



Birley Spa Primary Academy – Design and Technology Curriculum

		E Y F S	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design		EYFS	National Curriculum Pupils should be taught to: <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology 		National Curriculum Pupils should be taught to: <ul style="list-style-type: none"> 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 generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 			
	Developing, planning and communicating ideas.	<ul style="list-style-type: none"> Begin to use the language of designing and making, e.g. join, build and shape. - Learning about planning and adapting initial ideas to make them better. 	<ul style="list-style-type: none"> Draw on their own experience to help generate ideas. Suggest ideas and explain what they are going to do. Identify a target group for what they intend to design and make. Model their ideas in card and paper. Develop their design ideas applying findings from their earlier research. 	<ul style="list-style-type: none"> Generate ideas by drawing on their own, and other people's, experiences. Develop their design ideas through discussion, observation, drawing and modelling. Identify a purpose for what they intend to design and make Identify simple design criteria. Make simple drawings and label parts. 	<ul style="list-style-type: none"> Generate ideas for an item, considering its purpose and the user/s. Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas. Make drawings with labels when designing. 	<ul style="list-style-type: none"> Generate ideas, considering the purposes for which they are designing. Make labelled drawings from different views showing specific features. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Evaluate products and identify criteria that can be used for their own designs. 	<ul style="list-style-type: none"> Generate ideas through brainstorming and identify a purpose for their product. Draw up a specification for their design Use results of investigations, information sources, including ICT when developing design ideas. 	<ul style="list-style-type: none"> Communicate their ideas through detailed labelled drawings. Develop a design specification. Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways. Plan the order of their work, choosing appropriate materials, tools and techniques.
Make		EYFS	National Curriculum Pupils should be taught to: <ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products 		National Curriculum Pupils should be taught to: <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing], accurately 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 apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products 			

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Working with tools, equipment, materials and components to</p>	<ul style="list-style-type: none"> -To learn to construct with a purpose in mind. -Selects tools and techniques needed to shape, assemble and join materials. 	<ul style="list-style-type: none"> Make their design using appropriate techniques. With help measure, mark out, cut and shape a range of materials. Use tools eg scissors and a <i>hole punch</i> safely. Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. Select and use appropriate fruit and vegetables, processes and tools. Use basic food handling, hygienic practices and personal hygiene. Use simple finishing techniques to improve the appearance of their product. 	<ul style="list-style-type: none"> Begin to select tools and materials; use vocab' to name and describe them. Measure, cut and score with some accuracy. Use hand tools safely and appropriately. Assemble, join and combine materials in order to make a product. Cut, shape and join fabric to make a simple garment. Use basic sewing techniques. Follow safe procedures for food safety and hygiene. Choose and use appropriate finishing techniques. 	<ul style="list-style-type: none"> Select tools and techniques for making their product. Measure, mark out, cut, score and assemble components with more accuracy. Work safely and accurately with a range of simple tools. Think about their ideas as they make progress and be willing change things if this helps them improve their work. Measure, tape or pin, cut and join fabric with some accuracy. Demonstrate hygienic food preparation and storage. Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT 	<ul style="list-style-type: none"> Select appropriate tools and techniques for making their product. Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. Join and combine materials and components accurately in temporary and permanent ways. Sew using a range of different stitches, weave and knit. Measure, tape or pin, cut and join fabric with some accuracy. Use simple graphical communication techniques. 	<ul style="list-style-type: none"> Select appropriate materials, tools and techniques. Measure and mark out accurately. Use skills in using different tools and equipment safely and accurately. Weigh and measure accurately (time, dry ingredients, liquids). Apply the rules for basic food hygiene and other safe practices e.g. <i>hazards relating to the use of ovens.</i> Cut and join with accuracy to ensure a good-quality finish to the product. 	<ul style="list-style-type: none"> Select appropriate tools, materials, components and techniques. Assemble components make working models. Use tools safely and accurately. Construct products using permanent joining techniques. Make modifications as they go along. Pin, sew and stitch materials together to create a product. Achieve a quality product. 

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Evaluate		EYFS	National Curriculum		National Curriculum				
	Evaluating processes and products	<ul style="list-style-type: none"> Begin to talk about changes made during the making process, e.g. making a decision to use a different joining method. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Evaluate their product by discussing how well it works in relation to the purpose. Evaluate their products as they are developed, identifying strengths and possible changes they might make. Evaluate their product by answering questions about what they have made and how they have gone about it. 	<ul style="list-style-type: none"> Evaluate against their design criteria. Evaluate their products as they are developed, identifying strengths and possible changes they might make. Talk about their ideas, saying what they like and dislike about them. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world 	<ul style="list-style-type: none"> Evaluate their product against original design criteria <i>e.g. how well it meets its intended purpose.</i> Disassemble and evaluate familiar products. 	<ul style="list-style-type: none"> Evaluate their work both during and at the end of the assignment. Evaluate their products carrying out appropriate tests. 	<ul style="list-style-type: none"> Evaluate a product against the original design specification. Evaluate it personally and seek evaluation from others.

Cooking and Nutrition		EYFS	National Curriculum		National Curriculum				
	Where food comes from	<ul style="list-style-type: none"> -To begin to understand some of the tools, techniques and processes involved in food preparation. -Children have basic hygiene awareness. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from 	<ul style="list-style-type: none"> Know where food comes from 	<ul style="list-style-type: none"> Know where food comes from 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Know that seasons may affect the food available Understand how food is processed into ingredients that can be eaten or used in cooking




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Language Development	Ed Each year group builds on the previous one – pupils to use all language accumulatively	Yes/No because... I like/don't like...because... I think that...because...	Yes/No because... I like/don't like...because... I think that...because... In my opinion...because... When I...because... After I...	I think...because... and also because... This happened because... Next time I could... I found...hard/easy because... We/they...because...	I found that...because... ...was successful/ ambitious because... You could improve this work by... Then/as a result of...because...	Maybe you/I could try... Furthermore... eventually... because...	Possible improvements may include... To begin with... In conclusion... The reason(s) for...	Or alternatively... Owing to... (x) has/is... This has altered... Evidently...
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Areas of Study (2021-22)						
	Autumn		Spring		Summer	
EYFS	<p>FS1 Sculpture/Building: Stack and line up blocks</p> <p>FS2 Sculpture/Building: Build simple models using walls and towers. Manipulate clay/plasticine (rolls, cuts, squashes, pinches, twists...)</p>	<p>FS1 Sculpture/Building: Demonstrate repetition in their building</p> <p>FS2 Sculpture/Building: Build simple models using walls, roofs and towers.</p>	<p>FS1 Multimedia: Experiment with a variety of materials and fastenings eg glue, sellotape Explore different malleable materials Sculpture/Building: Experiment with making bridges with 2 supporting blocks Incorporatæ some loose parts</p> <p>FS2 Multimedia: Join items with sellotape independently Use the language smooth, rough, bendy, hard to describe texture. Sculpture/Building: Use a variety of resources - loose part play Makes something that they give meaning to- clay</p>	<p>FS1 Sculpture/Building: Use blocks in conjunction with small world items to represent houses, roads etc</p> <p>FS2 Sculpture/Building: Build models which replicate those in real life.</p>	<p>FS1 Sculpture/Building: Begin to show purpose in making enclosures Use these enclosures imaginatively with a variety of loose parts and small world items_</p> <p>FS2 Sculpture/Building: Build models which replicate those in real life. Can use a variety of resources - loose part play</p>	<p>FS1 Sculpture/Building: Expand building to make use of the space available demonstrating spatial awareness_</p> <p>FS2 Sculpture/Building: Build models which replicate those in real life. Make something with clear intentions</p>
Year 1/2	<h3 style="margin: 0;">FREE STANDING STRUCTURES DESIGN</h3> <p style="margin: 0;">Topic question: How have queens changed over time? Unit: Castle Making Focus: design Structures - Freestanding structures: Projects on a Page PDF</p> 		<h3 style="margin: 0;">FOOD MAKE</h3> <p style="margin: 0;">Healthy bodies: making a fruit salad Topic question: In what different ways do our bodies move?" Unit: healthy bodies: making a fruit salad Focus: Make Preparing Fruit and Vegetables: Projects on a Page pdf</p> 		<h3 style="margin: 0;">TEXTILES</h3> <p style="margin: 0;">Puppet making EVALUATE Topic question: Why do boats float? Unit: Land Ahoy: puppet making Focus: evaluate : Textiles - Templates and joining techniques: Projects on a Page pdf</p> 	



Year 3		<p>ELECTRICAL SYSTEMS: simple programming and control</p> <p>DESIGN</p> <p>Topic question: How did the Ancient Greeks influence us? Unit: Focus: design Electrical systems: simple programming and control Projects on a Page PDF</p>	<p>PNEUMATICS Moving monsters</p> <p>MAKE</p> <p>Topic question: How do things work? Unit: Moving monsters Focus: Make Pneumatics: Projects on a Page PDF</p> 		<p>FOOD: healthy and varied diet</p> <p>EVALUATE</p> <p>Topic question: What makes me me? Unit: Healthy snacks Focus: evaluate Food: Healthy and varied diet: Projects on a Page PDF</p> 	
Year 4		<p>TEXTILES Viking</p> <p>MAKE</p> <p>Topic question: How did the Vikings defeat the Anglo Saxons? Unit: Vikings: making Viking accessories/jewellery Focus: Make Textiles: 2D to 3D products: Projects on a Page PDF</p> 		<p>LEVERS AND LINKAGES</p> <p>DESIGN</p> <p>Topic question: What journey does our food go on through our body? Unit: Flag making Focus: Design Levers and Linkages: Projects on a Page PDF</p>		<p>STRUCTURES</p> <p>EVALUATE</p> <p>Topic question: Road Trip USA How would you travel across America? Unit: Flag to create a class totem pole Focus: Evaluate Structures: Projects on a Page PDF</p>
Year 5	<p>TEXTILES Using computer: aided design in textiles</p> <p>EVALUATE</p> <p>Topic question: How did it feel to work in a coal mine Unit: Focus: Evaluate Textiles: computer aided Projects on a Page PDF</p>		<p>TEXTILES: combining different fabric types Using computer: aided design in textiles</p> <p>DESIGN</p> <p>Topic question: Who won the Space Race Unit: collage Focus: design Textiles: combining different fabrics: Projects on a Page PDF</p>		<p>ELECTRICAL SYSTEM Monitoring and control</p> <p>MAKE</p> <p>Topic question: What do we know about theme parks? Unit: 3D sculpture: design a ride sculpture Focus: Make</p>	

					Electrical system: monitoring and control Projects on a Page PDF
Year 6	<p>STRUCTURES: FRAME STRUCTURES</p> <p>DESIGN</p> <p>Topic question: The Impact of War Unit: Did WWI or WWII have the biggest impact on our locality? Focus: Design Structures: frame structures Projects on a Page PDF</p>		<p>FOOD Celebrating culture and seasonality</p> <p>MAKE</p> <p>Topic question: Why was the ancient Mayan civilisation so mysterious? Unit: Celebrating culture and seasonality Mexican Food Focus: Make Food: celebrating culture and seasonality: Projects on a Page PDF</p> 		<p>MECHANICAL SYSTEMS: Pullys or gears</p> <p>EVALUATE</p> <p>Topic question: Who were the Ancient Egyptians Unit: What did the Egyptians do for us? Mechanical Systems: pullys or gears Projects on a Page PDF</p>

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KS1 DT Curriculum NC End Points:	KS2 DT Curriculum End Points (NC):
<p>Designing:</p> <ul style="list-style-type: none"> Is able to design purposeful, functional, appealing products for themselves and other users based on design criteria. Can generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. <p>Making:</p> <ul style="list-style-type: none"> Is able to select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Can select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. <p>Evaluating:</p> <ul style="list-style-type: none"> Can explore and evaluate a range of existing products evaluate their ideas and products against design criteria. <p>Technical Knowledge</p> <ul style="list-style-type: none"> Can build structures, exploring how they can be made stronger, stiffer and more stable. Is able to explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. <p>Food Technology:</p> <ul style="list-style-type: none"> Uses the basic principles of a healthy and varied diet to prepare dishes, understanding where food comes from. 	<p>Designing</p> <ul style="list-style-type: none"> Can 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. Is able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <p>Making:</p> <ul style="list-style-type: none"> Is able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. <p>Evaluating:</p> <ul style="list-style-type: none"> Is able to investigate and analyse a range of existing products. Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understands how key events and individuals in design and technology have helped shape the world. <p>Technical Knowledge:</p> <ul style="list-style-type: none"> Applies their understanding of how to strengthen, stiffen and reinforce more complex structures. Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. Applies their understanding of computing to program, monitor and control their products. <p>Food technology:</p> <ul style="list-style-type: none"> Understand and can apply the principles of a healthy and varied diet. Can 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.

End of Year End Points					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I use my own ideas to make something. *I describe how something works. *I cut food safely. *I make a product which moves. *I make my model stronger. *I explain to someone else how I want to make my product. *I choose appropriate resources and tools. *I make a simple plan before making.	*I think of an idea and plan what to do next. *I choose tools and materials and explain why I have chosen them. *I join materials and components in different ways. *I explain what went well with my work. *I explain why I have chosen specific textiles. *I measure materials to use in a model or structure. *I describe the ingredients I am using.	*I prove that my design meets some set criteria. *I follow a step-by-step plan, choosing the right equipment and materials. *I design a product and make sure that it looks attractive. *I choose a material for both its suitability and its appearance. *I select the most appropriate tools and techniques for a given task. *I make a product which uses both electrical and mechanical components. *I work accurately to measure, make cuts and make holes. *I describe how food ingredients come together	*I use ideas from other people when I am designing. *I produce a plan and explain it. *I evaluate and suggest improvements for my designs. *I evaluate products for both their purpose and appearance. *I explain how I have improved my original design. *I present a product in an interesting way. *I measure accurately. *I persevere and adapt my work when my original ideas do not work. *I know how to be both hygienic and safe when using food.	*I come up with a range of ideas after collecting information from different sources. *I produce a detailed, step-by-step plan. *I suggest alternative plans; outlining the positive features and draw backs. *I explain how a product will appeal to a specific audience. *I evaluate appearance and function against original criteria. *I use a range of tools and equipment competently. *I make a prototype before make a final version. *I show that I can be both hygienic and safe in the kitchen.	*I use market research to inform my plans and ideas. *I follow and refine my plans. *I justify my plans in a convincing way. *I show that I consider culture and society in my plans and designs. *I show that I can test and evaluate my products. *I explain how products should be stored and give reasons. *I work within a budget. *I evaluate my product against clear criteria.

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