

Design and Technology Skills Ladder

Skills ladders show the disciplinary knowledge that child will learn in the subject.



	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
F2 Secure	- To select appropriate resources. - To use gestures, talking and arrangements of materials to show design. - To use the language of designing and making (join, build, shape, longer, shorter, heavier etc) ELG: Creating with materials. To be able to share their creations, explaining the process they have used.	- To construct with a purpose using a variety of resources. - To use simple tools and techniques and how to build and construct with a range of objects. - To join familiar materials and components. - To record experiences by drawing, writing and talking ELG: Creating with materials. To be able to share their creations, explaining the process they have used.	- To practise some appropriate safety measures independently. - Know how to talk about how some familiar things work. - To explore age-appropriate technical toys. - To describe some simple textures ELG: Creating with materials. To be able to share their creations, explaining the process they have used.	- To experience using a range of different materials and structures during play. - To experience of different mechanisms through playing with a variety of mechanical toys. - To create simple products using a range of different textiles ELG: Creating with materials. To be able to share their creations, explaining the process they have used. To be able to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	- To practise stirring, mixing, pouring and blending. - To use their senses while preparing and eating food. - To describe textures of a variety of different foods, using age-appropriate vocabulary. ELG: Creating with materials. To be able to share their creations, explaining the process they have used. To be able to safely use and explore a variety of materials, tools and techniques.
Year 1 Secure	- To generate own ideas and can explain what they want to do, what the product is for and how it will work. - To select pictures and words to plan and begin to use models. - To design a product following design criteria.	- To cut, shape, measure, mark-out and join simple materials - To investigate choosing suitable materials and explain choices. - To work in a safe and hygienic manner.	- To communicate what they have made and existing product, saying what they think is and isn't good about how it has been made.	- To begin to measure and join materials with some support. - To describe differences in materials. - To suggest ways of how to make a material or product stronger. - To use wheels and axles, sliders and levers.	- To explain that a variety in food is important and begin to understand that eating well contributes to good health. - To practise washing hands and keeping clean surfaces. - To understand where some foods come from (plant or animal). - To describe the differences between some food groups in simple terms, e.g. sweet & meaty, salty, etc - To generate names of some fruits and vegetables.
Year 2 Secure	- To explain the purpose of a product and how it will be suitable for the user. - To choose the best materials and tools and explain choices. - To use knowledge of existing products to inform design choices.	- To join materials and components together in different ways. - To use simple finishing techniques to make a product look good.	- To express a personal opinion. - To communicate what they would do differently, if they were to do it again and why, using appropriate vocabulary.	- To describe some different characteristics of materials and structures. - To use rolling or folding to make a material or structure stronger. - To measure textiles, join together to make a product and explain how they did it. - To carefully cut textiles to produce accurate pieces. - To explain choice of textiles and understand that a 3D textile structure can be made from 2 identical fabric shapes. - To use levers with linkages to create movement.	- To explain hygiene and keep a hygienic kitchen. - To describe properties of ingredients and the importance of a varied diet. - To communicate how some food is farmed, home-grown, caught. - To cut, peel and grate with increasing confidence.
	End of KS1 National Curriculum Expectations: - To be able to design purposeful, functional, appealing products for themselves and others based on design criteria. - To be able to generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and ICT	End of KS1 National Curriculum Expectations: - To be able to select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. - To be able to select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	End of KS1 National Curriculum Expectations: - To be able to explore and evaluate a range of existing products. - To be able to evaluate their ideas and products against design criteria.	End of KS1 National Curriculum Expectations: - To be able to build structures exploring how they can be made stronger, stiffer and more stable. - To be able to explore and use mechanisms, such as levers, sliders, wheels and axels, in their products. - To be able to select from a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing). - To be able to select from and use a wide range of materials and components including textiles.	End of KS1 National Curriculum Expectations: - To be able to use the basic principles of a healthy and varied diet to prepare dishes. - To be able to understand where food comes from.
Year 3 Secure	- To research the needs of others. - To create a plan and labelled sketch that includes order, equipment and tools required. - To begin to use ICT to show design ideas (CAD).	- To select suitable tools/equipment, explain choices; begin to use them accurately and how to choose appropriate materials that are fit for purpose. - To demonstrate working through a plan and consider how good the product will be. - To apply some finishing techniques with some accuracy and purpose.	- To use the design criteria to evaluate the finished product. - To begin to evaluate existing products, considering how well they have been made.	- To use simple pneumatics to create movement. - To measure carefully to avoid mistakes. - To continue to work on a product, even if the original didn't work. - To create a strong, stiff structure.	- To carefully select ingredients, use equipment safely and make a product look attractive. - To understand that food comes from the UK and from the wider world. - To describe how a healthy diet = variety, balance of food and drinks. - To use some of the following techniques; peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. - To describe "Five-a-Day".
Year 4 Secure	- To create own design criteria based on a brief and suggest improvements to the design. - To draw an annotated sketch to explain design decisions. - To construct and use a prototype.	- To work through a plan in order and realise if the product will be of good quality. - To measure, mark, cut-out and shape materials and components with accuracy.	- To explain how they could improve the original design. - To evaluate existing products, considering if they are fit for purpose. - To research whether products can be recycled or reused.	- To program a computer to control a product. - To program a computer to monitor changes in the environment and control the product. - To use a range of joining techniques. (textiles) - To consider the users wants, needs and aesthetics when choosing textiles.	- To present food in interesting and attractive ways. - To understand that a recipe can be adapted, improved and developed. - To understand that food can be fresh, pre-cooked and processed. - To explore food being grown, reared or caught in the UK or wider world. - To know of how to grow some varieties of plants to use in cooking. - To investigate the seasonality of food.
Year 5 Secure	- To use the internet and questionnaires for research and design ideas. - To consider the users view when designing to ensure the product is fit for purpose. - To incorporate cross-sectional drawings in their planning. - To clearly explain how different a model will work.	- To use tools and equipment with a good level of precision. - To select materials that consider their functionality. - To communicate how the product will appeal to an audience.	- To evaluate the quality of design during the designing and making, making changes if necessary. - To test and evaluate the final product. - To compare and evaluate how much products cost to make and how innovative they are.	- To incorporate a switch into a product. - To confidently use a number of electrical components in a circuit. - To generate ideas of how to make a product attractive and strong. - To consider how a product might be sold. - To make suggestions of what would improve a product. - To understand how a single 3D textile project can be made from a combination of fabric shapes.	- To generate names of food that can be grown, reared or caught in the UK and the wider World. - To name some constituents of food & drink that are necessary for good health, and some that can be detrimental.
Year 6 Secure	- To use market research to inform design and the needs, wants and requirements of the intended user. - To apply design decisions that consider resources and cost.	- To select materials considering their aesthetics. - To communicate how the product will appeal to an audience, making changes to improve quality. - To be resourceful with practical problems.	- To consider the impact of products beyond their intended purpose. - To discuss some key inventors, designers, engineers, chefs, manufacturers of ground-breaking products. - To research how sustainable materials are.	- To begin to reinforce and strengthen a 3D frame. - To consider a products aesthetics and functionality, and explain how it meets the design criteria.	- To adapt recipes to change the appearance, taste, texture and aroma. - To prepare, cook and serve a variety of savoury dishes safely and hygienically.
	End of KS2 National Curriculum Expectation: - To be able to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. - To be able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design	End of KS2 National Curriculum Expectation: - To be able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. - To be able to select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.	End of KS2 National Curriculum Expectation: - To be able to investigate and analyse a range of existing products. - To be able to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. - To be able understand how key events and individuals in design and technology have helped shape the world.	End of KS2 National Curriculum Expectation: - To be able to apply their understanding of how to strengthen, stiffen and reinforce more complex structures. - To be able to understand and use mechanical systems in their products, for example gears, pulleys, cams, levers and linkages. - To be able to select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing), accurately. - To be able to select from and use a wider range of materials and components including textiles. - To be able to apply their understanding of computing to program, monitor and control their products.	End of KS2 National Curriculum Expectation: - To be able to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. - Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.