

Progression of skills: DESIGN TECHNOLOGY

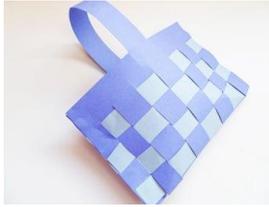
In design technology, we aim to develop design and technology capability to prepare all children for citizenship in an ever-increasingly technological world. Design and technology is part of every child's immediate experience. It is important that children are not only aware of what design and technology is, but also develop a practical approach to it. We aim therefore to develop skills and knowledge of a wide range of materials and equipment through practical activities in a safe and controlled environment.

Year group EYFS	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>EYFS intended products</p>  	<p>Understand context, uses and purpose</p> <p>Generate, develop, model and communicate ideas</p> <p>Use what I have learnt about materials, thinking about uses and purposes</p> <p>Think about and discuss what I want to make</p> <p>Discuss my work as it progresses</p>	<p>Begin to work safely and hygienically</p> <p>Weigh using non-statutory measures e.g. spoons/cups.</p> <p>Begin to use some techniques e.g. mix, spread, knead</p> <p>Make healthy choices in relation to eating</p> <p>Know the importance of a healthy diet</p>	<p>I know how to use a range of materials and tools with care and precision</p>	<p>I know about different techniques for joining materials, such as how to use adhesive tape and different sorts of glue</p> <p>I know how to represent and construct my own ideas, thoughts and feelings through design</p>	<p>Describe what I like and dislike about my creation</p> <p>Adapt work where necessary</p>
<p>Key Vocabulary Plan, ideas, design, make, build, construct, join, shape, tools, change, like, dislike, different, improve, healthy, unhealthy, fruit, vegetable, clean, safe, ingredients, weigh, mix, knead, cut, sew</p>					

Year 1	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 1 intended products</p>   	<p>Name the tools I am using</p> <p>Select materials from a limited range</p> <p>Model ideas with kits, reclaimed materials</p> <p>Use pictures and words to convey what I want to design and make</p> <p>Discuss my work as it progresses</p>	<p>Name familiar food products</p> <p>Cut and chop a range of ingredients</p> <p>Measure and weigh food items using spoons and cups</p> <p>Work safely and hygienically</p>	<p>Consider which types of materials would best meet the requirements of the design brief.</p> <p>Show an awareness of working safely with tools including scissors.</p> <p>Demonstrate the ability to measure, cut and draw with increasing accuracy.</p> <p>Make mock-ups in order to practice threading and stitching techniques.</p>	<p>Give simple explanations to someone else about how I plan to make my product.</p> <p>Use my own ideas to make something.</p> <p>Choose appropriate resources, materials and tools from a given range.</p> <p>Use tools, including scissors, with some confidence and control.</p> <p>Begin to explain ways to make products stronger</p>	<p>Look at a range of existing products and express likes and dislikes, giving reasons.</p> <p>Explore and evaluate a range of existing products.</p> <p>Evaluate my ideas and products against the design criteria.</p>

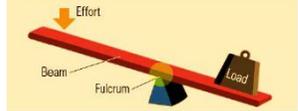
Key Vocabulary

appearance, components, decoration, design, brief, criteria, design, process, equipment, evaluate, final, design, fit, for, purpose, fold, glue, investigate, mark-out, mock-up, modify, product, research, sketch

Year 2	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 2 intended products</p>   	<p>Select tools and materials from a limited range that will meet the design criteria</p> <p>Explore ideas by rearranging materials</p> <p>Use pictures and words to convey what I want to design and make and to record ideas as they are developed</p> <p>Discuss their work as it progresses, adding notes to drawings to help explanations</p>	<p>Taste existing products and evaluate.</p> <p>Explore flavour combinations by making 'mock-up' additions</p> <p>Plan my own design through drawing and labelling, giving reasons for some of my choices of ingredients.</p> <p>Use measuring and weighing skills accurately</p> <p>Follow instructions in the form of a recipe</p>	<p>Look at existing examples of woven baskets</p> <p>Consider which types of paper and techniques would best meet the requirements of the design brief</p> <p>Show an awareness of working safely with tools including scissors.</p> <p>Demonstrate the ability to measure, cut and draw with increasing accuracy.</p> <p>Make mock-ups in order to practice weaving techniques.</p> <p>Add decorative details to finish off the project.</p>	<p>Investigate and explore the different types of windmill</p> <p>Examine a range of existing products and deconstruct to develop an understanding of the varied mechanisms that allows the blades / sails to spin freely. (eg pipe cleaner, split pin, wire mechanisms)</p> <p>Design and plan through drawings, labels, templates and simple cross-sections which show how mechanisms will work.</p> <p>Show an awareness of working safely with tools including scissors.</p> <p>Demonstrate the ability to measure, cut and draw with increasing accuracy.</p> <p>Make mock-up models in order to practice measuring and cutting skills.</p>	<p>Look at a range of existing products and express likes and dislikes, giving reasons.</p> <p>Evaluate ideas against the design criteria/brief.</p> <p>Begin to suggest how to improve my finished product and make simple modifications where appropriate.</p>

Key Vocabulary

appearance, blender, brittle, card, components, cross-section, decoration, design brief, criteria, process, dismantle, de-construct, dowel, equipment, evaluate, final, design, fit for purpose, flexible, fold, glue, hole, punch, hygiene, ingredient, list, investigate, laminate, malleable, model, modify, net, paper, plan, product, recipe, research, rigid, scales, scoring, shape, sketch, split, template, texture, warp, weaving, weft

Year 3	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 3 intended products</p>   	<p>Investigate similar products to the one to be made to give starting points for a design</p> <p>Sketch products to help analyse and understand how products are made</p> <p>Plan a sequence of actions to make a product, deciding which tools and materials to use</p>	<p>Analyse the taste, texture, smell and appearance of a range of foods</p> <p>Follow instructions when making food</p> <p>Measure and weigh solid ingredients using standard measures: g, kg</p> <p>Work safely and hygienically</p>	<p>Look at examples for Egyptian Headdresses, who they were worn by and why.</p> <p>Design an Egyptian Headdress by drawing, and labelling giving reasons for their choice of design and materials (eg strength, appearance)</p> <p>Show an awareness of working safely with tools including scissors and sewing needles.</p> <p>Demonstrate the ability to measure, cut and draw with increasing accuracy.</p> <p>Practice the techniques of the different stitches - running stitch and over sewing.</p> <p>Test product design against the brief</p>	<p>Examine a range of materials and explore which might best suit the product.</p> <p>Design and plan through drawings, labels, templates and simple cross-sections which show how the mechanism will work.</p> <p>Explain design ideas, giving reasons for choice of design and use of materials and components.</p> <p>Consider features of the design in order to meet the design brief. (eg size, strength, stability etc.)</p> <p>Show an awareness of working safely with tools.</p>	<p>Look at a range of existing products and express likes and dislikes, giving reasons.</p> <p>Evaluate ideas against the design criteria/brief.</p> <p>Begin to suggest how to improve my finished product and make simple modifications where appropriate.</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>

Key Vocabulary

appearance, components, design, brief, criteria, design, process, dismantle , de-construct, dowel, effort, equipment, evaluate , final, design, fit for purpose, fixed, pivot, flexible, force, friction, fulcrum, hygiene, ingredient, investigate, laminate, lever, linkages, load, loose, pivot, malleable, mark out, mock-up, model, modify, plan, product, purpose, research, resistance, simple machine, sketch, split-pin

Year 4	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 4 intended products</p>   	<p>Investigate and sketch products to help analyse and understand how products are made</p> <p>Plan a more complex sequence of actions to make a product, deciding which tools and materials to use</p> <p>Record the plan by drawing (labelled sketches) or writing</p> <p>Develop more than one prototype or adaptation of an initial design</p> <p>Add notes to drawings to help explanations</p>	<p>Taste existing products and evaluate.</p> <p>Identify why Lassi is a healthy drink choice, referring to my prior knowledge of a healthy, balanced diet.</p> <p>Examine the range of ingredients available to make my own drink and have opportunities to taste unfamiliar ingredients.</p> <p>Explore flavour combinations by making 'mock-up' drinks by adding additional ingredients to existing products and by mixing existing products together.</p> <p>Plan my own design through drawing and labelling, giving reasons for some of their choices of ingredients.</p> <p>Make my drink by preparing ingredients (peel, chop, grate) then blend ingredients in a food blender.</p>	<p>Investigate the design of Anglo-Saxon coin purses. Discuss the techniques that we will need to use to create a coin purse.</p> <p>How will we attach the pieces of fabric together? How will we fasten the coin purse? Select materials to use to create the coin purse</p> <p>Children to use their designs to create their own coin purse.</p> <p>Children will understand how to join pieces of fabric and how to create a suitable fastening</p>	<p>Discuss how catapults work: they use the scientific idea that when a force (push or a pull) is used an opposing force (push or a pull) is felt, e.g. springs, rubber bands, etc.</p> <p>Look at examples of simple catapults - children test them - evaluate - which work the best and why.</p> <p>Look at slingshots - who can make a catapult that will throw a small object the furthest or get nearest to a target?</p> <p>Give children equipment - plastic spoon, elastic bands and lollipop sticks. - can they make a working sling shot to launch a marshmallow</p>	<p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>

Key Vocabulary

a force, hack-saw, right angles, trebuchet, annotated, diagram, artefact, brittle, components, cross-section, design brief, criteria, process, dismantle, de-construct, dowel, equipment, evaluate, malleable, model, modify, net, product, recipe, research, rigid, scales, scoring. shape, sketch, synthetic, template, texture

Year 5	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 5 intended products</p>   	<p>Investigate products/images to collect ideas, giving alternative options</p> <p>Develop one idea in depth, planning the sequence of work using a storyboard</p> <p>Record ideas using annotated cross-sectional diagrams</p> <p>Use models, kits and drawings to help formulate prototypes & pattern pieces</p>	<p>Weigh and measure using digital scales</p> <p>Cut and shape ingredients using appropriate tools and equipment e.g. grating</p> <p>Join and combine food ingredients appropriately e.g. beating, rubbing in</p> <p>Work safely and hygienically</p> <p>Understand/ apply the principles of a healthy diet.</p> <p>Prepare and cook a variety of dishes using a range of cooking techniques.</p> <p>Understand seasonality. Know where and how ingredients are grown, caught, reared, and processed.</p>	<p>Look at existing examples of dream catchers from different countries. Discuss what materials have been used to make them.</p> <p>Consider which types of paper and techniques would best meet the requirements of the design brief</p> <p>Look at materials available to decorate their dream catcher - design their own with those materials in mind. - give reasons for their choice of design and materials.</p> <p>Demonstrate the ability to measure, cut and draw with increasing accuracy.</p>	<p>Children to research moving toys with cams. How do they move?</p> <p>Look at examples of moving toys and identify different parts.</p> <p>What mechanisms will we need to include?</p> <p>Children to design the toy sea side themed or based on a sea creature.</p> <p>Children to make their own toy which is sea side themed.</p> <p>Evaluate techniques in design and think about how they might improve it next time.</p> <p>Does the toy work?</p> <p>Would someone want to buy the toy?</p> <p>Does the toy look attractive?</p> <p>Do the mechanisms work on the toy?</p>	<p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p>

Key Vocabulary

appearance, assemble, cam toys, components, decoration, design, brief, criteria, dimensions, dismantle, dowel, equipment, evaluate, flexible, investigate mechanism, mock-up, model, modify, motion, product, prototype, research, rotate, shape, sketch, static, template, texture



Year 6	Developing, planning and communicating ideas	Food Technology	Textiles	Mechanisms	Evaluation
<p>Year 6 intended products</p>   	<p>Develop one idea in depth, combining modelling and drawing to refine ideas Record ideas using annotated cross-sectional and exploded diagrams Use a computer to model ideas Draw plans which can be read/followed by someone else Use models, kits and drawings to make prototypes & pattern pieces</p>	<p>Children to research different types of Mayan chocolate cakes. Children to use their design to make their cake. Children will understand how to make the cake and which ingredients to use first. Prepare food products taking into account the properties of ingredients and sensory characteristics, for a particular purpose Cut and shape ingredients using appropriate tools and equipment e.g. grating Work safely and hygienically</p>	<p>Consider which items of clothing would make the best bags and which techniques would be best to decorate their bag. Look at materials available to decorate their bag - design their own with those materials in mind. - give reasons for their choice of design and materials. Demonstrate the ability to measure, cut and draw with increasing accuracy. Use techniques such as applique to add decoration and extra details.</p>	<p>Consider which materials are available and which would most closely match those used in Anderson Shelters Demonstrate the ability to measure, cut and draw with increasing accuracy. Design and build the circuits needed to power the light around the bunker Build and decorate each part of the design Select appropriate tools and techniques for making their product. Measure, mark out, cut and shape a range of materials and components accurately. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p>Use the design criteria to inform their decisions about ways to proceed Justify their decisions about materials and methods of construction Reflect on their work using design criteria stating how well the design fits the needs of the user</p>

Key Vocabulary

annotated diagram, appearance, artefact, components, cross-section, design brief, criteria, design, dismantle, de-construct, equipment, evaluate, final design, investigate, modify, product, research, shape, sketch, synthetic, template, texture, upcycle, applique, patterns.