Childwall CE Design and Technology Progression of Learning Years 1 – 6

The document below has been designed to outline all of the relevant knowledge and skills that are taught within the Design and Technology curriculum at Childwall Church of England Primary School. From Years 1 – 6, Design and Technology lessons are taught to the discretion of the teacher, using the DT Association Planning where possible.

Year Group	A Unique Child Observing what a child is learning	Positive Relationships: What adults can do	Enabling Environments: What adults could provide	Early Learning Goal	Link to school Christian Vision (Intent)
EYFS	Children explore what happens when they mix colours. Experiment to create different textures. Understand that different media can be combined to create new effects. Manipulate materials to achieve a planned effect. Construct with a purpose in mind, using a variety of resources. Use simple tools and techniques competently and appropriately. Select appropriate resources and adapts work where necessary. Select tools and techniques needed to shape, assemble and join materials they are using.	Talk to children about ways of finding out what they can do with different media and what happens when they put different things together such as sand, paint and sawdust. Encourage children to notice changes in properties of media as they are transformed through becoming wet, dry, flaky or fixed. Talk about what is happening, helping them to think about cause and effect.	Provide resources for mixing colours, joining things together and combining materials, demonstrating where appropriate. Provide children with opportunities to use their skills and explore concepts and ideas through their representations. Have a 'holding bay' where models and works can be retained for a period for children to enjoy, develop, or refer to.	Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	The children in EYFS are provided with opportunities to explore their **creativity** and start to become **confident** in expressive arts and design. The will find **joy** in expressing themselves imaginatively whilst learning to **respect** the equipment, resources and other children's work.

Year Group	Designing	Making	Evaluating	Technical Knowledge	Cooking and nutrition	Link to school Christian Vision (Intent).
KS1 (Year 1 and Year 2)	**Understanding contexts, users and purposes:** Children are to work confidently within a range of contexts such as imaginary, story based, home, school, gardens, playgrounds, local communities, industry and the wider environment. Stage what products they are designing and making. Say whether their products are for themselves or for 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 develop their ideas.	**Planning:** Children should 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. **Practical skills and techniques:** Follow procedures for safety and hygiene. Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components.	**Own ideas and products:** Children 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. **Existing products:** To understand what products are, who products are for, what products are for, how products work, how products are used, where products might be used, what materials products are made from and what they like and dislike about products.	**Making products work:** Children know about the simple working characteristics of materials and components. Know about the movement of simple mechanisms, such as levers, sliders, wheels and axels. Know how freestanding structures can be made stronger, stiffer and more stable. Know that a 3D textiles product can be assembled from two identical fabric shapes. Know that food ingredients should be combined according to their sensory characteristics. Know the correct technical	**Where food comes from:** Children need to know that all food comes from plants or animals. Know that food has to be farmed, grown elsewhere (e.g. home) or caught. **Food preparation, cooking and nutrition:** Children need to know how to name and sort foods into groups. That everyone should eat at least five portions of fruit and vegetables every day. How to prepare simple dishes safely and hygienically, without using a heat source. How to use	In Key Stage One, the children continue to explore their **creativity** and become more **knowledgeable** of Design and Technology as a subject. The children become more **confident** in their abilities, understanding that it is important to **forgive** oneself when a mistake is made. **Resilience** is built throughout the design process, enabling the children to **thrive** and **flourish**, both personally and emotionally. Children are encouraged to work **collaboratively** and

	Generating, developing, modelling and communicating ideas: Children are to generate ideas by drawing on their own experiences. Use knowledge of existing products to help them come up with ideas. 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.	Measure, mark out, cut and shape materials and components. Assemble, join and combine materials and components. Use finishing techniques, including those from art and design.		vocabulary for the projects they are undertaking.	techniques such as cutting, peeling and grating.	support each other, remembering to be **honest**, **kind** and **compassionate** with others.
LKS2 (Year 3 and Year 4)	**Understanding contexts, users and purposes:** Children are to gather information about the needs and wants of particular individuals and groups. Develop their own design criteria and use these to inform their ideas. 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. **Generating, developing, modelling and communicating ideas:** Children to generate realistic ideas, focusing on the needs of the user. Make design decisions that account of the availability of resources. Share and clarify ideas through	**Planning:** Children are to 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. **Practical skills and techniques:** Children to 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. Follow procedures for safety and hygiene. Use a wider	**Own ideas and products:** Children refer to their design criteria as they design and make. Use their design criteria to evaluate their completed products. Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. **Existing products:** Children to understand who designed and made the products, where products were designed and made, when products were designed and made, whether products can be recycled or reused, how well products have been designed, how well products have been made, why materials have been chosen, what method of construction have been used, how well products work, how well products achieve their purposes and how well	**Making products work:** Children understand how mechanical systems such as levers and linkages or pneumatic systems create movement. How simple, electrical circuits and components can be used to create functional products. How to program a computer to control their products How to make strong, stiff shell structures. That a single fabric shape can be used to make a 3D textiles product. That food ingredients can be fresh, pre-cooked and processed. How to use learning from science to help design and make products that work. How to use learning from mathematics to help design and make products that work. That materials have both functional properties and aesthetic qualities. That materials can be combined and mixed to create more useful characteristics. That	**Where food comes from:** Children understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattles) and caught (such as fish) in the UK, Europe and the wider world. **Food preparation, cooking and nutrition:** Children to understand that a healthy diet is made up from a variety and balance of different food and drink. That to be active and healthy, food and drink are needed to provide energy for the body. 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.	In Lower Key Stage Two, the children become more **confident** and proficient in their design skills and their **knowledge** of the design process Children become increasingly more **self-sufficient** and **reflective** when designing, making and evaluating their work. The children continue to build their **resilience** throughout the design process, enabling the children to continue to **thrive** and **flourish**, both personally and emotionally.

	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.	range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.	products meet user needs and wants. **Key events and individuals:** Children to know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.	mechanical and electrical systems have an input process and output. Know the correct technical vocabulary for the projects they are undertaking.		
UKS2 (Year 5 and Year 6)	**Understanding contexts, users and purposes:** Children 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 criteria/specification to guide their thinking. 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. **Generating, developing, modelling and communicating ideas:** Children generate innovative ideas drawing on research. Make design decisions taking account of constraints such as time, resources and costs. 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.	**Planning:** Children produce appropriate lists of tools, equipment and materials that they need. Formulate step by step plans as a guide to 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. **Practical skills and techniques:** Children 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. Follow procedures for safety and hygiene. Use a wider range of materials and components than KS1, including construction materials and kits, textiles,	**Own ideas and products:** Children critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make. Evaluate their ideas and products against their original design criteria/specification. Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. **Existing products:** Children understand 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, how well products have been designed, how well products have been made, why materials have been chosen, what method of construction have been used, how well products work, how well products achieve their purposes and how well products meet user needs and wants. **Key events and individuals:** Children know about inventors, designers, engineers, chefs and manufacturers who have	**Making products work:** Children understand how mechanical systems, such as CAMS, pulleys or gears, create movement. Know how more complex electrical circuits and components can be used to create functional products. How to program a computer to monitor changes in the environment and to control their products. How to reinforce and strengthen a 3D framework. That a 3d textiles product can be made from a combination of fabric shapes. That a recipe can be adapted by adding or substituting one or more ingredient. How to use learning from science to help design and make products that work. How to use learning from mathematics to help design and make products that work. That materials have both functional properties and aesthetic qualities. That materials can be combined and mixed to create more useful characteristics. That mechanical and electrical systems have an input process and output. Know the correct technical vocabulary for the projects they are undertaking.	**Where food comes from:** Children know that seasons may affect the food available. How food is processed into ingredients that can be eaten or used in cooking. That food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattles) and caught (such as fish) in the UK, Europe and the wider world. **Food preparation, cooking and nutrition:** Children know that recipes can be adapted to change the appearance, taste, texture and aroma. Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health 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.	In Upper Key Stage Two, the children become increasingly more **confident, articulate** and **knowledgeable** when discussing the design process, existing products and research. The children are encouraged to become more **inquisitive** and **honest** whilst showing **respect** to others when **articulating** and evaluating their ideas. Children are encouraged to become more **proactive**, **adaptable** and **self-sufficient** within DT lessons and are **challenged** to problem-solve, think creatively and responsibly. **Creative**, **reflective** and **resilient** practice is encouraged, enabling the children to continue to **thrive** and **flourish**. The DT curriculum enables every child to grow academically, socially, morally, spiritually and culturally, preparing children for life beyond Primary School.

	Use computer aided design to develop and communicate their ideas.	food ingredients, mechanical components and electrical components.	developed ground-breaking products.			