capital

Design and Technology is an inspiring, rigorous, and practical subject which prepares all young people to live and work in the designed and made world. Pupils take part in the iterative design process submerging themselves in the design possibilities to improve their own design work.