

LifeFull Schools 2025-26 Concepts Progression - Engineering & Food Technology

Informed by National Curriculum, these concepts will repeat and be revisited during each phase so that children's understanding deepens as they progress through the school.

The national curriculum for Design and Technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. (National Curriculum, 2014)

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EYFS objectives are taken from the schools' assessment trackers: Reception Summer Term objectives are based on the Early Learning Goals. Progression steps for Nursery and Reception (Autumn and Spring terms) are taken from Development Matters and Birth to Five Years.

	Autumn Term	Spring Term	Summer Term
Nursery	Gross Motor <i>The development of children's gross and fine motor skills will support their ability to better manipulate materials.</i> Fine motor with support, children are able to manipulate objects and materials	Fine motor - show increasing independence and control when manipulating objects Listening, attention and understanding - show increasing focus and concentration to complete tasks	Fine motor - manipulate a range of tools and equipment in one hand - use their non-dominant hand to assist and stabilise the use of objects
	Creating with materials - select tools for purpose - explore a variety of sensory resources to build or create - experiment with different ways of joining materials together	Creating with materials - explore different materials in order to develop their own ideas about how to use them and what to make. - begin to construct with a purpose in mind - investigate properties of materials, such as which are flexible or sturdy - begin to select resources for a particular purpose (e.g. green paint for grass)	Creating with materials - use various construction materials e.g. joining pieces - use various construction materials in purposeful ways Being imaginative and expressive - use available resources to create props - decide on the model they want to make and create a plan - use trial and error during this process and be resilient when they are experiencing difficulties creating their model
Reception	Gross Motor <i>Children are still developing their upper arm strength in order for them to use one-handed tools effectively.</i> Fine motor manipulate a range of tools and equipment in	Fine motor - manipulate a variety of objects with increasing independence and control Listening, attention and understanding - maintain focus and adapt their plans and	Fine motor manipulate a variety of objects with accuracy and independence, where appropriate Gross Motor

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	one hand • use their non-dominant hand to assist and stabilise the use of objects	ideas, with encouragement	• demonstrate strength, balance and coordination when constructing and creating
	Creating with materials • use various construction materials e.g. joining pieces • use various construction materials in purposeful ways Being imaginative and expressive • use available resources to create props • decide on the model they want to make and create a plan • use trial and error during this process and show resilience when experiencing difficulties creating models	Creating with materials • develop their own ideas through experimentation with diverse materials • seek to enhance their play through creating props independently or with support from others Being imaginative and expressive • create representations of both imaginary and real-life ideas, events, people and objects	Creating with materials • make use of props and materials when role playing characters in narratives and stories e.g linked to puppetry • safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function • share their creations, explaining the process they have used

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	Design	Make	Evaluate	Technical knowledge	Cooking and nutrition
KS1	Understanding contexts, users and purposes - work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment - state what products they are designing and making - say whether their products are for themselves or other users - describe what their products are for - say how their products will work - say how they will make their products suitable for their intended users - use simple design criteria to help develop their ideas Generating, modelling, communicating and developing ideas - generate ideas by drawing on their own experiences - use knowledge of existing products to help come up with ideas - develop and communicate ideas by talking and drawing	Planning - plan by suggesting what to do next - select from a range of tools and equipment, explaining their choices - select from a range of materials and components according to their characteristics Practical skills and techniques - follow procedures for safety and hygiene - use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components - measure, mark out, cut and shape materials and components - assemble, join and combine materials and components - use finishing techniques, including those from art and design	Own ideas and products - talk about their design ideas and what they are making - make simple judgements about their products and ideas against design criteria - suggest how their products could be improved Existing products - explore: - who products are for - what products are for - how products work - how products are used - where products might be used - what materials products are made from - what they like and dislike about products	Making products work - know about the simple working characteristics of materials and components - know about the movement of simple mechanisms such as levers, sliders, wheels and axles - know how freestanding structures can be made stronger, stiffer and more stable - know that a 3-D textiles product can be assembled from two identical fabric shapes - know that food ingredients should be combined according to their sensory characteristics - know the correct technical vocabulary for the projects they are undertaking	Where food comes from - know that all food comes from animals or plants - know that food has to be farmed, grown elsewhere (e.g. home) or caught Food, preparation, cooking and nutrition - know how to name and sort foods into the five groups in the eatwell plate - know that everyone should eat at least five portions of fruit and vegetables every day - know how to prepare simple dishes safely and hygienically, without using a heat source - know how to use techniques such as cutting, peeling and grating

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	- model ideas by exploring materials, components and construction kits and by making templates and mockups - use information and communication technology, where appropriate, to develop and communicate their ideas				
KS2	Understanding contexts, users and purposes - work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment - describe the purpose of their products - indicate the design features of their products that will appeal to intended users - explain how particular parts of their products work Lower Key Stage 2 - gather information about the needs and wants of particular individuals and	Planning - select tools and equipment suitable for the task - explain their choice of tools and equipment in relation to the skills and techniques they will be using - select materials and components suitable for the task - explain their choice of materials and components according to functional properties and aesthetic qualities Lower Key Stage 2 - order the main stages of making Upper Key Stage 2 - produce appropriate lists	Own ideas and products - identify the strengths and areas for development in their ideas and products - consider the views of others, including intended users, to improve their work Lower Key Stage 2 - refer to their design criteria as they design and make - use their design criteria to evaluate their completed products Upper Key Stage 2 - critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make	Making products work - know how to use learning from science to help design and make products that work - know how to use learning from mathematics to help design and make products that work - know that materials have both functional properties and aesthetic qualities - know that materials can be combined and mixed to create more useful characteristics - know that mechanical and electrical systems have an input, process and output - know the correct technical vocabulary for the projects	Where food comes from - know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world Upper Key Stage 2 - know that seasons may affect the food available - know how food is processed into ingredients that can be eaten or used in cooking Food, preparation, cooking and nutrition - know how to prepare and cook a variety of predominantly savoury

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groups - develop their own design criteria and use these to inform their ideas Upper Key Stage 2 - carry out research, using surveys, interviews, questionnaires and web-based resources - identify the needs, wants, preferences and values of particular individuals and groups - develop a simple design specification to guide their thinking Generating, modelling, communicating and developing ideas - share and clarify ideas through discussion - model ideas using prototypes and pattern pieces - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas - use computer-aided design to develop and communicate their ideas Lower Key Stage 2 - generate realistic ideas, focusing on the needs of the user - make design decisions that	of tools, equipment and materials that they need - formulate step-by-step plans as a guide to making Practical skills and techniques - follow procedures for safety and hygiene - use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components Lower Key Stage 2 - measure, mark out, cut and shape materials and components with some accuracy - assemble, join and combine materials and components with some accuracy - apply a range of finishing techniques, including those from art and design, with some accuracy Upper Key Stage 2 - accurately measure, mark out, cut and shape materials and components - accurately assemble, join and combine materials and components - accurately apply a range of	- evaluate their ideas and products against their original design specification Existing products - Investigate and analyse: - how well products have been designed - how well products have been made - why materials have been chosen - what methods of construction have been used - how well products work - how well products achieve their purposes - how well products meet user needs and wants Lower Key Stage 2 - Investigate and analyse: - who designed and made products - where products were designed and made - when products were designed and made - whether products can be recycled or reused Upper Key Stage 2 - Investigate and analyse: - how much products cost to make - how innovative products are	they are undertaking Lower Key Stage 2 - know how mechanical systems such as levers and linkages or pneumatic systems create movement - know how simple electrical circuits and components can be used to create functional products - know how to program a computer to control their products - know how to make strong, stiff shell structures - know that a single fabric shape can be used to make a 3D textiles product - know that food ingredients can be fresh, pre-cooked and processed Upper Key Stage 2 - know how mechanical systems such as cams or pulleys or gears create movement - know how more complex electrical circuits and components can be used to create functional products - know how to program a computer to monitor changes in the environment and control products - know how to reinforce and strengthen a 3D framework - know that a 3D textiles	dishes safely and hygienically including, where appropriate, the use of a heat source - how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Lower Key Stage 2 - know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate - know that to be active and healthy, food and drink are needed to provide energy for the body Upper Key Stage 2 - know that recipes can be adapted to change the appearance, taste, texture and aroma - know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health
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	take account of the availability of resources Upper Key Stage 2 • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost	finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems	- how sustainable the materials in products are - what impact products have beyond their intended purpose Understand how key events and individuals in design and technology have helped to shape the world	product can be made from a combination of fabric shapes • know that a recipe can be adapted by adding or substituting one or more ingredients	
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KS1 & KS2 objectives are taken from the National Curriculum (2014) and the Design and Technology Progression Framework published by the D&T Association.