

Ouston Primary School Design Technology Progression of Skills KS2

	Year 3	Year 4	Year 5	Year 6	
Design	<p>With growing confidence generate ideas for an item, considering it's purpose and the intended user.</p> <p>Start to order the stages of making a product. Identify a purpose and establish criteria for a successful product.</p> <p>Understand how well products have been made eg designed, made, materials used and the construction technique.</p> <p>Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p> <p>Start to understand whether products can be recycled or reused.</p> <p>Know how to label</p>	<p>Start to generate ideas, considering the purposes for which they are designing. Link with Science, History or Geography Topics where possible.</p> <p>Confidently make labelled drawings from, different views showing specific features.</p> <p>Know what has to be done, how to use materials, equipment and processes and, should the first attempt fails, suggest an alternative method. Identify the strengths and areas for improvement in their ideas and products.</p> <p>When planning consider the views of others, including intended users, to develop their work</p> <p>Learn about inventors, designers, engineers, chefs</p>	<p>Understand how cams, pulleys and gears create movement.</p> <p>Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and pattern pieces.</p> <p>Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>With growing confidence apply a range of finishing techniques, including those from Art and Design.</p> <p>Draw up a specification for their design – links with Maths and Science.</p>	<p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross – sectional and exploded diagrams, prototypes and pattern pieces.</p> <p>Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fir for purpose.</p> <p>Accurately apply a range of finishing techniques, including those from Art and Design.</p> <p>Draw up a specification for their design – link with Maths and Science.</p> <p>Plan the order of their work, choosing appropriate materials,</p>	

	<p>drawings when designing.</p> <p>When planning explain their choice of materials and components including function and aesthetics.</p>	<p>and manufacturers who have developed ground-breaking products.</p> <p>When planning explain their choice of materials and components including function and aesthetics.</p>	<p>Use results of investigations, information sources, including ICT when developing design ideas.</p> <p>With growing confidence select appropriate materials, tools and techniques.</p> <p>Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p>	<p>tools and techniques.</p> <p>Suggest alternative methods of making if the first attempt fails.</p> <p>Identify the strengths and areas for development in their areas and products.</p> <p>Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p>	
Make	<p>Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and electrical components.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques they will be</p>	<p>Select a wider range of tools and techniques for making their product safely.</p> <p>Know how to measure, mark out, cut and shape materials, using appropriate tools, equipment and techniques.</p> <p>Start to join and combine materials and components accurately in temporary and permanent ways.</p>	<p>Select appropriate materials, tools and techniques eg 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</p>	<p>Confidently select appropriate tools, materials, components and techniques and use them.</p> <p>Use tools safely and accurately.</p> <p>Assemble components to make working models.</p> <p>Aim to make and to achieve a quality</p>	

	<p>using.</p> <p>Start to understand that mechanical and electrical systems have an input process and output.</p> <p>Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Know how simple electrical circuits and components can be used to create functional products.</p> <p>Use more accuracy to measure, mark out, cut, score and assemble components.</p> <p>Start to work safely with a range of simple tools.</p> <p>Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.</p>	<p>Know how mechanical systems such as pulleys or gears create movement.</p> <p>Understand how more complex electrical circuits and components can be used to create functional products.</p> <p>Continue to learn how to program a computer to monitor changes in the environment and control their products.</p> <p>Understand how to reinforce and strengthen a 3D framework.</p> <p>How to sew using a range of different stitches, to weave and knit.</p> <p>Demonstrate how to measure, tape or pin, cut and join fabric with some accuracy.</p> <p>Begin to use finishing techniques to strengthen and improve the appearance of their product</p>	<p>aesthetic qualities.</p> <p>Know 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.</p> <p>Understand that mechanical systems have an input, process and output.</p> <p>Begin to measure and mark out more accurately.</p> <p>Demonstrate how to use skills in using different tools and equipment safely and accurately with growing confidence. Cut and join with accuracy to ensure a good-quality finish to the product.</p> <p>Weigh and measure accurately (time, dry ingredients, liquids).</p> <p>Use finishing techniques to</p>	<p>product.</p> <p>With confidence pin, sew and stitch materials together to create a product.</p> <p>Demonstrate when making modifications as they go along.</p> <p>Construct products using permanent joining techniques.</p> <p>Understand how mechanical systems such as cams, pulleys or gears create movement.</p> <p>Know 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.</p> <p>Know how to reinforce and strengthen a 3D</p>	
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

	<p>Start to measure, tape or pin, cut and join fabric with some accuracy.</p>	<p>using a range of equipment including ICT.</p>	<p>strengthen and improve the appearance of their product using a range of equipment including ICT.</p>	<p>framework.</p> <p>Understand that mechanical and electrical systems have an input, process and output.</p> <p>Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment using ICT.</p>	
Evaluate	<p>Start to evaluate their product against original design criteria eg how well it meets its intended purpose.</p> <p>Begin to disassemble and evaluate familiar products and consider the views of other to improve them.</p> <p>Evaluate the key designs of individuals in DT and</p>	<p>Evaluate their products carrying out appropriate tests.</p> <p>Start to evaluate their work both during and at the end of the assignment.</p> <p>Be able to disassemble and evaluate familiar products and consider the views of others to improve them.</p> <p>Evaluate the key designs of individuals in DT and learn</p>	<p>Start to evaluate a product against the original design specification and by carrying out tests.</p> <p>Evaluate their work both during and at the end of the assignment.</p> <p>Begin to evaluate it personally and seek evaluation from others.</p> <p>Evaluate the key designs of individuals in design and</p>	<p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.</p> <p>Evaluate their work both during and at the end of the assignment.</p> <p>Record their evaluations using drawings with labels.</p> <p>Evaluate against their</p>	

	learn how they have helped to shape the world.	how they have helped to shape the world.	technology and how it has helped to shape the world.	original criteria and suggest ways that their product could be improved.  Evaluate the key designs of individuals in design and technology and how it has helped to shape the world.	
Technical Knowledge	<p>Understand how to use learning from Science and Maths to help design and make products that work.</p> <p>Understand how levers and linkages or pneumatic systems can create movement.</p> <p>Understand how simple electrical circuits and components can be used to create functional products.</p> <p>Understand how to program a computer to control their products.</p> <p>Know how to make</p>	<p>Understand how to use learning from Science and Maths to help design and make products that work.</p> <p>Understand how cams, pulleys and levers creates movement.</p> <p>Understand how more complex electrical circuits and components can be used to create functional products.</p> <p>Understand how to program a computer to monitor changes in the environment/control their products.</p>	<p>Understand how cams, pulleys and gears create movement.</p> <p>Understand how more complex electrical circuits and components can be used to create functional products.</p> <p>Understand how to program a computer to monitor changes in the environment and control their products.</p> <p>Know how to reinforce or strengthen a 3D framework.</p> <p>Know that a 3D textiles product can be made from a combination of fabric</p>	<p>Understand how cams, pulleys and gears create movement.</p> <p>Understand how more complex electrical circuits and components can be used to create functional products.</p> <p>Understand how to program a computer to monitor changes in the environment and control their products.</p> <p>Know how to reinforce or strengthen a 3D framework.</p> <p>Know that a 3D textiles product can be made</p>	

	<p>strong, stiff shell structures.</p> <p>Know that a single fabric shape can be used to make a 3D textile product.</p> <p>Know that food ingredients can be fresh, pre-cooked and processed.</p>	<p>Know how to reinforce or strengthen a 3D framework.</p> <p>Know that a 3D textiles product can be made from a combination of fabric shapes.</p> <p>Know that a recipe can be adapted by adding or substituting one or more ingredients.</p>	<p>shapes.</p> <p>Know that a recipe can be adapted by adding or substituting one or more ingredients.</p>	<p>from a combination of fabric shapes.</p> <p>Know that a recipe can be adapted by adding or substituting one or more ingredients.</p>	
<p>Cooking and Nutrition</p>	<p>Know that food is grown (eg peppers, wheat and carrots), reared (eg pigs, chickens and cattle) and caught (eg fish) in the UK, Europe and the wider world.</p> <p>Know that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>How to prepare and cook</p>	<p>Know that food is grown (eg peppers, wheat and carrots), reared (eg pigs, chickens and cattle) and caught (eg fish) in the UK, Europe and the wider world.</p> <p>Know that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including,</p>	<p>Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, cattle and chickens), caught (such as fish) in the UK, Europe and the wider world.</p> <p>Begin to understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Know how to prepare and cook a variety of</p>	<p>Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, cattle and chickens), caught (such as fish) in the UK, Europe and the wider world.</p> <p>Understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Know how to prepare</p>	

	<p>a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know that a healthy diet is made up from a variety of different foods and drinks, as depicted in the 'eat well' plate.</p> <p>Know that, to be active and healthy, food is needed to provide energy for the body.</p> <p>Be able to measure using grams.</p> <p>Be able to follow a recipe.</p>	<p>where appropriate, the use of a heat source.</p> <p>How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Know that different foods contain different substances – nutrients, water and fibre – that are needed for health.</p> <p>Understand the need for correct storage.</p> <p>Be able to measure accurately.</p> <p>Be able to work out ratios in recipes.</p>	<p>predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Start to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>	<p>and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>	
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--