



## Design Technology in Our School.

At Churchside Federation, we believe that Design and Technology prepares children to take part in the development of today's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. We are in an age where we are teaching children to prepare them for jobs which may not have even been invented yet, and so these skills are crucial for their development and future prospects.

Year Group	Knowledge	Skills	Golden Threads
<b>YR</b>			
<ul style="list-style-type: none"> <li><b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>To design a product for themselves, communicating ideas through talking and drawing.</li> </ul>	<ul style="list-style-type: none"> <li>I can explain to someone else how I want to make my product.</li> </ul>	<p><b>Structures</b> – can I make my own model?</p> <p>Can I use resources available, e.g. Duplo, wooden blocks, stickle bricks?</p>
<ul style="list-style-type: none"> <li><b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>To select and use tools and equipment for practical tasks (e.g. cutting).</li> </ul>	<ul style="list-style-type: none"> <li>I can use my own ideas to make something.</li> </ul>	
<ul style="list-style-type: none"> <li><b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>To explore a range of existing products.</li> </ul>	<ul style="list-style-type: none"> <li>I can describe how something works.</li> </ul>	<p><b>Mechanisms</b> – can I make a moving part?</p> <p>Which parts of the picture can move?</p>
<ul style="list-style-type: none"> <li><b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>To build structures.</li> </ul>	<ul style="list-style-type: none"> <li>I can join two materials.</li> </ul>	<p><b>Textiles</b> – can I make a hat to keep my toy dry?</p>
<ul style="list-style-type: none"> <li><b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>To understand where food comes from.</li> </ul>	<ul style="list-style-type: none"> <li>I can explain where some foods come from (animal or plant).</li> </ul>	<p><b>Nutrition</b> - can I make a sweet (non-cook) dish?</p> <p>What fruits would be good in a fruit salad?</p> <p>Can I identify where the ingredients have come from?</p>
<b>Y1</b>			
<ul style="list-style-type: none"> <li><b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>To design a purposeful and appealing product, for themselves, generating and modelling ideas using a template.</li> </ul>	<ul style="list-style-type: none"> <li>I can make a simple plan before making.</li> </ul>	<p><b>Structures</b> – can I make a moving model?</p> <p>Can I use resources available,</p>

<ul style="list-style-type: none"> <li>• <b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>• To select from a range of tools and equipment for practical tasks (e.g. shaping, joining and finishing).</li> </ul>	<ul style="list-style-type: none"> <li>• I can choose appropriate resources and tools.</li> </ul>	e.g. Lego, art straws, pipe cleaners?
<ul style="list-style-type: none"> <li>• <b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>• To explore and evaluate a range of existing products.</li> </ul>	<ul style="list-style-type: none"> <li>• I can make my model stronger.</li> </ul>	<b>Mechanisms</b> – can I make a moving part?  How can I use split pins to make a part move?
<ul style="list-style-type: none"> <li>• <b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• To build structures and explain how to make stronger/stiffer.</li> </ul>	<ul style="list-style-type: none"> <li>• I can make a product which moves.</li> </ul>	<b>Textiles</b> – can I use materials to keep myself safe at night/in the dark?
<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To understand a basic healthy, balance diet,</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify the different food groups.</li> </ul>	<b>Nutrition</b> - can I make a sweet dish?  Can I follow the recipe carefully?  Can I identify where the ingredients have come from?
<b>Y2</b>			
<ul style="list-style-type: none"> <li>• <b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>• To design a functional product, for themselves and others, generating and communicating ideas through mock ups and ICT.</li> </ul>	<ul style="list-style-type: none"> <li>• I can choose tools and materials and explain why I have chosen them.</li> </ul>	<b>Structures</b> – can I make a moving model?  How can I make a model that will roll?
<ul style="list-style-type: none"> <li>• <b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>• To select from a wide range of materials and components, including construction and textiles, according to their characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>• I can join materials and components in different ways.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>• To evaluate their ideas and products against design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain what went well with my work.</li> </ul>	<b>Mechanisms</b> – can I make a pop up card?
<ul style="list-style-type: none"> <li>• <b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• To explore and use mechanisms (e.g. levers, sliders, wheels) in their products.</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain why I have chosen specific textiles.</li> <li>• I can measure materials to use in a model or structure.</li> </ul>	<b>Textiles</b> – what can I learn from a textile tree?  How many materials can I add to the class tree?  Can I name them all and describe their properties?
<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To use the basic principles of a healthy and varied diet to prepare dishes.</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe the ingredients I am using and why.</li> </ul>	<b>Nutrition</b> – can I make a savoury dish?  Can I follow the recipe carefully?

			How do I like my toast?  Can I identify where the ingredients have come from?
<b>Y3</b>			
<ul style="list-style-type: none"> <li>• <b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>• To generate ideas for an item, considering purpose, user and uses.</li> <li>• To start to order the main stages of making a product.</li> <li>• To identify a purpose and establish criteria for a successful product.</li> <li>• To learn about inventors, designers, engineers, chefs and manufacturers.</li> <li>• To understand whether products can be recycled or reused.</li> <li>• To know how to make drawings with labels when designing.</li> </ul>	<ul style="list-style-type: none"> <li>• I can design a product and make sure that it looks attractive.</li> <li>• I can follow a step-by-step plan, choosing the right equipment and materials.</li> </ul>	<p><b>Structures</b> – how fast should my buggy be?</p> <p>How can I design my buggy to move forwards?</p> <p>How can I make my buggy faster/slower?</p>
<ul style="list-style-type: none"> <li>• <b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>• To select wider range of tools and techniques, and explain reasoning behind choice.</li> <li>• To start to understand that mechanical and electrical systems have an input process and an output.</li> <li>• To start to understand that mechanical systems such as lever s and linkages create movement.</li> <li>• To know how simple electrical circuits and components can be used to create functional products.</li> </ul>	<ul style="list-style-type: none"> <li>• I can choose a textile for both its suitability and its appearance.</li> <li>• I can select the most appropriate tools and techniques for a given task.</li> <li>• I can make a product which uses both electrical and mechanical components.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>• To start to evaluate their product against original design criteria.</li> <li>• To begin to disassemble and evaluate familiar products and consider the views of others to improve them.</li> <li>• To evaluate key designs and how technology has shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>• I can prove that my design meets some set criteria.</li> <li>• I can evaluate and suggest improvements for my designs.</li> <li>• I can explain how I have improved my original design.</li> </ul>	<p><b>Mechanisms</b> – what would be the best lights for a party?</p>
<ul style="list-style-type: none"> <li>• <b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• To measure, mark out, cut, score and assemble components with more accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• I can work accurately to measure, make cuts and make holes.</li> <li>• I can understand and use mechanical systems in my products.</li> </ul>	<p><b>Textiles</b> – will my party hat be funny or fantastic?</p>
<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To start to know that food is grown, reared and caught in the UK, Europe and the wider world.</li> <li>• To understand how to prepare and cook a variety of savoury dishes, safely and hygienically.</li> <li>• To begin to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• To understand that a healthy diet is made up from a variety and balance of</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe how food ingredients come together.</li> <li>• I can understand and apply the principles of a healthy diet.</li> <li>• I can prepare and cook a variety of dishes using a range of cooking techniques.</li> </ul>	<p><b>Nutrition</b> - can I make a savoury dish</p> <p>Can I identify all 5 food group?</p> <p>How cool is my drink?</p>

	<p>different food and drink.</p> <ul style="list-style-type: none"> <li>To begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</li> </ul>		
<b>Y4</b>			
<ul style="list-style-type: none"> <li><b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>To generate ideas for an item, considering purpose, user and uses.</li> <li>To confidently make labelled drawings from different views showing specific features.</li> <li>To develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggest alternative methods if the first attempts fail.</li> <li>To identify strengths and areas for development in their ideas and products.</li> <li>To consider views of others, including intended users, to improve work.</li> <li>To learn about inventors, designers, engineers, chefs and manufacturers.</li> </ul>	<ul style="list-style-type: none"> <li>I can use ideas from other people when I am designing.</li> <li>I can produce a plan and explain it.</li> </ul>	<p><b>Structures</b> – what music would I like to make?</p> <p>How can I make a loud/quiet sound?</p> <p>How can I change the sound of my instrument?</p>
<ul style="list-style-type: none"> <li><b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>To select wider range of tools and techniques for making their product safely.</li> <li>To understand that mechanical systems such as cams, pulleys or gears create movement.</li> <li>To understand how more complex electrical circuits and components can be used to create functional products.</li> </ul>	<ul style="list-style-type: none"> <li>I can choose a textile for both its suitability and its appearance.</li> <li>I can select the most appropriate tools and techniques for a given task.</li> <li>I can make a product which uses both electrical and mechanical components.</li> </ul>	
<ul style="list-style-type: none"> <li><b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>To evaluate their product carrying out appropriate tests.</li> <li>To begin to disassemble and evaluate familiar products and consider the views of others to improve them.</li> <li>To evaluate key designs and how technology has shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>I can persevere and adapt my work when my original ideas do not work.</li> <li>I can evaluate and suggest improvements for my designs.</li> <li>I can evaluate products for both their purpose and appearance.</li> <li>I can explain how I have improved my original design.</li> </ul>	<p><b>Mechanisms</b> – how can I make my puppet wave?</p>
<ul style="list-style-type: none"> <li><b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>To measure, mark out, cut and shape with a range of materials, using appropriate tools, techniques and equipment.</li> <li>To understand how to strength a 3D framework.</li> <li>To begin to use finishing techniques to strengthen and improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>I can present a product in an interesting way.</li> <li>I can measure accurately.</li> <li>I can strengthen, stiffen and reinforce more complex structures.</li> <li>I can understand and use mechanical systems in my products</li> </ul>	<p><b>Textiles</b> – how should my puppets tell their story?</p> <p>What materials will I use to make my puppets?</p> <p>How will I make a puppet theatre to perform my story?</p>

<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To start to know that food is grown, reared and caught in the UK, Europe and the wider world.</li> <li>• To understand how to prepare and cook a variety of savoury dishes, safely and hygienically, using a heat source.</li> <li>• To know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• To understand that a healthy diet is made up from a variety and balance of different food and drink.</li> <li>• To know that to be active and healthy, food and drink are needed to provide energy for the body.</li> </ul>	<ul style="list-style-type: none"> <li>• I know how to be both hygienic and safe when using food</li> <li>• I can understand and apply the principles of a healthy diet.</li> <li>• I can prepare and cook a variety of dishes using a range of cooking techniques.</li> </ul>	<p><b>Nutrition</b> – can I make a sweet dish?</p> <p>What shape should my pastry be?</p> <p>Can I identify where the ingredients have come from?</p> <p>Can I identify all 5 food group?</p>
<b>Y5</b>			
<ul style="list-style-type: none"> <li>• <b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>• To generate, develop, model and communicate their ideas through discussion annotated sketches, cross-sectional diagrams, prototypes and CAD.</li> <li>• To begin to use research and develop design criteria to inform the design and functional and appealing products.</li> <li>• To draw up a specification from their design.</li> </ul>	<ul style="list-style-type: none"> <li>• I can come up with a range of ideas after collecting information from different sources.</li> <li>• I can produce a detailed, step-by-step plan.</li> <li>• I can explain how a product will appeal to a specific audience.</li> </ul>	<p><b>Structures</b> – how will I store my favourite things?</p>
<ul style="list-style-type: none"> <li>• <b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>• To select appropriate materials, tools and techniques for cutting, shaping, joining and finishing accurately.</li> <li>• To understand that mechanical systems such as cams, pulleys or gears create movement.</li> <li>• To understand how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.</li> <li>• To measure and mark out accurately.</li> </ul>	<ul style="list-style-type: none"> <li>• I can make a prototype before I make a final version.</li> <li>• I can select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining, and finishing) accurately.</li> <li>• I can select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their function, properties and aesthetic qualities.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>• To evaluate their product carrying out appropriate tests and against the original design criteria.</li> <li>• To evaluate their work both during and at the end of their assignment, and seek out evaluation from others.</li> <li>• To evaluate key designs and how technology has shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>• I can evaluate appearance and function against original criteria.</li> <li>• I can suggest alternative plans; outlining the positive features and drawbacks.</li> </ul>	<p><b>Mechanisms</b> – how will my beast open its mouth?</p>

<ul style="list-style-type: none"> <li>• <b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• To understand how to strength a 3D framework.</li> <li>• To weigh and measure accurately (time, dry ingredients, liquids).</li> <li>• To begin to use finishing techniques to strengthen and improve the appearance of their product, using a range of equipment including ICT.</li> <li>• To apply a range of finishing techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• I can use a range of tools and equipment competently.</li> <li>• I can strengthen, stiffen and reinforce more complex structures.</li> <li>• I can understand and use mechanical systems in my products</li> <li>• I can understand and use electrical systems in my products.</li> <li>• I can apply my understanding of computing to program, monitor and control my products.</li> </ul>	<p><b>Textiles</b> - will my pencil case have a button or a snap fastener?</p> <p>What will go inside my pencil case?</p> <p>What will I use my pencil case for?</p>
<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To know that food is grown, reared and caught in the UK, Europe and the wider world.</li> <li>• To begin to understand that season may affect the food available.</li> <li>• To understand how to prepare and cook a variety of savoury dishes, safely and hygienically, using a heat source.</li> <li>• To know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• To understand that different food and drinks contain different substances (nutrients, water, fibre) that are needed for health.</li> </ul>	<ul style="list-style-type: none"> <li>• I can show that I can be both hygienic and safe in the kitchen.</li> <li>• I can understand and apply the principles of a healthy and varied diet.</li> <li>• I can prepare and cook a variety of dishes using a range of cooking techniques.</li> <li>• I can understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<p><b>Nutrition</b> - Can I plan and budget for a meal?</p> <p>Can I prepare the meal, following the recipe carefully?</p> <p>Can I prepare a healthy balanced plate? Does my meal include food from all 5 food groups?</p>
<b>Y6</b>			

<ul style="list-style-type: none"> <li>• <b>Design</b></li> </ul>	<ul style="list-style-type: none"> <li>• To generate, develop, model and communicate their ideas through discussion annotated sketches, cross-sectional diagrams, prototypes and CAD.</li> <li>• To use research and develop design criteria to inform the design and functional and appealing products that are fit for purpose.</li> <li>• To accurately apply a range of finishing techniques.</li> <li>• To draw up a specification from their design.</li> <li>• To plan the order of their work, selecting appropriate materials, tools and techniques. Suggest alternative methods if first attempts fail.</li> </ul>	<ul style="list-style-type: none"> <li>• I can use market research to inform my plans and ideas.</li> <li>• I can follow and refine my plans.</li> <li>• I can justify my plans in a convincing way.</li> <li>• I can show that I consider culture and society in my plans and designs.</li> </ul>	<p><b>Structures</b> – will my creature be fierce or friendly?</p> <p>How many moving parts will it have?</p>
<ul style="list-style-type: none"> <li>• <b>Make</b></li> </ul>	<ul style="list-style-type: none"> <li>• To carefully select appropriate materials, tools, components and techniques for cutting, shaping, joining and finishing accurately.</li> <li>• To use tools safely and accurately.</li> <li>• To assemble components and make working models.</li> <li>• To demonstrate when make modifications as they go along.</li> <li>• To construct products using permanent joining techniques.</li> <li>• To understand how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.</li> </ul>	<ul style="list-style-type: none"> <li>• I can select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining, and finishing) accurately.</li> <li>• I can select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their function, properties and aesthetic qualities.</li> </ul>	

<ul style="list-style-type: none"> <li>• <b>Evaluate</b></li> </ul>	<ul style="list-style-type: none"> <li>• To evaluate their product carrying out appropriate tests and against the original design criteria.</li> <li>• To evaluate their work both during and at the end of their assignment, and seek out evaluation from others.</li> <li>• To record their evaluations using drawings and labels.</li> <li>• To evaluate key designs and how technology has shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>• I can show that I can test and evaluate my products.</li> <li>• I can explain how products should be stored and give reasons.</li> <li>• I can work within a budget.</li> <li>• I can evaluate my product against clear criteria.</li> </ul>	<p><b>Mechanisms</b> – does this game stop you from being bored?</p>
<ul style="list-style-type: none"> <li>• <b>Technical Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• To understand how to reinforce and strengthen a 3D framework.</li> <li>• To use finishing techniques to strengthen and improve the appearance of their product, using a range of equipment including ICT.</li> </ul>	<ul style="list-style-type: none"> <li>• I can strengthen, stiffen and reinforce more complex structures.</li> <li>• I can understand and use mechanical systems in my products</li> <li>• I can understand and use electrical systems in my products.</li> <li>• I can apply my understanding of computing to program, monitor and control my products.</li> </ul>	<p><b>Textiles</b> – will my bag have a handle or a strap?</p> <p>What will go inside my bag?</p> <p>What will I use my bag for?</p>
<ul style="list-style-type: none"> <li>• <b>Cooking and Nutrition</b></li> </ul>	<ul style="list-style-type: none"> <li>• To know that food is grown, reared and caught in the UK, Europe and the wider world.</li> <li>• To understand that season may affect the food available.</li> <li>• To understand how food is processed into ingredients that can be eaten or used in cooking</li> <li>• To understand how to prepare and cook a variety of savoury dishes, safely and hygienically, using a heat source.</li> <li>• To know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• To understand that different food and drinks contain different substances (nutrients, water, fibre) that are needed for health.</li> </ul>	<ul style="list-style-type: none"> <li>• I can show that I can be both hygienic and safe in the kitchen.</li> <li>• I can understand and apply the principles of a healthy and varied diet.</li> <li>• I can prepare and cook a variety of dishes using a range of cooking techniques.</li> <li>• I can understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<p><b>Nutrition</b> – Can I plan and budget for a two course meal? One dish must be savoury and one sweet.</p> <p>Can I prepare the dishes following the recipes?</p> <p>Can I prepare a healthy balanced plate? Does my meal include food from all 5 food groups?</p>