Bishop King **CE Primary School**
Progression in Design

EYFS
Across the EYFS children will know how to: 22-36 months: • Experiments with blocks, colours and marks. • Beginning to use representation to communicate, e.g. drawing a line and saying 'That's me.' 30-50 months: • Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects. • Beginning to be interested in and describe the texture of things. • Uses various construction materials. • Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. • Joins construction pieces together to build and balance. • Realises tools can be used for a purpose. • Uses available resources to create props to support role-play 40-60 months plus: • Understands that different media can be combined to create new effects. • Manipulates materials to achieve a planned effect. • Constructs with a purpose in mind, using a variety of resources. • Uses simple tools and techniques competently and appropriately. • Selects appropriate resources and adapts work where necessary. • Selects tools and techniques needed to shape, assemble and join materials they are using. **Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology.** **They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.** **COEL:** **Playing and Exploring:** • Showing curiosity about objects, events and people • Initiating activities, Seeking challenge, Showing a 'can do' attitude, Taking a risk, engaging in new experiences, and learning by trial and error. **Active Learning:** • Maintaining focus on their activity for a period of time • Showing high levels of energy, fascination • Not easily distracted • Paying attention to details • Persisting with activity when challenges occur • Showing a belief that more effort or a different approach will pay off • Bouncing back after difficulties

- Showing satisfaction in meeting their own goals
- Being proud of how they accomplished something – not just the end result
- Enjoying meeting challenges for their own sake rather than external rewards or praise

Creative and Thinking Critically:

- Thinking of ideas
- Finding ways to solve problems
- Finding new ways to do things
- Planning, making decisions about how to approach a task, solve a problem and reach a goal
- Checking how well their activities are going
- Changing strategy as needed
- Reviewing how well the approach worked

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<tr><th colspan="2"></th><th>Year 1/2</th><th>Year 3/4</th><th>Year 5/6</th></tr>
<tr><td rowspan="2">Design</td><td></td><td>Pupils will know how to:
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</td><td colspan="2">Pupils will know how to:
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.</td></tr>
<tr><td>Contexts, Uses and Purposes</td><td>State the purpose of the design and the intended user
Explore materials, make templates and mock ups e.g. moving picture / lighthouse</td><td>Gather information about the needs and wants of particular individuals and groups
Develop their own design criteria and use these to inform their ideas
Research designs</td><td>Carry out research, using surveys, interviews, questionnaires and web-based resources
Identify the needs, wants, preferences and values of particular individuals and groups
Develop a simple design specification to guide their thinking
Recognise when their products have to fulfil conflicting requirements</td></tr>
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	Ideas	Generate own ideas for design by drawing on own experiences or from reading	Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces Use annotated sketches, cross-sectional drawings and diagrams Use computer-aided design	Generate innovative ideas, drawing on research Make design decisions, taking account of constraints such as time, resources and cost Develop prototypes
		Year 1/2	**Year 3/4**	**Year 5/6**
Make		Pupils will know how to: • 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, according to their characteristic	Pupils will know how to: • 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	
	Planning	Select from a range of tools and equipment explaining their choices Select from a range of materials and components according to their characteristics	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 Produce detailed lists of tools, equipment and materials that they need	

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<tr><td></td><td>Practical skills and techniques</td><td>Follow procedures for safety
Use and make own templates
Measure, mark out, cut out and shape materials and components
Assemble, join and combine materials and components
Use simple fixing materials e.g. temporary – paper clips tape and permanent – glue, staples
Use finishing techniques, including those from art and design</td><td colspan="2">Follow procedures for safety
Use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</td></tr>
<tr><td></td><td></td><td></td><td>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, include those from art and design, with some accuracy</td><td>Accurately measure to nearest mm, mark out, cut and shape materials and components
Accurately assemble, join and combine materials/ components
Accurately apply a range of finishing techniques, including those from art and design
Use techniques that involve a number of steps
Demonstrate resourcefulness, e.g. make refinements</td></tr>
<tr><td colspan="2"></td><td>Year 1/2</td><td>Year 3/4</td><td>Year 5/6</td></tr>
<tr><td rowspan="5">Evaluate</td><td></td><td>Pupils will know how to:
• explore and evaluate a range of existing products
evaluate their ideas and products against design criteria</td><td colspan="2">Pupils will know how to:
• 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</td></tr>
<tr><td rowspan="2">Own Ideas and products</td><td rowspan="2">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 Evaluating products and components used</td><td colspan="2">Identify the strengths and weaknesses of their ideas and products
Consider the views of others, including intended users, to improve their work
Refer back to their design criteria as they design and make
Use their design criteria to evaluate their completed products</td></tr>
<tr><td>Identify the strengths and weaknesses of their ideas and products
Consider the views of others, including intended users, to improve their work</td><td>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make
Compare their ideas and products to their original design specification</td></tr>
<tr><td rowspan="2">Existing products</td><td rowspan="2">Investigate - what products are, who they are for, how they are made and what materials are used</td><td colspan="2">Investigate - how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes and how well products meet user needs and wants</td></tr>
<tr><td>Investigate - who designed and made the products, where products were designed and made, when products were designed and made and whether products can be recycled or reused</td><td>Investigate - how much products cost to make, how innovative products are and how sustainable the materials in products are</td></tr>
<tr><td>Key Events/Individuals</td><td></td><td colspan="2">Identify great designers and their work and use research of designers to influence work</td></tr>
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<tr><td rowspan="3">Technical Knowledge</td><td></td><td>Pupils will know how to:
• 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</td><td colspan="2">Pupils will know how to:
• 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</td></tr>
<tr><td rowspan="2">Making Products Work</td><td rowspan="2">Understand about the simple working characteristics of materials and components
Understand about the movement of simple mechanisms including levers, sliders (Year 1) wheels and axles (Year 2)
Understand that food ingredients should be combined according to their sensory characteristics
Know the correct technical vocabulary for the projects they are undertaking
Understand how freestanding structures can be made stronger, stiffer and more stable</td><td colspan="2">Understand how to use learning from science and maths to help design and make products that work
Know that materials have both functional properties and aesthetic qualities
Know that materials can be combined and mixed to create more useful characteristics
Know that mechanical and electrical systems have an input, process and output
Use the correct technical vocabulary for the projects they are undertaking</td></tr>
<tr><td>Understand how levers and linkages or pneumatic systems create movement
Understand how simple electrical circuits and components can be used to create functional products
Understand how to program a computer to control their products
Know how to make strong, stiff shell structures
Know that a single fabric shape can be used to make a
3D textiles product
Know that food ingredients can be fresh, pre-cooked and processed</td><td>Understand how cams, pulleys and gears create movement
Understand how more complex electrical circuits and components can be used to create functional products
Understand how to program a computer to monitor changes in the environment / control their products Know how to reinforce/strengthen a 3D framework
Know that a 3D textiles product can be made from a combination of fabric shapes
Know that a recipe can be adapted a by adding or substituting one or more ingredients</td></tr>
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<tr><td>Cooking and</td><td></td><td>Pupils will know how:
• about the work of a range of artists, craft makers and designers, describing the differences and similarities</td><td colspan="2">Pupils will know how:
• about great artists, architects and designers in history</td></tr>
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		between different practices and disciplines, and making links to their own work		
	Where Food Comes From	Know where food comes from	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 Know that seasons may affect the food available Understand how food is processed into ingredients that can be eaten or used in cooking	
	Food Preparation, Cooking and Nutrition	Use appropriate equipment to weigh and measure ingredients Prepare simple dishes safely and hygienically, without using a heat sources	How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	
		Use techniques such as cutting Name and sort foods into the five groups of the 'eat well' plate Know that everyone should eat at least five portions of fruit and vegetables every day	Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate Know that to be active and healthy, food is needed to provide energy for the body Measure using grams Follow a recipe	Know that recipes can be adapted to change the appearance, taste, texture and aroma Know that different foods contain different substances - nutrients, water and fibre - that are needed for health Understand the need for correct storage Measure accurately Work out ratios in recipes