Newbold Church of England Primary School

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"Therefore encourage one another and build each other up," 1 Thessalonians 5:11

Design&Technology Curriculum Map		Autumn	Spring	Summer
Y A	EYFS	Through free play the EYFS children have access to a wide range of resources and tools. Therefore, they are continuously able to: • Develop their small motor skills so that they can use a range of tools competently, safely and confidently • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. The areas of learning below are adult directed activities. *Development Matters age 3-4 year old, Reception*		
		Junk modelling & construction- Making Houses Use one handed tools and equipment, for example, making snips in paper with scissors. Use a comfortable grip with control when holding pens and pencils. Show a preference for a dominant hand. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore different materials freely, develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Create collaboratively, sharing ideas, resources and skills. **Shades and Shelters (Cooper's Cutting)** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore different materials freely, develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Create collaboratively, sharing ideas, resources and skills.	**Construction linked to topic** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.	**Vehicles and movement** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Create collaboratively, sharing ideas, resources and skills. **Making Castle for Role play area** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. **Making Lighthouses** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.

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1&2	**Push and Pull** This project teaches children about three types of mechanism: sliders, levers and linkages. They make models of each mechanism before designing and making a greetings card with a moving part. **Machines and mechanisms; Sliders, levers and linkages; Designing and making greetings cards with moving parts** **Build** structures, exploring how they can be made stronger, stiffer and more stable. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore and evaluate** a range of existing products. **Explore** and use mechanisms (for example, levers, sliders, wheels and axles), in their products. **Generate, develop, model and communicate their** ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Select** from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	**Remarkable Recipes** This project teaches children about sources of food and tools used for food preparation. They also discover why some foods are cooked and learn to read a simple recipe. The children choose and make a new school meal that fulfils specific design criteria. **Sources of food; Kitchen tools; Reading recipes; Hygiene rules; Making a school meal** **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore and evaluate** a range of existing products. **Generate, develop, model and communicate** their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Understand** where food comes from. **Use** the basic principles of a healthy and varied diet to prepare dishes. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	**Taxi** This project teaches children about wheels, axles and chassis and how they work together to make a vehicle move. **Mechanisms – wheels, axles and chassis** **Build** structures, exploring how they can be made stronger, stiffer and more stable. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore and evaluate** a range of existing products. **Explore** and use mechanisms (for example, levers, sliders, wheels and axles), in their products. **Generate**, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Select** from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

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Design&Technology Curriculum Map	Autumn	Spring	Summer
3&4 5&6	**Cook Well Eat Well** This project teaches children about food groups and the Eatwell guide. They learn about methods of cooking and explore these by cooking potatoes and ratatouille. The children choose and make a taco filling according to specific design criteria. Healthy balanced diets Making a taco filling Food groups; Eatwell guide; Methods of cooking; Cooking appliances; Hygiene rules; Making taco fillings **Skills are adjusted to reflect appropriate Year Group** **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Prepare** and cook a variety of predominantly savoury dishes using a range of cooking techniques. **Understand** and apply the principles of a healthy and varied diet. **Understand** how key events and individuals in design and technology have helped shape the world. **Understand** seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	**Making it move** This project teaches children about cam mechanisms. They experiment with different shaped cams before designing, making and evaluating a child's automaton toy. Machines and mechanisms Designing and making an automaton toy Cam mechanisms; Designing and making automaton toys; Cutting, joining, strengthening and finishing **Skills are adjusted to reflect appropriate Year Group** **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate,** develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand** and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.	**Greenhouse** This project teaches children about the purpose, structure and design features of greenhouses, and compares the work of two significant greenhouse designers. They learn techniques to strengthen structures and use tools safely. They use their learning to design and construct a mini greenhouse. Planning and making a mini greenhouse Features of greenhouses; Significant designers – Sir Joseph Paxton and Sir Nicholas Grimshaw; Strengthening techniques; Using tools and safety rules; Properties of materials; Constructing strong frameworks. **Skills are adjusted to reflect appropriate Year Group** **Apply** their understanding of how to strengthen, stiffen and reinforce more complex structures. **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand** how key events and individuals in design and technology have helped shape the world. **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

Design&Technology Curriculum Map		Autumn	Spring	Summer
Year B	EYFS	**Repeat Year A**		
	1&2	**Shade & shelter** This project teaches children about the purpose of shelters and their materials. They name and describe shelters and design and make shelter prototypes. Children then design and build a play den as a group and evaluate their completed product. **Investigating existing products; Designing and making shelters and dens; Prototypes; Safety rules; Materials** **Build** structures, exploring how they can be made stronger, stiffer and more stable. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore** and evaluate a range of existing products. **Generate, develop, model and communicate** their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	**Chop Slice and Mash!** This project teaches children about sources of food and the preparatory skills of peeling, tearing, slicing, chopping, mashing and grating. They use this knowledge and techniques to design and make a supermarket sandwich according to specific design criteria. **Sources of food; Food preparation techniques; Hygiene rules;** **Designing and making** salads and sandwiches. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore** and evaluate a range of existing products. **Generate, develop, model and communicate their** ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Understand** where food comes from. **Use** the basic principles of a healthy and varied diet to prepare dishes. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. **Cut Stitch and Join -Cath Kidston** This project teaches children about fabric home products and the significant British brand Cath Kidston. They learn about sewing patterns and using a running stitch and embellishments before making a sewn bag tag. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Explore and evaluate** a range of existing products. **Generate, develop, model and communicate** their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Select** from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	**Beach Hut** This project teaches children about making and strengthening structures, including different ways of joining materials. **Structures – strengthening and joining** **Build** structures, exploring how they can be made stronger, stiffer and more stable. **Design** purposeful, functional, appealing products for themselves and other users based on design criteria. **Evaluate** their ideas and products against design criteria. **Generate, develop, model and communicate** their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Select** from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Select** from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

Design&Technology Curriculum Map	Autumn	Spring	Summer
3&4 5&6	**Fresh Food, Good Food** This project teaches children about food decay and preservation. They discover key inventions in food preservation and packaging, then make examples. The children prepare, package and evaluate a healthy snack. Food preservation techniques; Exploring food packaging; Prototypes; Designing, making and packaging healthy snacks **Skills are adjusted to reflect appropriate Year Group** **Apply** their understanding of how to strengthen, stiffen and reinforce more complex structures. **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Understand** and apply the principles of a healthy and varied diet. **Understand** how key events and individuals in design and technology have helped shape the world. **Understand** seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **Develop** the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	**Functional and Fancy Fabrics** This project teaches children about home furnishings and the significant designer William Morris. They learn techniques for decorating fabric, including block printing, hemming and embroidery and use them to design and make a fabric sample. Fabrics; Design features; Significant designer – William Morris; Stitching a hem; Embellishment; Designing and making patterned and embellished fabrics **Skills are adjusted to reflect appropriate Year Group** **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand** how key events and individuals in design and technology have helped shape the world. **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.	**Tomb Builders** This project teaches children about simple machines, including wheels, axles, inclined planes, pulleys and levers, exploring how they helped ancient builders to lift and move heavy loads. Simple and compound machines **Skills are adjusted to reflect appropriate Year Group** **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Understand** and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

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Design&Technology Curriculum Map		Autumn	Spring	Summer
Year C	EYFS	Repeat Year A		
	1&2	Repeat Year A		
	3&4 5&6	**Moving Mechanisms** This project teaches children about pneumatic systems. They experiment with pneumatics before designing, making and evaluating a pneumatic machine that performs a useful function. Pneumatic systems; Joining and finishing; Iterative design process; Building pneumatic machine prototypes **Skills are adjusted to reflect appropriate Year Group** **Apply** their understanding of how to strengthen, stiffen and reinforce more complex structures. **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Investigate** and analyse a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand** and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). **Critique**, evaluate and test their ideas and products and the work of others.	**Eat the Seasons** This project teaches children about the meaning and benefits of seasonal eating, including food preparation and cooking techniques. Cooking; Nutrition **Skills are adjusted to reflect appropriate Year Group** **Prepare** and cook a variety of predominantly savoury dishes using a range of cooking techniques. **Understand** and apply the principles of a healthy and varied diet. **Understand** seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**Architecture** This project teaches children about how architectural style and technology has developed over time and then use this knowledge to design a building with specific features. Architecture over time; Greek architecture; Structural support, stiffness and stability; Computer-aided design; Building design **Skills are adjusted to reflect appropriate Year Group** **Apply** their understanding of how to strengthen, stiffen and reinforce more complex structures. **Evaluate** their ideas and products against their own design criteria and consider the views of others to improve their work. **Generate**, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate** and analyse a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Understand** how key events and individuals in design and technology have helped shape the world. **Use** research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

Design&Technology Curriculum Map		Autumn	Spring	Summer
Year D	EYFS	Repeat Year A		
	1&2	Repeat Year B		
	3&4 5&6	**Do and Mend** This project teaches children a range of simple sewing stitches, including ways of recycling and repurposing old clothes and materials. Investigating clothing; Sewing – running stitch, whip stitch and blanket stitch; Repairing clothes; Making products from recycled materials **Skills are adjusted to reflect appropriate Year Group** **Evaluate their ideas and products** against their own design criteria and consider the views of others to improve their work. **Investigate and analyse** a range of existing products. **Select from and use a wider range** of materials and components, including construction materials, textiles and ingredients, according to their functionality. **Select from and use a wider range** of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.	**Engineer** This project teaches children about remarkable engineers and significant bridges, learning to identify features, such as beams, arches and trusses. They complete a bridge-building engineering challenge to create a bridge prototype. Significant engineers and bridges; Features of bridges; Strengthening techniques; Iterative design; Building prototypes **Skills are adjusted to reflect appropriate Year Group** **Apply their understanding** of how to strengthen, stiffen and reinforce more complex structures. **Evaluate their ideas** and products against their own design criteria and consider the views of others to improve their work. **Generate,** develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Investigate and analyse** a range of existing products. **Select** from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand** how key events and individuals in design and technology have helped shape the world. **Use research** and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.	**Food for life** This project teaches children about processed food and healthy food choices. They make bread and pasta sauces and learn about the benefits of whole foods. They plan and make meals as part of a healthy daily menu, and evaluate their completed products. Whole foods; Processed foods; Making healthy meals; Hygiene and safety **Skills are adjusted to reflect appropriate Year Group** **Evaluate their ideas** and products against their own design criteria and consider the views of others to improve their work. **Investigate** and analyse a range of existing products. **Prepare and cook** a variety of predominantly savoury dishes using a range of cooking techniques. **Select** from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Understand and apply** the principles of a healthy and varied diet. **Understand seasonality,** and know where and how a variety of ingredients are grown, reared, caught and processed.