



Bishop's Castle Primary School

Our Design Technology Progression

Strand	EYFS	End of KS1 (Y2)	Mid KS2 (Y4)	End of KS2 (Y6)
Designing - Understanding contexts, users and purposes	<ul style="list-style-type: none"> Recognise that a range of technology is used in home and school Use contexts set by the teacher and themselves Use gestures, talking and arrangements of materials and components to show design Vocabulary: design 	<ul style="list-style-type: none"> Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment State what products they are making Say whether their products are for themselves or other users Describe what their products are for Say how their products will work Say how they will make their products suitable for their intended users Use simple design criteria to help develop their ideas Vocabulary: user, purpose 	<ul style="list-style-type: none"> Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment Describe the purpose of their products Indicate the design features of their products that will appeal to intended users Explain how particular parts of their products work Gather information about needs and wants of particular individuals and groups Develop their own design criteria and use these to inform their ideas Vocabulary: investigate, design criteria 	<ul style="list-style-type: none"> Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment Describe the purpose of their products Indicate the design features of their products that will appeal to intended users Explain how particular parts of their products work Carry out research, using surveys, interviews, questionnaires and the Internet Identify the needs, wants, preferences and values of particular individuals and groups Develop a simple design specification to guide their thinking Vocabulary: research, design specification
Designing - Generating, developing, modelling and communicating ideas	<ul style="list-style-type: none"> Select appropriate resources Use language of designing and making Vocabulary: longer, shorter, heavier, lighter 	<ul style="list-style-type: none"> Generate ideas by drawing on their own experiences Use knowledge of existing products to help come up with ideas Develop and communicate ideas by talking and drawing Model ideas by exploring materials, components and construction kits and by making templates and prototypes Use ICT, where appropriate, to develop and communicate their ideas Vocabulary: investigating, ideas 	<ul style="list-style-type: none"> Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas Use computer-aided design to develop and communicate their ideas Generate realistic ideas, focusing on the needs of the user Make design decisions that take account of the availability of resources Vocabulary: drawing, label, model 	<ul style="list-style-type: none"> Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas Use computer-aided design to develop and communicate their ideas Generate realistic ideas, focusing on the needs of the user Make design decisions that take account of the availability of resources Vocabulary: exploded diagram, prototype
Making - Planning	<ul style="list-style-type: none"> Know about similarities and differences in objects Construct with a purpose, using a variety of resources Select tools & techniques to shape, assemble and join Discuss how to make an activity safe and hygienic Vocabulary: make 	<ul style="list-style-type: none"> Plan by suggesting what to do next Select from a range of tools and equipment, explaining their choices Select from a range of materials and components according to their characteristics Vocabulary: plan 	<ul style="list-style-type: none"> Select tools and equipment suitable for the task Explain their choice of tools and equipment in relation to the skills and techniques they will be using Select materials and components suitable for the task Explain their choice of materials and components according to functional properties and aesthetic qualities Order the main stages of making Vocabulary: properties, techniques 	<ul style="list-style-type: none"> Select tools and equipment suitable for the task Explain their choice of tools and equipment in relation to the skills and techniques they will be using Select materials and components suitable for the task Explain their choice of materials and components according to functional properties and aesthetic qualities Produce appropriate lists of tools, equipment and materials that they need Formulate step-by-step plans as a guide to making Vocabulary:

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Making – Practical skills and techniques	<ul style="list-style-type: none"> Handle tools and equipment effectively Build/construct with a wide range of objects Replicate structures with varied materials/components Record experiences by drawing, writing, voice recording Vocabulary: build 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components Measure, mark out, cut and shape materials and components Assemble, join and combine materials and components Use finishing techniques, including those from art and design Vocabulary: measure, cut, shape, join, finish 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials and components with some accuracy Apply a range of finishing techniques, including those from art and design, with some accuracy Vocabulary: mark out, assemble, combine 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components Accurately measure, mark out, cut and shape materials and components Accurately assemble, join and combine materials and components Accurately apply a range of finishing techniques, including those from art and design Use techniques that involve a number of steps Demonstrate resourcefulness when tackling practical problems Vocabulary: finishing techniques
Technical knowledge – Materials and Structures	<ul style="list-style-type: none"> Explore moving toy cars and construction kits 	<ul style="list-style-type: none"> Measure materials Describe some different characteristics of materials Join materials in different ways Use joining, rolling or folding to make it stronger Use own ideas to try to make product stronger Build structures, exploring how they can be made stronger, stiffer and more stable Vocabulary: cut, fold, join, fix, structure, framework, base, top, side, edge, rigid, stable 	<ul style="list-style-type: none"> Measure carefully to avoid mistakes Attempt to make product strong Continue working on product even if original didn't work Make a strong, stiff structure Begin to apply their understanding of how to strengthen, stiffen and reinforce some complex structures Vocabulary: shell/frame, three-dimensional (3-D) shape, net, prism, vertex, edge, face, reinforce 	<ul style="list-style-type: none"> Select materials carefully, considering intended use of the product, the aesthetics and functionality Explain how product meets design criteria Reinforce and strengthen a 3D frame Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Vocabulary: triangulation, strut, stability
Technical knowledge – Mechanisms	<ul style="list-style-type: none"> Explore moving toy cars and construction kits 	<ul style="list-style-type: none"> Use levers or sliders Begin to understand how to use wheels and axles Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products Vocabulary: mechanism, slider, lever, pivot, slot, bridge/guide, wheel, fixed/free, axle, axle holder, chassis, body; names of tools, equipment and materials used, e.g. scissors, card 	<ul style="list-style-type: none"> Select most appropriate tools / techniques Explain alterations to product after checking it Grow in confidence about trying new / different ideas Use levers and linkages to create movement Use pulleys to create movement Vocabulary: lever, linkage, pivot, pulley, rotation; names of tools, equipment and materials used, e.g. hammer, bench hook, wood 	<ul style="list-style-type: none"> Refine product after testing, considering aesthetics, functionality and purpose Be confident to try new / different ideas Incorporate pneumatics Use cams, pulleys and gears to create movement Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Vocabulary: pneumatics, gear, cog, driver, follower, cam; names of tools, equipment and materials used, e.g. razor saw, g-clamp, jelutong
Technical knowledge – Textiles		<ul style="list-style-type: none"> Measure textiles Join textiles together to make a product, and explain how it was made Carefully cut textiles to produce accurate pieces Explain choices of textile Understand that a 3D textile structure can be made from two fabric shapes Vocabulary: needle, fabric, template, pattern, pieces 	<ul style="list-style-type: none"> Think about user when choosing textiles Think about how to make product strong Begin to devise a template Explain how to join things in a different way Understand that a simple fabric shape can be used to make a 3D textiles project Vocabulary: names of fabrics, e.g., felt, cotton; fastening, thread, stitch, seam 	<ul style="list-style-type: none"> Think about user's wants/needs and aesthetics when choosing textiles Make products that are attractive and strong Make a prototype Use a range of joining techniques Think about how product might be sold Think carefully about what would improve product Understand that a single 3D textiles project can be made from a combination of fabric shapes

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				<ul style="list-style-type: none"> Vocabulary: hem, name of fastenings used, e.g. button; names of stitches used, e.g., running stitch, cross stitch, back stitch;
Technical knowledge – Food preparation, cooking and nutrition	<ul style="list-style-type: none"> Know the importance of healthy diet 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 Vocabulary: names of common fruit and vegetables, e.g. apple, banana; names of equipment and utensils, e.g. knife, spoon, fork; sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, hard 	<ul style="list-style-type: none"> Explain hygiene and keep a hygienic kitchen Describe importance of varied diet Draw the 'Eat well plate'; explain there are groups of food Describe "Five-a-day" Cut, peel and grate with increasing confidence Explain how to be safe/hygienic Use the basic principles of a healthy and varied diet to prepare dishes Vocabulary: healthy diet, ingredients, names of fruit and vegetables used and their parts, e.g., flesh, skin, seed, pip, core; names of equipment and utensils, e.g., whisk; sensory vocabulary, e.g., sharp, crisp, sour; processes, e.g., slicing, peeling, cutting, squeezing 	<ul style="list-style-type: none"> Explain how to be safe/hygienic Think about presenting product in interesting/attractive ways Understand ingredients can be fresh, pre-cooked or processed Begin to understand about food being grown, reared or caught in the UK or wider world Describe eat well plate and how a healthy diet involves variety and a balance of food and drinks Explain importance of food and drink for active, healthy bodies Prepare and cook some dishes safely and hygienically Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Vocabulary: names of ingredients used, e.g. plain flour, caster sugar; names of equipment and utensils used, e.g., whisk; sensory vocabulary, e.g., savoury, texture; processes, grating, mixing, spreading, kneading, baking, hygiene 	<ul style="list-style-type: none"> Understand a recipe can be adapted by adding / substituting ingredients Explain seasonality of foods Learn about food processing methods Name some types of food that are grown, reared or caught in the UK or wider world Adapt recipes to change appearance, taste, texture or aroma Describe some of the different substances in food and drink, and how they can affect health Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed Vocabulary: names of ingredients used, e.g. spices, herbs; fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, dairy, fold, roll out
Technical knowledge – Electrical and Computer Control			<ul style="list-style-type: none"> Use a number of components in a circuit to control products Begin to explore the use of computer programs to control products Vocabulary: circuit, switch, battery, motor, bulb, wire, crocodile clip, control, program, system, input, output 	<ul style="list-style-type: none"> Use different types of circuit to control products Think of ways in which adding a circuit would improve a product Program a computer to monitor changes in the environment and control products Understand and use electrical systems in their products Vocabulary: switch types, e.g., push-to-make, push-to-break; sensors,

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Evaluating – Existing products	<ul style="list-style-type: none"> ▪ Dismantle, examine, talk about existing objects/structures ▪ Look at similarities and differences between existing objects/materials/tools ▪ Show an interest in technological toys ▪ Talk about how things work 	<ul style="list-style-type: none"> ▪ Explore what products are and who or what they are for ▪ Explore how products work and how or where they might be used ▪ Explore what materials products are made from ▪ Explore what they like and dislike about products 	<ul style="list-style-type: none"> ▪ Investigate and analyse how well products have been designed and made ▪ Recognise why particular materials have been chosen ▪ Understand what methods of construction have been used ▪ Know how well products work to achieve their purposes ▪ Evaluate how well products meet user needs and wants ▪ Know who, where and when the products were designed and made ▪ Recognise whether products can be recycled or reused ▪ Know about some famous inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	<ul style="list-style-type: none"> ▪ Investigate and analyse how well products have been designed and made ▪ Recognise why particular materials have been chosen ▪ Understand what methods of construction have been used ▪ Know how well products work to achieve their purposes ▪ Evaluate how well products meet user needs and wants ▪ Develop understanding of how much products cost to make ▪ Recognise how innovative products are ▪ Understand how sustainable the materials in products are, including what impact products have beyond their intended purpose ▪ Know about some famous inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
Evaluating – Own ideas and products	<ul style="list-style-type: none"> ▪ Adapt work if necessary ▪ Consider and manage some risks ▪ Practise some appropriate safety measures independently ▪ Talk about how the things they make work ▪ Describe textures ▪ Vocabulary: improve 	<ul style="list-style-type: none"> ▪ Talk about their design ideas and what they are making ▪ Make simple judgements about their products and ideas against design criteria ▪ Suggest how their products could be improved ▪ Vocabulary: evaluate 	<ul style="list-style-type: none"> ▪ Identify the strengths and areas for development in their ideas and products ▪ Consider the views of others, including intended users, to improve their work ▪ Refer to their design criteria as they design and make ▪ Use their design criteria to evaluate their completed products ▪ Vocabulary: sensory evaluation 	<ul style="list-style-type: none"> ▪ Identify the strengths and areas for development in their ideas and products ▪ Consider the views of others, including intended users, to improve their work ▪ Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make ▪ Evaluate their ideas and products against their original design specification ▪ Vocabulary: develop, critically, fitness for purpose