St Edmundsbury and Ipswich Diocesan Multi Academy Trust

Bedfield and Wetheringsett C of E Primary Schools: Progression of Knowledge and Skills

Subject: Design Technology

Reception	**EYFS** · Build on existing skills, refining ideas and developing an ability to represent them. · Create collaboratively, sharing ideas, resources and skills. **ELGs** **Expressive Arts and Design - Creating with Materials** · Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function · Share their creations, explaining the process they have used	
KS1 **Years 1&2**	**Year 1**	**Year 2**
	Designing and planning • Begin to draw on own experiences and research to help generate ideas	**Designing and planning** • With growing confidence, generate ideas for a product based on their and others' experiences, research and suggestions

	• Begin to explore how products have been created, what they are for and how they work • Begin to develop ideas though talk and drawings including what tools and materials they will use • Talk about their design, how they will make it and who it is for • With support, begin to decide a suitable order to complete tasks **Making** • Begin to use tools, with support if needed • Make their design by using appropriate techniques safely • With support, measure, mark out, cut and shape a range of materials safely • Begin to join, assemble and combine materials and components together using a variety of temporary methods Begin to use simple finishing techniques to improve the appearance of their product • Begin to build structures exploring how they can be made stronger, stiffer and more stable **Evaluating** • When looking at existing products explain what they like and dislike about them and why, identify what the product is, what it is made from and who have they have been made for • Start to evaluate their product by discussing what works well in relation to the design criteria	• Understand how well products have been designed and made. Identify the materials used and consider their sustainability (recycle) • Develop their ideas through discussion, observation, drawing and modelling **Making** • Begin to select tools, materials and techniques to make their designs • Begin to explain their choice of tools and equipment in relation to the desired purpose, skills and techniques they will be using • Work safely and accurately with a range of simple tools • Measure, mark out, cut, score and assemble components with accuracy **Evaluating** • Look at a range of existing products and explain what they like and dislike about the products giving relevant reasons why • Evaluate how they work and where their work might be used **Technical Knowledge** • Explore mechanisms, including levers, sliders, wheels and axels and pneumatic systems and understand they create and allow movement **Food and Nutrition** • Begin to understand that food is grown, reared and caught across the world

	• Begin to evaluate their products by identifying strengths and areas that could be improved **Technical Knowledge** • Know how structures, including free standing structures, can be made stronger, stiffer and more stable using techniques such as rolling, folding and layering **Food and Nutrition** • Begin to understand that all food comes from plants or animals • Identify the five food groups from 'The Eat Well Plate' and understand we need to have a healthy balanced diet • Know that everyone should eat at least five portions of fruit and vegetables every day • Know how to prepare food safely and hygienically **Textiles** • To explore and sort textiles (e.g., felt, velvet and cotton) identifying different colours, textures, sizes, shape, including thick and thin materials • Using a template, cut and shape fabric using scissors/snips • Explore ways of joining materials, including sewing, gluing and stapling • Apply decoration using beads, buttons, feathers etc. • To know how to thread a needle and complete a running stitch	• Know that food is processed into ingredients that can be eaten or used in cooking • Understand that a healthy diet is made up from a variety and balance of different food and drink as shown in the 'Eat Well Plate' • Explain what each food type provides to keep us healthy • Use techniques such as cutting, peeling and grating • Choose appropriate ingredients for a product and begin to explain their choices **Textiles** • Change and modify threads and fabrics by knotting, fraying, fringing, pulling threads, twisting & plaiting • Apply techniques to create a product

LKS2 Years 3&4	Year 3	Year 4
	Designing and planning ● Make clear designs with labels when designing ● Begin to take into consideration their target group, including purpose and audience for their product ● Refer to the success criteria and consider how this will be achieved ● When planning, consider how to order the stages of making the product. Be able to explain their choices of materials, tools, function and aesthetics of their product. **Making** ● Begin to select tools, materials and techniques appropriate to constructing their designs ● Explain their choice of tools and equipment in relation to the desired purpose, skills and techniques they will be using ● Order the main stages of making ● Choose the most appropriate techniques and materials to assemble, join and combine materials in order to make a product ● Start to think about their ideas as they progress and be willing to change things if this helps them to improve their product ● Use finishing techniques to strengthen and improve the appearance of their product **Evaluating**	**Designing and planning** ● Generate and develop their ideas through discussion, research, sketches and cross-sectional diagrams ● Start to understand how much products cost to make and how sustainable they are. Understand the impact that products have beyond their intended purpose ● Consider the design criteria, their own evaluation and view of others to improve their design **Making** ● With increasing confidence, select appropriate materials, tools and techniques ● Select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities ● Confidently demonstrate how to use skills in using different tools and equipment safely and accurately to ensure a good-quality finish ● Know how to measure, mark out, cut, score, shape and assemble a range of materials using appropriate tools, equipment and techniques ● Be able to join materials and combine materials and components accurately using temporary and permanent ways **Evaluating** ● Evaluate existing products; where they were designed and made, considering the components, the cost and how sustainable / recyclable the product is

	• Evaluate their own and others' products against the design criteria, explaining why they have identified particular strengths, areas that could be improved and the changes they would make **Technical Knowledge** • Create and use mechanisms in products **Food and Nutrition** • Know that to be healthy and active food and drink are needed to provide the body energy • Prepare and cook food safely and hygienically • Use a range of techniques such as spreading, kneading, cutting, scoring, mixing and baking • Begin to weigh and measure ingredients with more accuracy (dry ingredients and liquids) **Textiles** • Measure, cut and shape fabric using scissors/snips • Use interfacing to strengthen Create tassel/cord/plaits for decoration • Confidently thread a needle and use a running stitch • Apply techniques to create a product	• Be able to disassemble a product to work out how it was made and how it works **Technical Knowledge** • Understand that mechanical systems have an input, process and output • Understand and use mechanical systems such as levers, linkages, cams, pulleys and gears to create movement • Know how to make strong, structures and strengthen and reinforce a 3D structure **Food and Nutrition** • Explain how a healthy diet can be created using knowledge of the 'Eat Well Plate' and drawing on understanding of what each food group provides to be healthy • Begin to understand that different food and drinks contain different substances – nutrients, water, fibre and minerals that are needed for health • Know that we have sweet and savoury foods • Know that people have different diets – vegetarian/vegan/allergies/intolerances **Textiles** Understand that there are different stitches for different purposes and begin to select these. Learn how to use a cross stitch Continue to develop skills in stitching, measuring, cutting and joining.
UKS2 **Years 5&6**	**Year 5**	**Year 6**
	Designing and planning	**Designing and planning**

	• Carry out research through a surveys, questionnaires or interviews to identify the needs and preferences of their target audience • Create their own success / design criteria based on research to inform innovative, functional and appealing products that are fit for purpose • Make clear, labelled drawings and show different views of the product • Be able to consider alternative methods • Clearly, explain their design and choices linked to their research • Explain the process and know the tools, materials and processes they need to use and be able to explain why, linking to the function and aesthetics of their product **Making** • With developed confidence, select appropriate materials, tools and techniques • Select from and use a wide range of materials and components with growing skill and according to their functional properties and aesthetic qualities • Make changes to their product as they progress to improve the quality of their product • Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment **Evaluating** • Evaluate the quality of the design, manufacture and fitness for purpose of their products and	• Generate, develop and communicate their ideas through discussion, research, annotated sketches, cross-sectional and prototypes • Carry out a range of research and use their finding to develop design criteria to inform the design of innovative, functional and appealing products • Formulate a step-by-step plan to use as a guide to making • Suggest alternative methods if original plan fails • Draw a specification for the design linking to maths and science. Clearly, explain their design and choices linked to their research. Explain the process and know the tools, materials and processes they need to use and be able to explain why • Be able to identify and discuss the strengths and areas for development in their and plan • Know how much products cost to make, how long they take to make and their sustainability. Take this into consideration when designing their products **Making** • Confidently self - select and demonstrate the correct and safe use of appropriate tools components and techniques • With growing independence measure, mark out, cut, score, shape and assemble, join and combine a range of materials using appropriate tools, equipment and techniques • Continually make adaptions in the making process to improve the assembly and quality of the product.

	those made by their peers, using the design/success criteria • Know about key inventors and designers related to the products they are making **Technical Knowledge** • Understand and use mechanical systems such as levers, linkages, cams, pulleys and gears to create movement • Know how to make strong, structures and strengthen and reinforce a 3D structure **Food and Nutrition** • Begin to understand that certain foods complement each other • Demonstrate how to safely and hygienically prepare and cook a variety of predominately savoury dishes using a heat source where required • Confidently use a range of techniques to prepare and cook food **Textiles** • Experiment with a range of media to overlap and layer creating interesting colours and textures and effects (Applique) • Combine and apply techniques to make a product • Measure, cut and shape fabric using scissors/snip	• Understand how complex electrical circuits and components work and use these in their products. • Use and explain the finishing techniques to strengthen and improve the appearance and quality of their product **Evaluating** • Evaluate existing products by also considering what impact products have beyond their intended purpose • Critically evaluate the quality of the design, manufacture and fitness for purpose of their products and those made by their peers • Know and discuss key inventors, designers, engineers, chefs and manufactures who have developed ground-breaking products and evaluate the impact these have had on the world **Technical Knowledge** • Know electrical circuits and components can be used to create functional products • Know how to program a computer to monitor the changes and control their products **Food and Nutrition** • An understanding of how seasons may affect the food which is available • Understand 'seasonality' • In depth understanding of the food groups and the principles of a healthy diet • Know that recipes can be adapted to change the appearance, taste, texture and aroma of a dish

		• Confidently demonstrate and explain how to prepare and cook dishes using a heat source where required safely and hygienically **Textiles** • Use fabrics to create 3D textile product • Use a prepared pattern Use different grades of threads and needles • Use a variety of stiches • Experiment with fabric and fabric design using batik techniques • Understand how fabrics can be strengthened, stiffened and reinforced • Apply purpose and functionality features