



# Curriculum Overview

## Curriculum Area: Design Technology Year: 7

### Year 7 Curriculum: Food and Nutrition

All pupils will learn about how to be safe in a busy practical kitchen environment and will demonstrate awareness and understanding of potential hazards and how to reduce risks.

Pupils will begin to learn how to use basic kitchen equipment such as a vegetable knife and will learn the basic holds to remain safe when cooking as well as the main equipment used to prepare and cook food.

Pupils will learn the definition of a healthy balanced diet and will learn about the Eatwell Guide and its purpose. They will also learn and develop knowledge on food hygiene when preparing, cooking and serving food including personal hygiene and developing knowledge on the 4 C's to ensure the food they make is safe to eat.

Pupils will learn the difference between perishable and non-perishable foods and the correct way they should be stored. Pupils will learn what macro nutrients are, be able to name a food we obtain each from and understand their use in the body.

Pupils will plan a meal based on a specific requirement. This will all be underpinned by pupils learning and developing a range of skills and techniques to successfully make the following dishes: pasta salad, pizza toast, scones, tomato sauce with pasta, roux sauce, their own dish based on a brief and fruit muffins.

#### 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 can 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 plan and cook a recipe suitable for a specific need. (Sporty vegetarian). A photo of the dish should also be included.

#### 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 7 Curriculum: Textiles

All pupils will learn how to design, create, make, and evaluate a reversible draw string bag using fabric pens to put their own unique repeat pattern on and tie-dye their own fabric. To prepare for their KS3 curriculum all pupils will learn the components and functions of the sewing machine. They will learn how to use the sewing machine independently and safely as well as learn about key tools and processes for example: fabric scissors, pins, needles, templates, fabric pens, fabric dyes, stitch unpickers, safety pins.

All pupils will explore fabric source origins, learn about cotton fibres and how they are spun into yarns and woven into fabric. They will learn about the basics of weaving. We will research how designers are inspired to create patterns through a close study of Orla Kiely. All pupils will learn how to plan a repeat pattern and how to develop to a professional design standard.

Pupils will know and understand the health and safety rules in a textiles workshop including classroom safety, machine safety and how to assess an unsafe working environment.

#### Links to the KS3 National Curriculum

**Design:** 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.

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

**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.

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 explore Orla Keily designer focus and how designers get their inspiration for products this is linked to discovering the 60's/70's design icons and discovering the vintage flea markets of Portobello Road London and Montreal France.



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## Curriculum Area: Design Technology Year: 7

### Year 7 Curriculum: Timbers

All pupils will learn how to design, create, make, and evaluate a block bot and a tolerance box showcasing their ability to work with hand tools to produce accurate work

Pupils will learn workshop safety, how to conduct themselves safely in a workshop environment by wearing the correct PPE and following safety signs and markings

Pupils will learn how use a range of hand tools including a belt sander, handheld drill, vice, hold, files, and rasps.

They will learn about the source origins of timber and the hard wood and soft wood categories and the main differences between coniferous and deciduous trees. They will learn about working properties of timber and the impact their processes for manufacture have on the environment.

Pupils will learn how to isometrically draw out their ideas using construction lines, 30-degree angles, and shading.

Pupils will learn and apply the skills needed to mark out accurately and check their work using a 'no go' gauge and the importance of accurate work regarding manufacture.

#### Links to the KS3 National Curriculum

**Design:** 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:** 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.

A photo of the finished product should also be included.

#### Cultural Capital

Sustainability, understanding the impact of material usage and its impact on the environment - local and global discussion. Where do different timbers come from and how are they sustainable sourced and manufactured into products.

### Year 7 Curriculum: Polymers

All pupils will learn how to design, create, make, and evaluate a board game with laser cut game counters and a programmable 3D printed dice. Pupils will learn how to use the techniques summarized with the acronym 'ACCESS FM' (Aesthetics, Customer, Cost, Environmental, Size, Safety, Function, Material) to build a comprehensive analysis on existing products. Pupils learn to design a logo and practise their 2D and 3D drawing skills.

Pupils will learn how to design using a computer through software such as Techsoft 2D Design, Google Sketch up and Tinker cad. This knowledge will be used to enable pupils to design CAD images to send work the laser cutter and 3D printer in the correct format. It will also refine, extend, and build up their repertoire of computer designing skills.

Pupils will learn about programming software and how to virtually wire an electrical circuit to make an LED playable dice.

#### 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.

**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.

**Technical knowledge:** Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].

#### 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

Enabling pupils to interact with a modern design world using computer aided design packages and computer manufacture such as 3D printing. Pupils can work at the forefront of new and emerging technology to explore possibilities when creating their products.