

# Newnham Croft Primary School – Design Technology Skills Progression



Design Technology at the school is split into different categories: Designing, Making, Evaluating Technical Knowledge

	Reception	KS1	Lower KS2	Upper KS2
Designing	<ul style="list-style-type: none"> <li>● Select appropriate resources</li> <li>● Use gestures talking and arrangements of materials and components to show design</li> <li>● Use contexts set by the teacher and myself</li> <li>● Use language of designing and making (join build shape longer shorter heavier etc.)</li> </ul>	<ul style="list-style-type: none"> <li>● To explain what the product is for and how it will work and and</li> <li>● Use pictures and words to plan</li> <li>● Design a product following a design criteria</li> <li>● Research similar existing products</li> <li>● To have own ideas and plan what to do next and and</li> <li>● To describe design using pictures words models diagrams begin to use ICT</li> <li>● To choose best tools and materials and explain choices</li> <li>● Use knowledge of existing products to produce ideas</li> </ul>	<ul style="list-style-type: none"> <li>● To begin to research others' needs</li> <li>● To show design meets a range of requirements</li> <li>● To follow a given design criteria</li> <li>● To create a plan which shows order equipment and tools</li> <li>● Describe the design using an accurately labelled sketch and words</li> <li>● To explain in detail how a product will work</li> <li>● Learn to make a prototype</li> <li>● To begin to use computers to show design</li> <li>● To use research for design ideas</li> <li>● To show design meets a range of requirements and is fit for purpose</li> <li>● Begin to create own design criteria</li> <li>● To have at least one idea about how to make improvements to a design</li> <li>● To consider how realistic a plan is.</li> <li>● To make and explain design decisions considering availability of resources</li> </ul>	<ul style="list-style-type: none"> <li>● To use internet and questionnaires for research and design ideas</li> <li>● To consider needs/wants of individuals/groups when designing and ensure product is fit for purpose</li> <li>● To create their own design criteria and specification</li> <li>● To produce a logical realistic plan and explain it to others.</li> <li>● To clearly explain how parts of product will work.</li> <li>● To model and refine design ideas by making prototypes and using pattern pieces.</li> <li>● To use computer-aided designs</li> <li>● Draw on market research to inform design</li> <li>● To identify features of design that will appeal to the intended user</li> <li>● To reconsider and refine a plan.</li> <li>● To use annotated sketches cross-sectional planning and exploded diagrams</li> <li>● To make design decisions considering resources and cost</li> </ul>
Making	<ul style="list-style-type: none"> <li>● Construct with a purpose using a variety of resources</li> <li>● Use simple tools and techniques</li> <li>● Build / construct with a wide range of objects</li> <li>● Select tools &amp; techniques to shape assemble and join</li> <li>● Replicate structures with materials / components</li> <li>● Discuss how to make an activity safe and hygienic</li> <li>● Record experiences by drawing writing voice recording</li> <li>● Understand different media can be combined for a purpose</li> </ul>	<ul style="list-style-type: none"> <li>● To select tools/equipment to cut shape join finish and explain choices -</li> <li>● Learn to measure mark out cut and shape with support</li> <li>● To choose suitable materials and explain choices</li> <li>● To try to use finishing techniques to make a product look good</li> <li>● To work in a safe and hygienic manner</li> <li>● To explain what I am making and why it fits the purpose</li> <li>● To make suggestions as to what I need to do next. and and</li> <li>● Understand which tools they are using and why ALL</li> <li>● To choose suitable materials and explain choices depending on characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>● To work through plan in order</li> <li>● To select suitable tools and equipment explain choices in relation to required techniques and use accurately</li> <li>● To select appropriate materials fit for purpose; explain choices</li> <li>● To learn to make a prototype</li> <li>● To realise if product is going to be good quality and alter if not</li> <li>● To measure mark out cut and shape materials/components with some accuracy</li> <li>● To assemble join and combine materials and components with some accuracy</li> <li>● To apply a range of finishing techniques with some accuracy</li> </ul>	<ul style="list-style-type: none"> <li>● To produce suitable lists of tools equipment/materials needed</li> <li>● To use selected tools and equipment precisely</li> <li>● To produce suitable lists of tools equipment materials needed considering constraints</li> <li>● To select appropriate materials fit for purpose; explain choices considering functionality and aesthetics</li> <li>● To create follow and adapt detailed step-by-step plans</li> <li>● To explain how product will appeal to audience; make changes to improve quality</li> <li>● To accurately measure mark out cut and shape materials/components</li> <li>● To accurately assemble join and combine materials/components</li> <li>● To accurately apply a range of finishing techniques</li> </ul>

Evaluating	<ul style="list-style-type: none"> <li>● Adapt work if necessary</li> <li>● Dismantle examine talk about existing objects/structures</li> <li>● Consider and manage some risks</li> <li>● Practise some appropriate safety measures independently</li> <li>● Talk about how things work</li> <li>● Look at similarities and differences between existing objects / materials / tools</li> <li>● Show an interest in technological toys</li> <li>● Describe textures</li> </ul>	<ul style="list-style-type: none"> <li>● To talk about my work linking it to what I was asked to do and and</li> <li>● To talk about things that other people have made and and</li> <li>● To describe what went well thinking about design criteria and and</li> <li>● To talk about what I would do differently if I were to do it again and why and and</li> <li>● To evaluate how good existing products are and</li> </ul>	<ul style="list-style-type: none"> <li>● To use design criteria to evaluate finished product</li> <li>● To say what should change to make design better</li> <li>● To refer to design criteria while designing and making</li> <li>● To evaluate existing products considering: how well they've been made materials whether they work how they have been made fit for purpose</li> <li>● To discuss by whom when and where products were designed</li> <li>● Research whether products can be recycled or reused</li> <li>● Know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products</li> </ul>	<ul style="list-style-type: none"> <li>● Evaluate quality of design while designing and making; is it fit for purpose?</li> <li>● Evaluate ideas and finished product against specification stating if it's fit for purpose</li> <li>● To test and evaluate final product; explain what would improve it and the effect different resources may have had</li> <li>● To do thorough evaluations of existing products considering: how well they've been made materials whether they work how they've been made fit for purpose</li> <li>● Evaluate how much products cost to make and how innovative they are</li> <li>● Research and discuss how sustainable materials are</li> <li>● To consider the impact of products beyond their intended purpose</li> <li>● Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products</li> </ul>
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Technical Knowledge

- Begin to understand some food preparation tools techniques and processes
- Practise stirring mixing pouring blending
- Discuss how to make an activity safe and hygienic
- Discuss use of senses
- Understand need for variety in food
- Begin to understand that eating well contributes to good health

**Materials**

- To measure materials
- To describe some different characteristics of materials
- To join materials in different ways
- To use joining rolling or folding to make it stronger
- To use own ideas to try to make product stronger

**Mechanisms**

- To use levers or slides
- To begin to understand how to use wheels and axles

**Textiles**

- To cut textiles with some accuracy 1&
- To measure textiles 1&
- To join textiles together to make a product and explain how I did it 1&
- To explain choices of textiles 1&C
- To understand that a textile structure can be made from two identical fabric shapes. 1&

**Food and Nutrition**

- To describe textures in food
- To understand why you wash hands & clean surfaces
- To think of interesting ways to decorate food
- To say where some foods come from (i.e. plant or animal)
- To describe differences between some food groups (i.e. sweet vegetable etc.)
- To discuss how fruit and vegetables are healthy
- To cut peel and grate safely with support
- To describe properties of ingredients and the importance of varied diet
- To describe how food is farmed home-grown caught
- To describe “five a day”

**Materials**

- To use appropriate materials
- To work accurately to make cuts and holes
- To join materials
- To measure carefully to avoid mistakes
- To make a strong stiff structure

**Mechanisms**

- To select appropriate tools / techniques
- To explain alterations to product after checking it
- To use levers and linkages to create movement

- To use pneumatics to create movement

**Textiles**

- To join different textiles in different ways
- To choose textiles considering appearance and functionality
- To think about user when choosing textiles
- To think about how to make product strong
- To begin to devise a template
- To understand that a simple fabric shape can be used to make a textiles project

**Food and Nutrition**

- To carefully select ingredients
- To think about how to grow plants to use in cooking
- To explain how to use equipment in a safe safe/hygienic way
- To think about presenting product in interesting/ attractive ways
- Understand ingredients can be fresh pre-cooked or processed
- To begin to understand about food being grown reared or caught in the UK or wider world
- Describe how a healthy diet=variety / balance of food and drinks
- Explain the importance of food and drink for active healthy bodies
- To prepare and cook some dishes safely and hygienically
- To use a range of cooking techniques
- To prepare and cook a variety of predominantly savoury dishes

**Materials**

- To measure accurately enough to ensure precision
- To ensure product is strong and fit for purpose
- To select materials carefully considering intended use of the product the aesthetics and functionality.
- To explain how product meets design criteria
- To reinforce and strengthen a frame

**Mechanisms**

- To refine product after testing considering aesthetics functionality and purpose
- To incorporate hydraulics and pneumatics
- To be confident to try new / different ideas

- To use cams pulleys and gears to create movement

**Textiles**

- To use their own template to create from
- To think about user’s wants/needs and aesthetics when choosing textiles
- To make product attractive and strong
- To make a prototype
- To use a range of joining techniques
- To think about how product might be sold
- To think carefully about what would improve product
- Understand that a single textiles project can be made from a combination of fabric shapes.

**Food and Nutrition**

- Explain how to be safe / hygienic and follow own guidelines
- To present a product well - interesting attractive fit for purpose
- Understand a recipe can be adapted by adding / substituting ingredients
- Explain seasonality of foods
- Learn about food processing methods
- To name some types of food that are grown reared or caught in the UK or wider world
- To adapt recipes to change appearance taste texture or aroma
- To describe some of the different substances in food and drink and how they can affect health
- To prepare and cook a variety of savoury dishes safely and hygienically including where appropriate the use of heat source

			<ul style="list-style-type: none"> <li>● To use some of the following techniques: peeling chopping slicing grating mixing spreading kneading and baking</li> <li>● To use smell taste texture and feel to help choose appropriate ingredients</li> </ul> <p><b>Electrical Systems</b></p> <ul style="list-style-type: none"> <li>● To use a simple circuit in a product</li> <li>● Learn about how to program a computer to control product.</li> <li>● To program a computer to control a product</li> </ul>	<ul style="list-style-type: none"> <li>● To use a range of techniques confidently such as peeling chopping slicing grating mixing spreading kneading and baking</li> </ul> <p><b>Electrical Systems</b></p> <ul style="list-style-type: none"> <li>● To confidently use number of components in circuit</li> <li>● To use different types of circuit in product</li> <li>● To think of ways in which adding a circuit would improve product</li> <li>● To program a computer to monitor changes in environment and control product</li> </ul>
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