

Bolton Brow Progression of Skills in Design & Technology



Key - Early Years - Development Matters

Year 1 - SS = stable structures	EMF&V = Eat more Fruit and Veg	MM = Moving Mechanisms.
Year 2 - P = puppets	PP = perfect pizzas	MV = moving vehicles
Year 3 - SF = seasonal food	MG = Mini Greenhouses	LUS = Light Up Signs
Year 4 - SS = seasonal stockings	SB = Story books	BD = British Designers
Year 5 - BB = Building Bridges	CI = Chinese Inventions	F&T = Fashion and Textile
Year 6 - BB = Bird Boxes	PP = Programming Pioneers	B = Burgers

	EYFS	Year 1	Year 2	KS 1 expectations	Year 3	Year 4	Year 5	Year 6	KS 2 expectations
Design	<p>Select appropriate resources. *Use gestures, talking and arrangements of materials and components to show design * Use contexts set out in the EY curriculum sequence. *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</p> <p>EYFS links - C&L (LA&U, S), EAD (CWM) PSED (MS &BR) M - (S)</p>	<p>* Have own ideas (SS, MM) * Explain what I want to do (SS, MM) *Explain what my product is for, and how it will work (MM) * Use pictures and words to plan, begin to use models (SS, MM) * Design a product for myself following design criteria. (MM) *Research similar existing products (SS, MM)</p>	<p>Have own ideas and plan what to do next (P, PP, MV) * Explain what I want to do and describe how I may do it (MV) * Explain purpose of product, how it will work and how it will be suitable for the user (P, PP, MV) * Describe design using pictures, words, models, diagrams, begin to use ICT (P, MV) * Design products for myself and others following design criteria (P, PP, MV) * Choose best tools and materials, and explain choices. (MV) * Use knowledge of existing products to produce ideas. (P, PP, MV)</p>	<p>*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</p>	<p>*Begin to research others' needs (MG) * Show design meets a range of requirements (MG, LUS) * Describe purpose of product (MG LUS) * Have at least one idea about how to create product (MG, LUS) * Create a plan which shows order, equipment, and tools. (MG) *Describe design using an accurately labelled sketch and words. (MG) * Make design decisions (MG) *Explain how product will work. (MG) * Make a prototype. (MG) * Begin to use computers to show design. (LUS)</p>	<p>*Use research for design ideas (SS, SB) * Show design meets a range of requirements and is fit for purpose (SS, SB BD) *Begin to create own design criteria (SS SB) *Have at least one idea about how to create product and suggest improvements for design. (SS, SB) * Produce a plan and explain it to others. (SS, SB) *Say how realistic plan is. (SB) *Include an annotated sketch. (SB) *Make and explain design decisions considering availability of resources. (SS, SB) *Explain how product will work (SB)</p>	<p>*Use internet and questionnaires for research and design ideas. (CI) *Take a user's view into account when designing (CI) * Begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose (BB, CI) *Create own design criteria (BB, CI) * Have a range of ideas (BB, CI) *Produce a logical, realistic plan and explain it to others. (BB, CI) *Use cross-sectional planning and annotated sketches (BB) * Make design decisions considering time and resources. (BB, CI) *Clearly explain how parts of product will work. *Model and refine design ideas by making prototypes and using pattern pieces. (BB) *Use computer-aided designs</p>	<p>* Draw on market research to inform Design. (BB, B) * Use research of user's individual needs, wants, requirements for design (B) * Identify features of design that will appeal to the intended user (BB, B) * Create own design criteria and Specification (BB, B) * Come up with innovative design ideas (B) *Follow and refine a logical plan. (BB, B) *Use annotated sketches, cross sectional planning and exploded Diagrams (BB) * Make design decisions, considering, resources and cost (BB, B) * Clearly explain how parts of design will work, and how they are fit for purpose. (BB) * Independently model and refine design ideas by making prototypes and using pattern pieces (BB, PP) * Use computer-aided designs. (PP)</p>	<p>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</p>

Make

	EYFS	Year 1	Year 2	KS 1 expectations	Year 3	Year 4	Year 5	Year 6	KS 2 expectations
	<p>*Construct with a purpose, using a variety of resources</p> <p>*Use simple tools and techniques</p> <p>*Build / construct with a wide range of objects</p> <p>*Select tools & techniques to shape, assemble and join</p> <p>*Replicate structures with materials / components</p> <p>*Discuss how to make an activity safe and hygienic</p> <p>*Record experiences by drawing, writing, voice recording</p> <p>*Understand different media can be combined for a purpose</p> <p>EYFS links - C&L (LA&U, S), EAD (CWM) PSED (MS &BR) M - (S) PD (GM & FM) L (W)</p>	<p>Explain what I'm making and why (SS, MM)</p> <p>*Consider what I need to do next (SS, MM)</p> <p>*Select tools/equipment to cut, shape, join, finish and explain choices. (SS, MM)</p> <p>Work in a safe and hygienic manner (SS, MM)</p>	<p>Explain what I am making and why it fits the purpose. (P, PP, MV)</p> <p>*Make suggestions as to what I need to do next. (P, MV)</p> <p>*Join materials /components together in different ways. (P, MV)</p> <p>*Measure, mark out, cut and shape materials and components, with support. (P, MV)</p> <p>*Describe which tools I'm using and why (P, MV)</p> <p>*Choose suitable materials and explain choices depending on characteristics. (PP)</p> <p>*Use finishing techniques to make product look good. (P, PP, MV)</p> <p>*Work safely and hygienically. (P, PP, MV)</p>	<p>*Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>*Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	<p>*Select suitable tools/equipment, explain choices; (SF, MG)</p> <p>* Begin to use them accurately (SF, MG)</p> <p>* Select appropriate materials, fit for purpose. (MG)</p> <p>* Work through plan in order (SF, MG)</p> <p>*Consider how good product will be (SF, MG)</p> <p>* Begin to measure, mark out, cut and shape materials /components with some accuracy(MG)</p> <p>* Begin to assemble, join and combine materials and components with some accuracy *</p> <p>(MG)</p> <p>* Begin to apply a range of finishing techniques with some accuracy. (MG)</p>	<p>Select suitable tools and equipment, explain choices in relation to required techniques and use accurately (SS SB)</p> <p>*Select appropriate materials, fit for purpose; explain choices. (SS SB)</p> <p>* Work through plan in order. (SS SB)</p> <p>* Realise if product is going to be good quality (SS SB BD)</p> <p>* Measure, mark out, cut and shape materials/components with some accuracy (SS SB)</p> <p>*Assemble, join and combine materials and components with some accuracy (SS SB, BD)</p> <p>*Apply a range of finishing techniques with some accuracy. (SS SB)</p>	<p>* Use selected tools/equipment with good level of precision (BB CI)</p> <p>* Produce suitable lists of tools equipment/materials needed (CI)</p> <p>*Select appropriate materials, fit for purpose; explain choices, considering functionality (CI)</p> <p>* Create and follow detailed step by-step plan (BB CI)</p> <p>* Explain how product will appeal to an audience (CI)</p> <p>* Mainly, accurately measure, mark out, cut and shape materials/components (BB, CI)</p> <p>*Mainly, accurately assemble, join and combine materials/components (BB, CI)</p> <p>* Mainly accurately apply a range of finishing techniques (CI)</p> <p>* Use techniques that involve a small number of steps (CI F&T)</p> <p>* Begin to be resourceful with practical problems. (BB, CI, F&T)</p>	<p>* Use selected tools and equipment precisely (BB,B)</p> <p>*Produce suitable lists of tools, equipment, materials needed, considering constraints (BB, B)</p> <p>* Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics (BB)</p> <p>* Create, follow, and adapt detailed step-by-step plans (BB)</p> <p>*Explain how product will appeal to audience: make changes to improve quality. (BB)</p> <p>* Accurately measure, mark out, cut and shape materials/components. (BB)</p> <p>* Accurately assemble, join and combine materials/components (BB)</p> <p>* Accurately apply a range of finishing Techniques (BB)</p> <p>* Use techniques that involve a number of steps (BB)</p> <p>* Be resourceful with practical problems. (BB, B)</p>	<p>*Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>*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.</p>

Evaluate

	EYFS	Year 1	Year 2	KS 1 expectations	Year 3	Year 4	Year 5	Year 6	KS 2 expectations
	<p>Adapt work if necessary *Dismantle, examine, talk about existing objects/structures *Consider and manage some Risks. *Practise some appropriate safety measures independently. *Talk about how things work. *Look at similarities and differences between existing objects / materials / tools. *Show an interest in technological toys *Describe textures.</p> <p>EYFS links - C&L (LA&U, S), EAD (CWM) PSED (MS &BR) M - (S) PD (GM & FM)</p>		<p>* Describe what went well, thinking about design criteria. (P, MV) * Talk about existing products considering use, materials, how they work, audience, where they might be used. (P, MV) Express opinion. (PP, P, MV) *Evaluate how good existing products are. (PP, P, MV) *Talk about what I would do differently if I were to do it again and why (P, PP, MV)</p>	<p>Explore and evaluate a range of existing products *Evaluate their ideas and products against design criteria.</p>	<p>* Look at design criteria while designing and making (MG LUS) *Use design criteria to evaluate finished product. (MG LUS) * Say what I would change to make my design better (MG LUS) *Begin to evaluate existing products, considering how well, they have been made, materials, whether they work, how they have been made, fit for purpose. (MG)</p>	<p>Refer to design criteria while designing and making (SS, SB) *Use criteria to evaluate product. (SS SB) * Begin to explain how I could improve original design. (SS SB, BD) *Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose (SS, SB,) * Discuss by whom, when and where products were designed (BD) * Learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products (SF, BD)</p>	<p>*Evaluate quality of design while designing and making (BB, CI) *Evaluate ideas and finished product against specification, considering purpose and appearance. (BB, CI) *Test and evaluate final product (BB, CI) * Evaluate and discuss existing products, considering how well they've been made, materials, whether they work, how they have been made, fit for purpose (CI) *Talk about some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products (CI)</p>	<p>*Evaluate quality of design while designing and making; is it fit for purpose? (BB) * Keep checking the design is the best it can be. (BB) *Evaluate ideas and finished product against specification, stating if it's fit for purpose (BB, B) *Test and evaluate final product. (BB, B) *Explain what would improve it and the effect different resources may have had. (BB,B) *Do thorough evaluations of existing products considering how well they've been made, materials, whether they work, how they've been made, fit for purpose (BB, B) *Evaluate how much products cost to make and how innovative they are (B) *Consider the impact of products (BB, B, PP) beyond their intended purpose (PP) *Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products. (PP)</p>	<p>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.</p>

	EYFS	Year 1	Year 2	KS 1 expectations	Year 3	Year 4	Year 5	Year 6	KS 2 expectations
Technical Knowledge - materials and structures		<ul style="list-style-type: none"> *Talk about my work, linking it to what I was asked to do. (SS, MM) *Begin to talk about what could make product better. (SS, MM) 	<ul style="list-style-type: none"> *Measure materials (MV) *Describe some different characteristics of materials (MV) *Join materials in different ways *Use joining, rolling or folding to make it stronger. (MV) *Use own ideas to try to make product stronger. (MV) 	<ul style="list-style-type: none"> *Build structures, exploring how they can be made stronger, stiffer and more stable 	<ul style="list-style-type: none"> *Use appropriate materials (MG) *Work accurately to make cuts and holes (MG) *Join materials (MG) *Begin to make strong Structures (MG) 	<ul style="list-style-type: none"> *Make a strong, stiff structure (BD) *Continue working on product even if original didn't work. (BD) 	<ul style="list-style-type: none"> *Measure accurately enough to ensure precision *Ensure product is strong and fit for purpose (BB) *Begin to reinforce and strengthen a 3D frame (BB) *Build a prototype of a suspension bridge. (BB) 	<ul style="list-style-type: none"> *Select materials carefully, considering intended use of the product, the aesthetics and functionality. (BB) *Explain how product meets design Criteria (BB) *Reinforce and strengthen a 3D frame (BB) 	<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Technical Knowledge - Mechanisms		<ul style="list-style-type: none"> *Begin to measure and join materials, with some support (SS) *Describe differences in Materials (MM) *Suggest ways to make material/product stronger (SS) 	<ul style="list-style-type: none"> *Use levers or slides (MV) *Begin to understand how to use wheels and axles. (MV) 	<ul style="list-style-type: none"> *Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 	<ul style="list-style-type: none"> Use appropriate materials (MG) *Work accurately to make cuts and holes (MG) *Join materials (MG) *Begin to make strong structures (MG) 	<ul style="list-style-type: none"> *Measure carefully to avoid Mistakes (SB) *Attempt to make product strong (SB) *Continue working on product even if original didn't work (SB) 			<ul style="list-style-type: none"> *Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
Technical Knowledge - Textiles			<ul style="list-style-type: none"> *Measure textiles *Join textiles together to make a product and explain how I did it. (P) Carefully cut textiles to produce accurate pieces (P) *Explain choices of textile (P) *Understand that a 3D textile structure can be made from two identical fabric shapes. (P) 			<ul style="list-style-type: none"> *Join different textiles in different ways (SS) *Choose textiles considering appearance and functionality (SS) *Begin to understand that a simple fabric shape can be used to make a 3D textile project. (SS) 	<ul style="list-style-type: none"> *Think about user and aesthetics when choosing textiles. (F&T) *Use own template F&T *Think about how to make product strong and look better (CI,F&T) *Think of a range of ways to join things (F&T). *Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes. (F&T) 		

Technical Knowledge - Food

	EYFS	Year 1	Year 2	KS 1 expectations	Year 3	Year 4	Year 5	Year 6	KS 2 expectations
	<p>*Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending *Discuss how to make an activity safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well contributes to good health *Describe textures *wash hands & clean surfaces *think of interesting ways to decorate food *say where some foods come from, (i.e. plant or animal) *describe differences between some food groups (i.e. sweet, vegetable etc.) *discuss how fruit and vegetables are healthy *cut, peel and grate safely, with support</p> <p>EYFS links - C&L (LA&U, S), EAD PSED (MS &BR) UW PD (GM & FM)</p>	<p>*Begin to understand some food preparation tools, techniques and processes. (EMF&V) *Practise stirring, mixing, pouring, blending *Discuss how to make an activity safe and hygienic (EMF&V) *Discuss use of senses. (EMF&V) *Understand the need for variety in food (EMF&V) *Begin to understand that eating well contributes to good health. (EMF&V)</p>	<p>*Explain hygiene and keep a hygienic kitchen (PP) *Describe properties of ingredients and importance of varied diet (pp) *Say where food comes from (animal, underground etc.) (pp) *Describe how food is farmed, home-grown, caught. (pp) *Draw eat well plate; explain there are groups of food. (PP) *Describe "five a day" *Cut, peel and grate with increasing confidence. (PP)</p>	<p>*Use the basic principles of a healthy and varied diet to prepare dishes *Understand where food comes from.</p>	<p>*Carefully select ingredients (SF) *Use equipment safely (SF) *Make product look attractive. (SF) *Think about how to grow plants to use in cooking (SF) *Begin to understand food comes from UK and wider world (SF) *Describe how healthy diet= variety/balance of food/drinks. (SF) *Explain how food and drink are needed for active/healthy bodies. (SF) *Prepare and cook some dishes safely and hygienically (SF) *Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. (SF)</p>			<p>*Understand a recipe can be adapted by adding / substituting ingredients (B) *explain seasonality of foods. (B) *learn about food processing methods (B) *name some types of food that are grown, reared or caught in the UK or wider world. (B) *adapt recipes to change appearance, taste, texture or aroma. (B) *describe some of the different substances in food and drink, and how they can affect health (B) *prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. (B) *use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. (B)</p>	<p>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.</p>

Technical Knowledge - Electrical systems					<ul style="list-style-type: none"> *Use simple circuit in product (LUS) *Learn about how to program a computer to control product. (LUS) 			<ul style="list-style-type: none"> *Use different types of circuits in a product. * Think of ways in which adding a circuit would improve product. (PP) * Program a computer to monitor changes in environment and control product. (PP) 	<ul style="list-style-type: none"> *Understand and use electrical systems in their products [for example, series circuits
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