Emmer Green Primary School

Design Technology Progression of Skills and Curriculum Overview

	Year 1	Year 2
Skills	By the end of Yr 1 pupils should be able to:	By the end of Yr 2 pupils should be able to:
Design Understanding contexts, users and purposes Generating, developing, modelling and communicating ideas	• I can create a simple design for my product and state who it is intended for • I can use pictures and words to describe what I want to do • I can explore materials, components and construction kits	• I can generate, develop, model and communicate my ideas through talking, drawing, templates, mock-ups and IT • I can design useful, pleasing products for myself and other users based on a design brief • I can explain how my product will work and how it is suitable for its intended use • I can use my knowledge of existing products to help come up with ideas
Make Planning Practical skills and techniques	• I can use a range of simple tools to cut, join and combine materials and components safely • I can select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing • I can use finishing techniques from art and design	• I can select from a range of tools, based on my knowledge of their properties and explain my choices • I can safely measure, mark out, cut and shape materials and components using a range of tools • I can assemble, join and combine materials and components
Evaluate Own products and ideas Existing products	• I can ask simple questions about existing products and those that I have made • I can explain my design to others • I can say what I like and dislike about existing products	• I can evaluate and assess existing products and those that I have made using a design criteria • I can suggest how my product could be improved • I can explain how my product works, who it would be for and how it is useful
Technical Knowledge Making products work	• I can build structures, exploring how they can be made stronger, stiffer and more stable • I can use levers and sliders in a product	• I know that a 3D textiles product can be assembled from two identical fabric shapes • I can explore and use mechanisms such as wheels and axels in products • I can use the correct technical vocabulary for the project I am undertaking

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Cooking and Nutrition Where food comes from Food preparation, cooking and nutrition	• I know that food comes from plants or animals • I know that everyone should eat at least five portions of fruit and vegetables every day • I can begin to use different techniques such as cutting, peeling and grating	• I can name and sort foods into the five groups in The Eatwell Plate • I know how to prepare simple dishes safely and hygienically, without using a heat source • I understand that all food has to be farmed, grown (e.g. at home) or caught • I can use different techniques such as cutting, peeling and grating • I understand that food ingredients should be combined according to their sensory characteristics
	Year 3	Year 4
Skills	By the end of Yr 3 pupils should be able to:	By the end of Yr 4 pupils should be able to:
Design Understanding contexts, users and purposes Generating, developing, modelling and communicating ideas	• I can use my knowledge of existing products to design my own functional product • I can create my own design criteria and use this to inform my idea • I can make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them • I can model my idea using prototypes • I can make design decisions that take account of the availability of resources	• I can use my knowledge of existing products to design a functional and appealing product for a particular purpose and audience • I can use my knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them • I can explain how particular parts of my product work • I can gather information about the needs and wants of a particular individual and groups • I can model my idea using prototypes and pattern pieces
Make Planning Practical skills and techniques	• I can safely measure, mark out, cut, assemble and join with some accuracy • I can select tools and equipment suitable for the task • I can order the main stages of making	• I can use techniques which require more accuracy to cut, shape, join and finish my work e.g. cutting internal shapes, slots • I can explain my choice of tools and equipment in relation to the skills and techniques I will be using • I can apply a range of finishing techniques, including those from art and design, with some accuracy

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Evaluate Own products and ideas Existing products	• I can identify the strengths and areas for development in my idea and product • I can refer to my design criteria to evaluate my completed design • I can evaluate how well existing products have been designed and made and why certain materials were chosen	• I can consider how my own finished product might be improved and how well it meets the needs of the intended user • I can refer to my design criteria as I design and make and then to evaluate my completed design • I can investigate and analyse existing products and consider factors such as – whether products can be recycled or reused, when, where and by who were products made and designed and how well the products achieve their purpose
Technical Knowledge Making products work	• I know how to make strong, stiff shell structures • I can understand how mechanical systems such as levers and linkages or pneumatic systems create movement • I know that materials can be combined and mixed to create more useful characteristics	• I know how simple electrical circuits and components can be used to create functional products • I know how to program a computer to control my product • I can begin to understand how electrical systems have an input, process and output • I know that a single fabric shape can be used to make a 3D textiles product
Cooking and Nutrition Where food comes from Food preparation, cooking and nutrition	• I can begin to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • I know that to be active and healthy, food and drink are needed to provide energy for the body • I know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate	• I am able to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking with increasing confidence • I know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world • I know that food ingredients can be fresh, pre-cooked and processed
	Year 5	Year 6
Skills	By the end of Yr 5 pupils should be able to:	By the end of Yr 6 pupils should be able to:

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Design Understanding contexts, users and purposes Generating, developing, modelling and communicating ideas	• I can use my research into existing products to inform the design of my own innovative product • I can describe the purpose of my product and explain how particular parts of my product will work • I can develop a simple design specification to guide my thinking • I can indicate the design features of my product that will appeal to intended users • I can generate, develop, model and communicate my ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design	• I can carry out research, using surveys, interviews, questionnaires and web-based resources • I can identify the needs, wants, preferences and values of particular individuals and groups • I can generate, develop, model and communicate my ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design • I can make design decisions, taking account of constraints such as time, resources and cost
Make Planning Practical skills and techniques	• I can produce appropriate lists of tools, equipment and materials that I need • I can explain my choice of materials and components according to functional properties and aesthetic qualities • I can accurately measure, mark out, cut and shape materials and components • I can accurately apply a range of finishing techniques, including those from art and design	• I can explain my choice of materials and components according to functional properties and aesthetic qualities • I can formulate step-by-step plans as a guide to making and use techniques that involve a number of steps • I can use my technical knowledge and accurate skills to problem solve during the making process • I can accurately assemble, join and combine materials and components • I can accurately apply a range of finishing techniques, including those from art and design
Evaluate Own products and ideas Existing products	• I can identify the strengths and areas for development in my ideas and products • I can evaluate my ideas and products against my original design specification • I can evaluate how well existing products have been made, how well they work and how well these product meets the user needs and wants • I can investigate what methods of construction have been used in existing products	• I can consider the views of others, including intended users, to improve my work • I can critically evaluate the quality of the design, manufacture and fitness for purpose of my product as I design and make • I can investigate how much existing products cost to make and how sustainable the materials in these products are • I can analyse the impact existing products have beyond their intended purpose •

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Technical Knowledge Making products work	• I can use learning from science and maths to help design and make products that work • I know that materials have both functional properties and aesthetic qualities • I know that mechanical systems have an input, process and output • I know how mechanical systems such as cams or pulleys or gears create movement • I can use the correct technical vocabulary for the project I am undertaking • I know that a 3D textiles product can be made from a combination of fabric shapes	• I can use learning from science and maths to help design and make products that work • I know how more complex electrical circuits and components can be used to create functional products • I know how to program a computer to monitor changes in the environment and control my product • I know how to strengthen and reinforce a 3D framework • I can use mechanical systems such as cams or pulleys or gears
Cooking and Nutrition Where food comes from Food preparation, cooking and nutrition	• I am able to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking with more confidence • I know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • I know that a recipe can be adapted by adding or substituting one or more ingredients	• I can confidently use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • I know that recipes can be adapted to change the appearance, taste, texture and aroma • I understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health