

St Benedict's Catholic Primary School

Progress in Skills: Design and Technology



With Jesus, we learn,
love and laugh

	EYFS	KS1	LKS2	UKS2
Designing Understanding contexts, users and purposes	<p>UW ELG Children know about similarities and differences in relation to places, objects, materials and living things.</p> <p>Aiming for: Say what they have made and who it is for, what they like and dislike about things.</p>	<ul style="list-style-type: none"> • Work confidently within a range of familiar contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment. • State what products they are designing and making • Say whether their products are for themselves or other users • Describe what their products are for • Say how their products will work • Say how they will make their products suitable for their intended users • Use simple design criteria to help develop their ideas 	<ul style="list-style-type: none"> • Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users • Explain how particular parts of their products work • Gather information about needs and wants of particular individuals and groups • Develop their own design criteria and use these to inform their ideas 	<ul style="list-style-type: none"> • Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users • Explain how particular parts of their products work • Carry out research, using surveys, interviews, questionnaires and web-based resources and use this to inform their plans • Identify the needs, wants, preferences and values of particular individuals and groups • Develop a simple design specification to guide their thinking
Design Generating, developing, modelling	<p>UW 30-50m Talks about why things happen and how things work.</p> <p>CLL ELG Speaking:</p>	<ul style="list-style-type: none"> • Generate ideas by drawing on their own experiences • Use knowledge of existing products to 	<ul style="list-style-type: none"> • Generate realistic ideas, focusing on the needs of the user • Share and clarify ideas through discussion 	<ul style="list-style-type: none"> • Generate realistic sometimes innovative ideas, drawing on research

<p>and communicating ideas</p>	<p>Children express themselves effectively, showing awareness of listeners' needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events.</p> <p>Aiming for: Expressing their ideas using full sentences, with modelling and support from their teacher.</p>	<p>help come up with ideas</p> <ul style="list-style-type: none"> • Develop and communicate ideas by talking and drawing • Model ideas by exploring materials, components and construction kits and by making templates and mock-ups • Use information and communication technology, where appropriate, to develop and communicate their ideas • Use software to design and represent product designs. 	<ul style="list-style-type: none"> • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas • Make design decisions that take account of the availability of resources 	<ul style="list-style-type: none"> • Share and clarify ideas through discussion • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas • Make design decisions that taking account of constraints such as time, resources and cost
<p>Make planning</p>	<p>CLL understanding ELG Children follow instructions involving several ideas or actions</p> <p>PD: Moving & Handling ELG: They handle equipment and tools effectively.</p> <p>EA&D 40-60m Constructs with a purpose in mind, using a variety of resources</p>	<ul style="list-style-type: none"> • Follow procedures for safety and hygiene • Plan by suggesting what to do next • Select from a range of tools and equipment, explaining their choices • Select from a range of materials and components according to their characteristics 	<ul style="list-style-type: none"> • Order the main stages of making • 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. • Begin to put together a step-by-step plan which shows the order and 	<ul style="list-style-type: none"> • Produce appropriate lists of tools, equipment and materials that they need • Devise step-by-step plans as a guide to making which can be read / followed by someone else • 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

			also what equipment and tools they need	components according to functional properties and aesthetic qualities.
<p>Make Working with tools, equipment, materials and components to make quality products</p>	<p>EA&D 40-60m 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.</p> <p>EA&D ELG They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Aiming for: EYFS 2021 Fine motor: effectively use a range of small tools, including scissors and paintbrushes.</p>	<ul style="list-style-type: none"> • Follow procedures for safety and hygiene. • Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • With support measure, mark out, cut and shape materials and components • Use tools such as scissors and hole puncher safely. • Assemble, join and combine materials and components e.g. glue or masking tape • Use simple finishing techniques, including those from art and design to improve the appearance of their product 	<ul style="list-style-type: none"> • Follow procedures for safety and hygiene • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • 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, including those from art and design, with some accuracy 	<ul style="list-style-type: none"> • Follow procedures for safety and hygiene • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Accurately apply a range of finishing techniques, including those from art and design • Use techniques that involve a number of steps • Demonstrate resourcefulness when tackling practical problems
<p>Evaluate Own ideas and products</p>	<p>CLL understanding ELG: They answer 'how' and 'why' questions about their experiences and in response to stories or events.</p> <p>Aiming for:</p>	<ul style="list-style-type: none"> • Talk about their design ideas and what they are making. • Make simple judgements about their products and ideas against the design criteria 	<ul style="list-style-type: none"> • Identify the strengths and areas for development in their ideas and products • Consider the views of others, including intended users, to improve their work 	<ul style="list-style-type: none"> • Identify the strengths and areas for development in their ideas and products • Consider the views of others, including intended users, to improve their work • Critically evaluate the quality of the design,

	<p>Children sharing their creations, explaining the process they have used</p>	<ul style="list-style-type: none"> • Suggest how their products could be improved 	<ul style="list-style-type: none"> • Refer to their design criteria as they design and make • Use their design criteria to evaluate their completed products 	<p>manufacture and fitness for purpose of their products as they design and make</p> <ul style="list-style-type: none"> • Evaluate their ideas and products against their original design specification
<p>Evaluate Existing products</p>	<p>UW ELG Children know about similarities and differences in relation to places, objects, materials and living things.</p> <p>Aiming for: Children can choose one they like best from a selection of products and begin to say why they like it.</p>	<ul style="list-style-type: none"> • Explore existing product uses, who the product is for, how it works and what it is made from. • Say what they like and dislike about products. • Suggest improvements to existing designs. 	<p>Investigate and analyse</p> <ul style="list-style-type: none"> • How well products have been designed and made • Why materials have been chosen • What methods of construction have been used • If they work to achieve their purposes • How well products meet user needs and wants • Who designed and made the products • Where and when products were designed and made • Whether products can be recycled or reused 	<p>Investigate and analyse</p> <ul style="list-style-type: none"> • How well products have been designed and made • Why materials have been chosen • What methods of construction have been used • If they work to achieve their purposes • How well products meet user needs and wants • How much products cost to make • How innovative products are • How sustainable the materials in products are • What impact products have beyond their intended purpose

Key events and individuals	<p>This isn't a requirement at EYFS but children should</p> <ul style="list-style-type: none"> • Role play jobs such as chef, construction worker, mechanic, costume designer etc 	<p>This isn't a requirement at KS1 but children should</p> <ul style="list-style-type: none"> • Know that people design and make the things we use and that there are many jobs in engineering, design and construction. 	<ul style="list-style-type: none"> • Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	<ul style="list-style-type: none"> • Understand how key people have influenced design in a variety of contexts. • Investigate key events and individuals in design and technology.
Technical Knowledge and Skills	EYFS	KS1	LKS2	UKS2
Vocabulary	<p>CLL speaking 30-50m Uses vocabulary focused on objects Aiming for: Begin to use correct vocabulary for simple tools such as scissors and techniques such as cut.</p>	<ul style="list-style-type: none"> • Begin to know the correct technical vocabulary for the projects they are undertaking and the tools they are using. 	<ul style="list-style-type: none"> • Know and use increasingly appropriate technical vocabulary for processes, mechanisms, tools materials and their properties. 	<ul style="list-style-type: none"> • Know the correct technical vocabulary for the projects they are undertaking •
Materials	<p>EA&D 40- 60m Manipulates materials to achieve a planned effect. EA&D ELG They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<ul style="list-style-type: none"> • Know about the simple working characteristics of materials and components 	<ul style="list-style-type: none"> • Know 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 	<ul style="list-style-type: none"> • Know 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
Structures	EA&D 30-50m	<ul style="list-style-type: none"> • Build structures, exploring how they can 	<ul style="list-style-type: none"> • Follow procedures for safety 	<ul style="list-style-type: none"> • Follow procedures for safety

	<p>Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.</p> <p>Joins construction pieces together to build and balance. Realises tools can be used for a purpose.</p> <p>Aiming for: Exploration and use of a range of construction kits and materials. Develop practical skills and techniques using a range of materials and construction materials.</p>	<p>be made stronger, stiffer and more stable</p> <ul style="list-style-type: none"> • Follow procedures for safety • Use a range of materials and components, including construction materials and kits. • Measure, mark out, cut and shape materials and components • Assemble, join and combine materials and components • Know how freestanding structures can be made stronger, stiffer and more stable 	<ul style="list-style-type: none"> • Use a wider range of materials and components than KS1 • Measure, mark out, cut and shape materials and components with some accuracy • Assemble, join and combine materials and components with some accuracy • Know how to make strong, stiff shell structures • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Measure and mark square section, strip wood and dowel accurately to 1cm. 	<ul style="list-style-type: none"> • Use a wider range of materials and components than KS1 • Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Use techniques that involve a number of steps • Demonstrate resourcefulness when tackling practical problems • Know how to reinforce and strengthen a 3D framework • Cut strip wood, dowel, square section wood accurately to 1mm.
Mechanisms	<p>Technology 30-50m: Knows how to operate simple equipment. Shows an interest in technological toys with knobs or pulleys, or real objects. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.</p>	<ul style="list-style-type: none"> • Know about the movement of simple mechanisms such as levers, sliders, wheels and axles 	<ul style="list-style-type: none"> • Know that mechanical and electrical systems have an input, process and output • Know how mechanical systems such as levers and linkages or pneumatic hydraulic systems create movement • 	<ul style="list-style-type: none"> • Know that mechanical and electrical systems have an input, process and output • Know how mechanical systems such as cams or pulleys or gears create movement •
Electricity, programming and control	<p>Technology ELG 15: Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p>	<p><u>In Computing</u> children should:</p> <ul style="list-style-type: none"> • explore the use of programmable toys such as beebots and screen turtles 	<ul style="list-style-type: none"> • Know how simple electrical circuits and components can be used to create functional products 	<ul style="list-style-type: none"> • Know how more complex electrical circuits and components can be used to create functional products

	<p>Aiming for: They select and use technology for particular purpose</p>	<ul style="list-style-type: none"> • be able to debug a sequence • know how to turn electrical devices on and off and when batteries need replacing 	<ul style="list-style-type: none"> • Know how to program a computer to control their products 	<ul style="list-style-type: none"> • Know how to program a computer to monitor changes in the environment and control their products
<p>Textiles</p>	<p>EA&D 30-50m Beginning to be interested in and describe the texture of things.</p> <p>Aiming for: Good fine motor skills, children have experience of weaving materials and threading activities and have experience of exploring, cutting and gluing fabric.</p>	<ul style="list-style-type: none"> • Use a range of materials and components, including textiles • Measure, mark out, cut and shape materials • Know that a 3-D textiles product can be assembled from two identical fabric shapes • Use a template to create fabric shapes • Running stitch and whip stitch/ overstitch • Be able to sew on a button 	<ul style="list-style-type: none"> • Use a wider range of materials and begin to combine and mixed materials to create more useful characteristics • Measure, mark out, cut and shape materials and components with some accuracy • Know that a single fabric shape can be used to make a 3D textiles product • Assemble, join and combine materials and components with some accuracy • Make pattern pieces to create items and applique pieces • Consider a seam allowance • Increased neatness of and types of stitches (know backstitch is a strong stitch for seams) 	<ul style="list-style-type: none"> • Know that a 3D textiles product can be made from a combination of fabric shapes • Increased accuracy of skills gone before • Produce pattern pieces using CAD • Use previous stitches and more decorative stitches when appropriate for function and/or aesthetics
<p>Food Where food comes from</p>	<p>PD 40-60m Eats a healthy range of foodstuffs and understands need for variety in food. Aiming for: healthy choices</p>	<p>Know that all food comes from plants or animals Know that food has to be farmed, grown elsewhere (e.g. home) or caught</p>	<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 • Know how food is processed into ingredients that can be eaten or used in cooking

Food Preparation, cooking and nutrition

ELG 2021: PSED Managing self Manage their own personal hygiene and basic need, understanding the importance of healthy food choices

ELG 2021 Fine motor: Effectively use a range of small tools, including cutlery.

Aiming for:
Use a butter knife to cut and spread ingredients like chop bananas or spread butter on toast.

- Know that everyone should eat at least five portions of fruit and vegetables every day.
- Use basic food handling, hygienic practices and personal hygiene.
- Become familiar with some basic cooking techniques such as washing, peeling, chopping, rolling, stirring etc.
- Prepare simple dishes safely and hygienically, without using a heat source
- Know that food ingredients should be combined according to their sensory characteristics
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- Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate.
- Know that to be active and healthy, food and drink are needed to provide energy for the body
- To use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
- Choose the correct tools and use them safely for a range of techniques.
- Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
- Know that a recipe can be adapted a by adding or substituting one or more ingredients
- Know that food ingredients can be fresh, pre-cooked and processed
- Demonstrate a knowledge of safe food storage
- Weigh and measure accurately (time, dry ingredients, liquids)
- Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health
- Prepare and cook a variety of predominantly savoury dishes safely and hygienically using a range of cooking techniques.
- Know that recipes can be adapted to change the appearance, taste, texture and aroma