



St Augustine's Design Technology Overview



Design Technology Progression

NC KSI	NC KS2
<p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> ♣ design purposeful, functional, appealing products for themselves and other users based on design criteria ♣ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> ♣ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ♣ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> ♣ explore and evaluate a range of existing products ♣ evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> ♣ build structures, exploring how they can be made stronger, stiffer and more stable ♣ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 	<p>Design</p> <ul style="list-style-type: none"> ♣ 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 ♣ generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> ♣ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately ♣ 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>Evaluate</p> <ul style="list-style-type: none"> ♣ investigate and analyse a range of existing products ♣ evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ♣ understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures ♣ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] ♣ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] ♣ apply their understanding of computing to program, monitor and control their products.

Knowledge of Designers

<p>To know what a designer does.</p> <p>To know the names and the products of some British designers</p> <p>To say what I like and dislike about the product and the designer</p>	<p>To know some designers from history</p> <p>To know some international designers</p> <p>To can talk about some of the tools, techniques and design used by the designer</p>	<p>-To know how key events and individuals have influenced the world (in terms of products)</p> <p>- To can compare and contrast the work of different designers (e.g. historical and modern)</p> <p>To can give reasons for the decisions made by the designer</p>
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Designing

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> -To think of ideas and with help can put them into practice -To know what a design is and its purpose -To use pictures and words to describe what I want to do (materials and tools) 	<ul style="list-style-type: none"> -To think of ideas and with help can put them into practice -To know what a design is and its purpose -To use pictures and words to describe what I want to do (materials, techniques, features-mechanics etc. and tools) 	<ul style="list-style-type: none"> -To think of ideas and plan what to do next, based on what I know about materials and components -To select the appropriate tools, techniques and materials -To plan using specific materials and explain my choice -To use pictures and words to describe what I want to do (materials, techniques, features-mechanics etc. and tools) 	<ul style="list-style-type: none"> -To think of ideas and plan what to do next, based on what I know about materials and components -To select the appropriate tools, techniques and materials explaining my choices -To communicate my ideas using labelled sketches giving reasons for my choices 	<ul style="list-style-type: none"> -To use my knowledge of design designers and further research to help influence my own design -To can create models or prototypes to show aspects of my design -To produce step by step plans -To use computer aided design 	<ul style="list-style-type: none"> -To use my knowledge of design designers and further research to help influence my own design -To create models or prototypes to show aspects of my design -To produce step by step plans -To use computer aided design To take part in technical discussions about my ideas

Making

Construction

KSI	Lower KS2	Upper KS2
<ul style="list-style-type: none"> -To know what materials I can use for my structure -My structures use materials that are appropriate -To know what a join is -To use an appropriate join -To measure and mark out materials with care and increasing accuracy -To cut materials safely -To am careful to make my work look as neat as possible -To have found out how to make materials for my structure stronger (folding, rolling and joining, columns and triangles) 	<ul style="list-style-type: none"> -To use appropriate materials -To use a variety of joins -To use scoring and folding to shape materials accurately -To make cuts accurately (scissors; saws, snips) -To make holes accurately (drill, punch) -To join materials to make products using both permanent and temporary fastenings -My methods of working are increasingly precise aiming for a high quality finish -To use art skills to apply texture and design to my products 	<ul style="list-style-type: none"> To select from a variety of materials best suited to my design To measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision. To make cuts (scissors, snips, saw) accurately and reject pieces that are not accurate and improve my technique. My joins are strong and stable, giving extra strength to my products. Some joins are flexible to allow for dismantling or folding. My methods of working are precise so that products have a high quality finish. To use computer programming when creating a product

Evaluating

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> -To know what a product is -To say what a product is for -To describe a product (who is it for, what is made from, how is it made, how it works) 	<ul style="list-style-type: none"> -To know the features of familiar products -To give reasons for some features (colour choice, material used, joining technique) -To talk about my own and others' work (features, design, opinion) 	<ul style="list-style-type: none"> -To can research and evaluate existing products -To understand that products are designed for a purpose (e.g. a problem, an audience, an event) -To talk about my own and others' work (features, design, opinion) 	<ul style="list-style-type: none"> -To research and evaluate existing products -To understand that products are designed for a purpose (e.g. a problem, an audience, an event) -To identify what is working well and what can be improved (this is during 	<ul style="list-style-type: none"> -To research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques) -To use the ideas from current designers to help me with my own -To reflect on my designs and develop them bearing in 	<ul style="list-style-type: none"> -To research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques) -To use the ideas from current designers to help me with my own -To reflect on my designs and develop them bearing in mind the way they will be used (during the process)

-To talk about my own work (features, design, opinion) -To describe how my product works	-To explain why -To choose certain materials, techniques and tools -To describe how my product works	-To explain why To choose certain materials, techniques and tools - To say what I need to improve my product	the make as well as at the end)	mind the way they will be used (during the process)	
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Mechanics and (KS2) Electrics

KS1	Lower KS2	Upper KS2
<p>To have made a product that moves using a turning mechanism (e.g. wheels, winding) or a lever or a hinge (to make a movement)</p> <p>To cut materials using scissors.</p> <p>To describe the properties of the materials I have used.</p> <p>To have made a product that moves using a turning mechanism (e.g. wheels, winding) or a lever or a hinge (to make a movement)</p> <p>To cut materials using scissors.</p> <p>To describe the properties of the materials I have used.</p> <p>To have explored how moving objects work.</p> <p>To have looked at wheels, axels, turning mechanisms, hinges and simple levers.</p> <p>To know that my product needs to be made from materials that are suitable for the job.</p>	<p>To select the most appropriate techniques and tools to make my product.</p> <p>To come up with solutions to problems as they happen.</p> <p>To have made a product that uses both electrical and mechanical components.</p> <p>My product has a good finish so that a user will find it both useful and attractive.</p> <p>To know the application of mechanisms to create movement.</p> <p>To combine a number of components well in my product.</p> <p><i>To use simple circuits to either illuminate or create motion.</i></p>	<p>To have chosen components that can be controlled by switches or by ICT equipment.</p> <p>My product is improved after testing.</p> <p>My product is well finished in a way that would appeal to users</p> <p>To use my science skills (resistance, batteries in series or parallel, variable resistance to dim lights or control speed) to alter the way my electrical products behave.</p> <p>My products are well finished using a range of art and other finishing techniques.</p> <p><i>To use precise electrical connections.</i></p> <p><i>To have explored mechanical movement using hydraulics and pneumatics.</i></p> <p><i>To use other DT skills to create housings for my mechanical components.</i></p>

Textiles

KSI	Lower KS2	Upper KS2
<p>To know how textiles can be used to make products.</p> <p>To have altered a textile to make it stronger.</p> <p>To know that textiles have different properties: touch, insulation, texture and waterproof.</p> <p>To select the appropriate textile so that it does the job I want it to.</p> <p>To describe textiles by the way they feel.</p> <p>To have made a product from textiles.</p> <p>To can measure, mark out and cut fabric.</p> <p>To can join fabrics using glue.</p> <p>To make sure my work is neat and tidy.</p> <p>To describe textiles by the way they feel.</p> <p>To have made a product from textiles.</p> <p>To can measure, mark out and cut fabric.</p> <p>To join fabrics using glue.</p> <p>To make sure my work is neat and tidy.</p>	<p>To select the appropriate textile(s) for my product.</p> <p>To use sharp scissors accurately to cut textiles.</p> <p>To know that the texture and other properties of materials affect my choice.</p> <p>My designs improve as I go along.</p> <p>My textile work incorporates the views of intended users' and for the purpose.</p> <p>To use my art textiles skills such as stitching to help create a product that is sturdy and fit for purpose.</p> <p>To combine materials to add strength or visual appeal</p> <p>My textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.</p>	<p>My products have an awareness of commercial appeal.</p> <p>To experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job.</p> <p>To combine art skills to add colour and texture to my work.</p> <p>To mark out using my own patterns and template</p> <p>To join textiles using art skills of stitching, embroidering and plaiting to make a durable and desirable products.</p>

Cooking and nutrition

KSI	Lower KS2	Upper KS2
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<ul style="list-style-type: none"> -With help, use knives safely -To use a mixing bowl -To show I am aware of washing for hygiene -To know I need fruit and vegetables -To know some things are made and some things are natural -To know some things are dangerous to eat raw -To use a variety of utensils safely -To show I am aware of the need to clean work surfaces -To know what the food groups are -To know where some foods come from -To know why it is dangerous to eat some things raw 	<ul style="list-style-type: none"> -To select different ingredients for my product -To work in a safe, hygienic way -To am beginning to measure out my ingredients -To understand what is healthy and unhealthy -To explain why I have chosen specific ingredients - My food products contain a variety of elements -To comment on what I like in my dishes -To understand why we need a healthy diet -To know which animals provide which meats 	<ul style="list-style-type: none"> -To explain why I have chosen specific elements in a dish -To comment on how I can improve my food products -To know where different crops can be found around the world -To know about local produce -To suggest ways to improve my food products -To know why I need certain food types -To understand seasonality and this effects food -To understand the concept of carbon footprints -To know different cultures have different diets
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Curriculum DT

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<u>Textiles</u> Hero Puppets	<u>Structures</u> Seaside shelters	<u>Mechanisms</u> Christmas Cards	<u>Electrics (Mechanisms)</u> Light up Christmas Card	<u>Mechanisms</u> Levers and Pulleys (links to science)	<u>Mechanisms - Electrical</u>
<u>Structures</u> Three Little Pigs House	<u>Food and Nutrition</u>	<u>Food and Nutrition</u>	<u>Textiles</u> Roman Hat	<u>Structures</u> Moon buggy	<u>Structures</u>
<u>Food and Nutrition</u>	<u>Mechanisms</u> Transport	<u>Structures</u> Earthquake proof shelter	<u>Food and Nutrition</u>	<u>Food and Nutrition</u>	<u>Textiles</u>