

Progression of skills and knowledge in Design Technology at Anns Grove Primary School



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Designing and Planning</p> <p>NC Coverage KS1: Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>NC Coverage KS2: 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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p>	<p>Use talk to organise themselves.</p> <p>Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.</p> <p>Choose the right resources to carry out their own plan.</p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p>Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen</p>	<p>Design appealing products for themselves based on simple design criteria.</p> <p>Generate initial ideas based on their own experiences.</p> <p>Develop and communicate these ideas through discussion, drawings and templates.</p>	<p>Design appealing products for themselves and others based on simple design criteria.</p> <p>Generate initial ideas based on their own experiences and discussion with others with some explanation of their thought process.</p> <p>Develop and communicate these ideas through discussion, drawings, templates and mock-ups.</p> <p>Begin to use simple information and communication technology to produce designs.</p>	<p>Consider their own needs and research the needs of others through discussion.</p> <p>Develop design criteria for a product when working with others.</p> <p>Generate a number of initial ideas which include information about materials to be used.</p> <p>Develop and communicate these ideas through annotated diagrams, templates and mock-ups providing some information about how their product will work.</p> <p>Use information and communication technology to produce designs.</p> <p>Develop an ordered plan for the steps they will take to create their product.</p>	<p>Consider their own needs and research the needs of others through discussion and surveys.</p> <p>Develop design criteria for a product when working with others and independently.</p> <p>Generate a number of initial ideas which include information about materials and tools to be used.</p> <p>Develop and communicate these ideas through annotated diagrams, templates and mock-ups providing detailed information about how their product will work.</p> <p>Use information and communication technology to produce designs considering the advantages and disadvantages of such a process.</p> <p>Develop an ordered plan for the steps they will take to create their product considering how long the process will take.</p>	<p>Consider their own needs and research the needs of others through discussion, surveys and questionnaires.</p> <p>Develop design criteria for a product, considering time and the availability of resources.</p> <p>Generate a number of initial ideas which include information about materials, tools and potential problems.</p> <p>Develop and communicate these ideas through annotated diagrams, templates, mock-ups and cross-sectional diagrams providing detailed information about how their product will work.</p> <p>Use information and communication technology to produce designs from a range of perspectives considering the advantages and disadvantages of such a process.</p> <p>Develop an ordered plan for the steps they will take to create their product considering how long the process will take and which steps will be more challenging.</p> <p>Begin to use prototypes to test ideas.</p>	<p>Consider their own needs and research the needs of others through discussion, surveys, questionnaires and market research.</p> <p>Develop design criteria for a product, considering time, the availability of resources, cost and sustainability.</p> <p>Generate a number of initial ideas which include information about materials, tools, potential problems, cost and sustainability.</p> <p>Develop and communicate these ideas through annotated diagrams, templates, mock-ups and cross-sectional and exploded diagrams providing detailed information about how their product will work.</p> <p>Use information and communication technology to produce designs from a range of perspectives considering the advantages and disadvantages of such a process and deciding when this method is best.</p> <p>Develop an ordered plan for the steps they will take to create their product considering how long the process will take, which steps will be more challenging and how these problems may be resolved.</p> <p>Begin to use prototypes to test ideas, identify problems and consider solutions.</p>
<p>Making (General)</p> <p>NC Coverage KS1: Select from and use a range of tools and equipment to perform practical tasks. For example, cutting, shaping, joining and finishing.</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	<p>Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them</p> <p>Choose the right resources to carry out their own plan</p> <p>Use one-handed tools and equipment, for example, making snips in paper with scissors</p> <p>Join different materials</p>	<p>Make suggestions about the tools, utensils that could be used.</p> <p>Begin to think about the size of the components of a design.</p> <p>Select from a range of materials and components.</p> <p>With support, begin to cut some materials with some accuracy.</p> <p>With support, begin to join and combine materials using</p>	<p>Begin to choose tools, utensils that could be used from a selection.</p> <p>Think about the size of the components of a design and begin to take measurements with support.</p> <p>Make suggestions about and select which materials and components they could use.</p> <p>With support begin to cut and score materials with some accuracy.</p>	<p>Choose tools and utensils independently.</p> <p>Make measurements independently with some level of accuracy (nearest cm).</p> <p>Select from a range of materials and components according to their functional properties and aesthetic qualities.</p>	<p>Choose tools and utensils independently giving explanations for their choices.</p> <p>Make measurements independently with increasing accuracy (nearest cm).</p> <p>Select from a range of materials and components according to their functional properties and aesthetic qualities whilst discussing the</p>	<p>Choose tools and utensils giving explanations that consider the safety of their choices.</p> <p>Make measurements using a range of units independently and accurately (nearest cm and mm).</p> <p>Select from a range of materials and components according to their functional properties, aesthetic qualities and cost whilst discussing the disadvantages of others in these terms.</p>	<p>Choose tools and utensils giving explanations that consider the safety and constraints of their choices.</p> <p>Make measurements using a range of units independently and accurately and explain why using certain units is desirable (nearest cm and mm).</p> <p>Select from a range of materials and components according to their functional properties, aesthetic</p>

<p>NC Coverage KS2: Select from and use a wider range of tools and equipment to perform practical tasks. For example, cutting, shaping, joining and finishing accurately.</p> <p>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.</p>	<p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p> <p>Create collaboratively, sharing ideas, resources and skills</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery.</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>adhesives such as glue and tape.</p> <p>Begin to add colour to finish their products.</p>	<p>Independently begin to join and combine materials using adhesives such as glue and tape.</p> <p>Begin to add colour and simple patterns to finish their products.</p>	<p>Independently cut and score materials with increasing accuracy.</p> <p>Join and combine materials with increasing accuracy selecting the adhesives they will use.</p> <p>Add colour and simple patterns to finish their products considering their choices in terms of the target audience.</p>	<p>disadvantages of others in these terms.</p> <p>Independently cut and score materials with accuracy.</p> <p>Join and combine materials accurately selecting the adhesives they will use.</p> <p>Add colour and detailed patterns to finish their products considering their choices in terms of the target audience.</p>	<p>Independently cut and score materials with precision and neatness.</p> <p>Join and combine materials accurately selecting the adhesives they will use and explaining their choices.</p> <p>Add colour, detailed patterns and 3D decorations to finish their products, including sanding and smoothing, considering their choices in terms of the target audience.</p>	<p>qualities, cost and sustainability whilst discussing the disadvantages of others in these terms.</p> <p>Independently cut and score materials with precision and neatness using a range of cutting tools.</p> <p>Join and combine materials with precision selecting the adhesives they will use and explaining their choices and the disadvantages of others options.</p> <p>Add colour, detailed patterns and 3D decorations to finish their products, including sanding and smoothing, considering their choices in terms of the target audience and how they affect the products usability.</p>
<p>Evaluating (General)</p> <p>NC Coverage KS1: 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.</p> <p>Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria.</p> <p>NC Coverage KS2: 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.</p> <p>Children investigate and analyse a range of existing products.</p> <p>They evaluate and their ideas and products their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped to shape the world.</p>	<p>Talk about differences between materials.</p> <p>Explore how things work.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Share their creations, explaining the process they have used.</p> <p>Review their progress as they work towards a goal.</p>	<p>Explore and evaluate existing products through discussions and comparisons.</p> <p>Name the materials that a product is made from.</p> <p>Begin to evaluate their products against simple design criteria.</p> <p>Begin to understand the iterative process.</p>	<p>Explore and evaluate existing products through discussions, comparisons and simple written evaluations.</p> <p>Name and describe the materials that a product is made from.</p> <p>Begin to evaluate their products against simple design criteria giving reasons for their thoughts.</p> <p>Begin to understand the iterative process and that this sometimes requires repeating stages of the design cycle.</p>	<p>Explore and evaluate existing products in relation to their purposes and whether they are well-designed.</p> <p>Name and describe the materials that a product is made from and offer some reasons why.</p> <p>Evaluate their products against more detailed design criteria giving reasons for their thoughts and suggesting improvements.</p> <p>Understand the iterative process and that this sometimes requires repeating stages of the design cycle.</p> <p>Begin to understand that key events and individuals have shaped the development of design and technology.</p>	<p>Explore and evaluate existing products in relation to their purposes, whether they are well-designed and appealing.</p> <p>Name and describe the materials that a product is made from, offer some reasons why and suggest alternatives.</p> <p>Evaluate their products against more detailed design criteria giving reasons for their thoughts, suggesting improvements and explaining whether these are plausible.</p> <p>Understand and explain the iterative process and that this sometimes requires repeating stages of the design cycle.</p> <p>Understand and explain that key events and individuals have shaped the development of design and technology.</p>	<p>Critically explore and evaluate existing products in relation to their purposes, whether they are well-designed, appealing and safe.</p> <p>Name and describe the materials that a product is made from, offer some reasons why, suggest alternatives and explain their choices in terms of cost and safety.</p> <p>Evaluate their products against detailed design criteria giving reasons for their thoughts and building these ideas into subsequent plans.</p> <p>Reflect upon a product's development and make adjustments inline with the design criteria to improve their design.</p> <p>Understand and explain the iterative process and that this sometimes requires repeating stages of the design cycle, sometimes building this into their own practice.</p> <p>Reflect upon key events and individuals that have shaped the development of design and technology.</p>	<p>Critically explore and evaluate existing products in relation to their purposes, whether they are well-designed, appealing, safe and sustainable.</p> <p>Name and describe the materials that a product is made from, offer some reasons why, suggest alternatives and explain their choices in terms of cost, safety and sustainability.</p> <p>Evaluate their products against detailed design criteria giving reasons for their thoughts, offering solutions and building these ideas into subsequent plans.</p> <p>Reflect upon a product's development, identify causes of problems and make adjustments inline with the design criteria to improve their design.</p> <p>Understand and explain the iterative process and that this sometimes requires repeating stages of the design cycle, sometimes building this into their own practice by using prototyping.</p> <p>Reflect upon and be influenced by key events and individuals that have shaped the development of design and technology.</p>

<p>Technical Knowledge</p> <p>Structures</p> <p>NC Coverage KS1: Children build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>NC Coverage KS2: Children apply their understanding of how strengthen, stiffen and reinforce more complex structures.</p>	<p>Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park</p> <p>Build and construct with a wide range of objects including junk materials and construction kits</p>	<p>Build simple 3D structures, exploring how they can be made stiffer and more stable using techniques such as folding and rolling.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce structures using techniques such as folding, rolling and corner supports in order to create more useful characteristics of products.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures using techniques such as folding, rolling, corner supports and trusses in order to create more useful characteristics of products, explaining their choices and the effects they believe they will produce.</p>
<p>Technical Knowledge</p> <p>Mechanisms</p> <p>NC Coverage KS1: They explore and use mechanisms (for example, levers, sliders, wheels and axels) in their products.</p> <p>NC Coverage KS2: They understand and mechanical systems in their products. For example, gears, pulleys, cams, levers and linkages.</p>		<p>Use and explore simple mechanisms such as levers, sliders, hinges, wheels and axels in their products.</p>	<p>Use mechanical systems in their products including pulleys, levers and linkages and explain how they work.</p>	<p>Use mechanical systems in their products including pulleys, levers, linkages gears and cams.</p> <p>Explain how mechanical systems work and how they could be improved to work more efficiently.</p>
<p>Technical Knowledge</p> <p>Textiles</p> <p>NC Coverage KS1: Select from and use a range of tools and equipment to perform practical tasks. For example, cutting, shaping, joining and finishing.</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>NC Coverage KS2: Select from and use a wider range of tools and equipment to perform practical tasks. For example, cutting, shaping, joining and finishing accurately.</p> <p>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</p>		<p>Begin to identify different types of fabric and discuss their tactile qualities.</p> <p>With support, learn to thread a needle and perform a simple running stitch.</p>	<p>Identify a range of different types of fabric and discuss their properties and possible uses in relation to the product being designed.</p> <p>Independently be able to thread a needle and perform a running stitch and a back stitch.</p> <p>Add decorative designs to products by attaching buttons and beads using a needle and thread.</p>	<p>Identify a broad range of different types of fabric and discuss their properties, possible uses, advantages, disadvantages in relation to the product being designed, cost and sustainability.</p> <p>Independently be able to thread a needle and perform a running stitch, a back stitch and a whipstitch.</p> <p>Add decorative designs to products by attaching, buttons, beads and simple embroidered designs using a needle and thread.</p>
<p>Technical Knowledge</p> <p>Food and Nutrition</p> <p>NC Coverage KS1: Children use the basic principles of a healthy and varied diet to prepare dishes.</p>	<p>Manage their own needs including personal hygiene.</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p>	<p>Understand that all food comes from plants and animals.</p> <p>Explain where in the world different foods originate from and are grown.</p>	<p>Understand that all food comes from plants and animals and is farmed, produced and prepared in different ways.</p> <p>Explain when, where and how different foods are grown, farmed and produced in the UK and wider world.</p>	<p>Understand that all food comes from plants and animals and is farmed, produced, prepared and stored in different ways, including information about how plants can be processed into ingredients, for example, wheat into flour.</p> <p>Explain and give examples of when, where and how different foods are grown, farmed, reared and caught in the UK and wider</p>

<p>They understand where food comes from.</p> <p>NC Coverage KS2: Children understand and apply the principles of a healthy and varied diet.</p> <p>They prepare and cook a variety of predominately savoury dishes using a range of cooking techniques.</p> <p>They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>Including knives, forks and spoons</p> <p>Practise stirring, mixing, pouring and blending</p> <p>Know and talk about factors that contribute towards their health and wellbeing</p>	<p>Name and sort foods into the five food groups and understand that everyone should eat at least five portions of fruit and vegetables a day to remain healthy.</p> <p>Begin to discuss a healthy diet when planning and preparing food.</p> <p>With support, begin to understand how to prepare basic dishes safely and hygienically.</p> <p>With support, begin to use techniques such as cutting and grating.</p> <p>Discuss how and why certain cooking utensils are used.</p>	<p>Name and sort foods into the five food groups and discuss the amounts of each group everyone should consume in a day to maintain a balanced diet and healthy lifestyle.</p> <p>Discuss a healthy diet when planning and preparing food and how the dishes they are producing relate to this.</p> <p>Understand how to prepare and cook a variety of predominately savoury dishes safely and hygienically.</p> <p>With support, use a heat source to cook ingredients showing awareness of the need to control timings.</p> <p>With support, use techniques such as mashing, whisking, crushing, grating, cutting and kneading.</p> <p>From a selection, choose cooking utensils for use and explain their choices.</p> <p>With support, measure and weigh ingredients to the nearest gram and millilitre.</p> <p>With supervision and support, follow recipes.</p>	<p>world, including information about seasonality and how this may affect availability and sustainability.</p> <p>Name and sort foods into the five food groups and discuss the amounts of each group everyone should consume in a day to maintain a balanced diet and healthy lifestyle, including information about the risks of eating and drinking unhealthily.</p> <p>Consider the requirements of a healthy and balanced diet to alter recipes and ingredients when planning and preparing food.</p> <p>With supervision, use a heat source to cook ingredients showing awareness of the need to control timings and temperature.</p> <p>With supervision, independently use techniques such as mashing, whisking, crushing, grating, cutting and kneading.</p> <p>Choose cooking utensils for use and explain their choices.</p> <p>Independently measure and weigh ingredients to the nearest gram and millilitre, including using ratios to scale up and down a recipe.</p> <p>Independently follow recipes.</p> <p>Adapt and refine recipes by adding or substituting ingredients to change the appearance, taste, texture or aroma of a dish.</p>
<p>Technical Knowledge</p> <p>Electrical Systems</p> <p>NC Coverage KS2: Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>			<p>With support, begin to incorporate electrical components into their designs and products so that they fulfil their purpose.</p> <p>Understand and demonstrate that mechanical and electrical systems have an input and an output process.</p> <p>Make simple series electrical circuits using a range of components to create their products.</p>	<p>Choose and incorporate electrical components into their designs and products so that they fulfil their purpose, given explanations for their choices.</p> <p>Understand, demonstrate and explain that mechanical and electrical systems have an input and an output process and where necessary identify faults and find solutions in their own designs.</p> <p>Make simple series and parallel electrical circuits using a range of components to create their products giving reasons for their choices.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>