

# Great Chart Primary School

## Curriculum Skills Map Design and Technology



### September 2018

We aim to provide creative and co-operative ways for the pupils to learn together so that all can succeed. As such we follow a skills based curriculum and we have aimed to create a document based around the key skills we see as relevant for life in the 21<sup>st</sup> Century. We believe that a curriculum heavily based on knowledge is no longer relevant, as knowledge is now so readily available at our fingertips. Instead, we want to foster in our pupils a love of learning, and develop their creativity and critical thinking through skills such as collaboration, research, problem solving, presentation, evaluation and reflection. These skills are reflected through the objectives identified in each subject area to help us develop confident, excited and proud learners who will be our leaders of the future and become a dynamic, adaptable workforce with high levels of reasoning and problem solving skills.

Teaching and learning within our school, as far as possible, is taught through a cross curricular approach to enable the children to make connections between their learning, leading to a deeper learning experience. Links are made wherever possible between subjects, however we recognise that Science, PE and RE will often need to be taught in a discrete manner.

## Curriculum Skills Map- DT- Year 1

<b>Developing, planning and communicating ideas</b>	<b>Working with tools, equipment, materials and components to make quality products</b>	<b>Evaluating processes and products</b>
<ul style="list-style-type: none"> <li>• Can they identify the key features of an existing product?</li> <li>• Can they think of some ideas of their own?</li> <li>• <b>Can they plan an outcome through pictures with labels?</b></li> <li>• Can they explain their ideas orally?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they explain what they are making?</li> <li>• Can they select appropriate resources and tools?</li> <li>• <b>Can they explain which tools are they using and why?</b></li> <li>• Can they use tools safely?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they describe how their product works?</li> <li>• Can they identify success and next steps?</li> </ul>
<b>Choose from: Areas of study</b>		
<p><b>Cooking and nutrition</b></p> <ul style="list-style-type: none"> <li>• Can they use knives safely?</li> <li>• Can they describe the texture of foods?</li> <li>• Can they wash hands and surfaces before preparing food?</li> <li>• Can they present food in an innovative way?</li> </ul>	<p><b>Mechanisms</b></p> <ul style="list-style-type: none"> <li>• Can they make a product which moves?</li> <li>• Can they cut materials using scissors?</li> <li>• Can they describe the materials using different words?</li> <li>• Can they say why they have chosen moving parts?</li> </ul>	<p><b>Construction and Use of Materials</b></p> <ul style="list-style-type: none"> <li>• Can they arrange pieces of the construction before building?</li> <li>• Can they make a structure/model using different materials?</li> </ul>

## Curriculum Skills Map- DT- Year 2

Developing, planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
<ul style="list-style-type: none"> <li>• Can they generate ideas through comparing existing products?</li> <li>• <b>Can they plan an innovative product?</b></li> <li>• Can they choose the most appropriate tools and materials and explain their choices?</li> <li>• Can they describe their design by using pictures, diagrams, and words?</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Can they join materials/ components together in different ways?</b></li> <li>• Can they measure materials to use in a model or structure?</li> <li>• Can they use joining, folding or rolling to make it stronger?</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Can they assess how well their product works?</b></li> <li>• If they did it again, can they explain what they would improve?</li> </ul>
<p><b>Choose from: Areas of study</b></p>		
<p><b>Cooking and nutrition</b></p> <ul style="list-style-type: none"> <li>• Can they describe the taste, texture and appearance of the ingredients they are using?</li> <li>• Can they use preparation techniques, such as cutting, spreading, peeling, grating?</li> <li>• Can they explain what it means to be</li> </ul>	<p><b>Textiles</b></p> <ul style="list-style-type: none"> <li>• Can they measure an amount of a textile?</li> <li>• Can they join textiles together to make a product, using techniques such as stitching?                             <ul style="list-style-type: none"> <li>• Can they cut textiles accurately?</li> </ul> </li> <li>• Can they explain why they chose a certain</li> </ul>	<p><b>Mechanisms</b></p> <ul style="list-style-type: none"> <li>• Can they join materials together as part of a moving product?</li> <li>• Can they explain how different parts move?</li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Can they make sensible choices of which</li> </ul>

hygienic? <ul style="list-style-type: none"> <li>• Are they hygienic in the kitchen?</li> </ul>	textile?	material to use for their construction? <ul style="list-style-type: none"> <li>• Can they make their structure stronger, stiffer or more stable?</li> </ul>
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### Curriculum Skills Map- DT- Year 3

Developing, planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
<ul style="list-style-type: none"> <li>• Can they plan their design, using accurate diagrams and labels?</li> <li>• Can they plan the equipment/ tools needed and give reasons why?</li> <li>• <b>Can they start to order the main stages of making their product?</b></li> <li>• Can they identify a design criteria and establish a purpose/ audience for their product?</li> <li>• How realistic are their plans? <i>e.g. tools, equipment, materials, components?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Can they use equipment and tools accurately and safely?</li> <li>• Can they select the most appropriate materials, tools and techniques to use?</li> <li>• <b>Can they manipulate materials using a range of tools and equipment?</b></li> <li>• Can they measure, cut and assemble with increasing accuracy?</li> </ul>	<ul style="list-style-type: none"> <li>• Start to think about their ideas as they make progress and be willing to make changes if this helps them to improve their work?</li> <li>• <b>Can they assess how well their product works in relation to the purpose?</b></li> <li>• Can they explain how they could change their design to make it better?</li> </ul>
<b>Choose from: Areas of study</b>		
<b>Cooking and Nutrition</b> <ul style="list-style-type: none"> <li>• Can they choose the right ingredients for a product?</li> </ul>	<b>Textiles</b> <ul style="list-style-type: none"> <li>• Can they join textiles of different types in a range of ways?</li> </ul>	<b>Mechanisms</b> <ul style="list-style-type: none"> <li>• Can they make a product which uses mechanical components?</li> </ul>

<ul style="list-style-type: none"> <li>• Can they experiment with innovative food presentation?</li> <li>• Can they describe how well ingredients combine?</li> <li>• Can they use a range of food preparation techniques? <i>e.g. peeling, chopping, slicing, grating, mixing, kneading.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Can they choose textiles both for their appearance and also qualities?</li> <li>• Can they begin to use a range of simple stitches?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use a range of components? <i>e.g. levers, linkages and pneumatic systems</i></li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Can they join materials effectively to build a product?</li> <li>• Can they use a range of techniques to shape and mould materials?</li> <li>• Can they use finishing techniques? <i>e.g. sanding, varnishing, glazing etc</i></li> </ul>
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## Curriculum Skills Map- DT- Year 4

Developing, planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
<ul style="list-style-type: none"> <li>• Can they create a final design for their product based on initial ideas and revisions, based on existing ideas?</li> <li>• <b>Can they create a detailed plan considering their target audience, design criteria and intended purpose?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Can they use equipment and tools with increased accuracy and safety?</li> <li>• Can they select the most effective materials, tools and techniques to use? <ul style="list-style-type: none"> <li>• Can they manipulate materials effectively using a range of tools and equipment?</li> <li>• <b>Can they measure, cut</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Think about their ideas as they progress and make changes to improve their work?</li> <li>• Can they assess how well their product works in relation to the design criteria and the intended purpose? <ul style="list-style-type: none"> <li>• <b>Can they explain how they could improve their design and how their improvement would affect the original outcome?</b></li> </ul> </li> </ul>

	<b>and assemble accurately?</b>	
<b>Choose from: Areas of study</b>		
<b>Cooking and nutrition</b> <ul style="list-style-type: none"> <li>• Do they know what to do to be hygienic and safe?</li> <li>• Can they experiment with innovative food design and presentation?</li> <li>• Can they begin to cook a range of savoury dishes, beginning to use a heat source where appropriate?</li> </ul>	<b>Textiles</b> <ul style="list-style-type: none"> <li>• Can they consider which materials are fit for purpose and join them appropriately?</li> <li>• Can they devise a template or pattern for their product?</li> </ul>	<b>Electrical and Mechanical Components</b> <ul style="list-style-type: none"> <li>• Can they use a simple circuit and add components to it?</li> <li>• Can they make a product which uses both electrical and mechanical components?</li> </ul> <b>Construction</b> <ul style="list-style-type: none"> <li>• Can they measure accurately to build effective structures?</li> <li>• Can they use a range of techniques to shape and mould?</li> <li>• Can they experiment with a range of techniques to increase stability in a structure?</li> <li>• Can they use finishing techniques, showing an awareness of audience? <i>e.g. sanding, varnishing, glazing etc</i></li> </ul>

<b>Curriculum Skills Map- DT- Year 5</b>		
<b>Developing, planning and communicating ideas</b>	<b>Working with tools, equipment, materials and components to</b>	<b>Evaluating processes and products</b>

	<b>make quality products</b>	
<ul style="list-style-type: none"> <li>• <b>Can they survey their target audience and use this to generate ideas?</b></li> <li>• Can they take a user's view into account when designing?</li> <li>• <b>Can they produce a detailed step-by-step plan for their design method?</b></li> <li>• Can they suggest some alternative designs and compare the benefits and drawbacks to inform the design process and outcome?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience?</li> <li>• <b>Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Can they continuously check that their design is effective and fit for purpose?</li> <li>• <b>Can they assess how well their product works in relation to the design criteria and the intended purpose and suggest improvements?</b></li> <li>• Can they evaluate appearance and function against the original design criteria?</li> </ul>
<b>Choose from: Areas of study</b>		
<p><b>Cooking and Nutrition</b></p> <ul style="list-style-type: none"> <li>• Can they follow hygiene and safety procedures e.g. cross contamination and storage?</li> <li>• Can they experiment with innovative food design and presentation?</li> <li>• Can they cook a range of savoury dishes using a heat source where appropriate?</li> <li>• Can they begin to measure ingredients to determine taste?</li> </ul>	<p><b>Textiles</b></p> <ul style="list-style-type: none"> <li>• Can they consider the audience when choosing textiles?</li> <li>• Can they make up a prototype first?</li> <li>• Can they use a range of joining techniques?</li> <li>• Can they devise a template or pattern for their product?</li> </ul>	<p><b>Mechanical Components</b></p> <ul style="list-style-type: none"> <li>• Can they refine their product after testing it?</li> <li>• Can they incorporate hydraulics and pneumatics?</li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Are their measurements accurate enough to ensure precision?</li> <li>• Can they demonstrate that their product is strong and fit for purpose?</li> <li>• Are they motivated to refine and further improve their product?</li> </ul>

## Curriculum Skills Map- DT- Year 6

Developing, planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
<ul style="list-style-type: none"> <li>• Can they use a range of information to inform their design?</li> <li>• Can they use market research to inform plans?</li> <li>• <b>Can they work within constraints?</b> <ul style="list-style-type: none"> <li>• <b>Can they justify their plan to someone else?</b></li> </ul> </li> <li>• Can they consider culture and society in their designs?</li> <li>• Have they considered the use of the product when selecting materials?</li> <li>• Have they thought about how their product could be marketed through packaging and advertising?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience?</li> <li>• <b>Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters?</b></li> </ul>	<ul style="list-style-type: none"> <li>• How well do they test and evaluate their final product?</li> <li>• Is it fit for purpose?</li> <li>• What would improve it? <ul style="list-style-type: none"> <li>• Would different resources have improved their product?</li> </ul> </li> <li>• <b>Would they need more or different information to make it even better?</b></li> <li>• Does their product meet all design criteria?</li> </ul>
<p><b>Choose from: Areas of study</b></p>		
<p><b>Cooking and Nutrition</b></p> <ul style="list-style-type: none"> <li>• Can they follow hygiene and safety procedures e.g. cross contamination and storage?</li> <li>• Can they experiment with innovative food design and presentation?</li> </ul>	<p><b>Textiles</b></p> <ul style="list-style-type: none"> <li>• Can they consider the audience when choosing textiles?</li> <li>• Can they make up a prototype first?</li> <li>• Can they use a range of joining techniques?</li> </ul>	<p><b>Electrical and mechanical components</b></p> <ul style="list-style-type: none"> <li>• Can they use different kinds of circuits in their product to improve it?</li> <li>• Can they incorporate a switch into their product?</li> <li>• Can they refine their product after testing it?</li> </ul>



<ul style="list-style-type: none"><li>• Can they measure ingredients to determine taste?</li></ul>		<ul style="list-style-type: none"><li>• Can they incorporate hydraulics and pneumatics?</li></ul> <p><b>Construction</b></p> <ul style="list-style-type: none"><li>• Are their measurements accurate enough to ensure precision?</li><li>• Can they demonstrate that their product is strong and fit for purpose?</li><li>• Are they motivated to refine and further improve their product?</li></ul>
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