Design Technology Curriculum Overview Year 4

Term	Theme	Knowledge and understanding	Skills	What I will know and remember	Vocabulary
1	The Great Bread Bake-Off	**Cooking and Nutrition** 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. **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 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. **Evaluate** 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 to shape the world.	Use their experiences of food ingredients and cooking methods to help generate ideas. Explain why they have chosen certain foods and processes and link them to their design Criteria. Produce an order of work which includes an annotated diagram and chosen equipment appropriately. Make and evaluate their bread product against objective design criteria.	I can find out about important people and events in the past that have shaped the way bread is made and sold today. I can investigate and analyse existing products according to their characteristics. I can think of original ideas for a product based on my design criteria. I can develop designs based on my design criteria and clearly communicate my final design. I can select ingredients and kitchen equipment to help me follow a bread making recipe. I can shape dough. I can knead and bake.	Hygienically Nutrition Seasonally Variety Recipe

		End of unit assessment			
	Working towards		**Working at**		**Working above**
2	Mechanical Posters	**Design** 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. **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 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. **Evaluate** 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 to shape the world. **Technical Knowledge**	Explore how mechanical systems work. Draw a design which uses annotations to add some detail. Develop design criteria to inform the design of innovative products aimed at a particular Audience. Make a prototype and well finished poster which aims to have two lever/linkage mechanisms. Use design criteria to help guide the evaluation process.	I can investigate mechanical systems. I can make mechanical systems which use levers and linkages. I can develop design criteria to help me design innovative product. I can use sketches to develop and communicate ideas. I can use prototypes to develop my ideas. I can select and use the correct tools and equipment accurately. I can carefully select materials and use different techniques. I can name the parts and functions of a lever and linkage mechanical system. I can evaluate my poster.	Levers Linkages Innovative Generate Prototypes Mechanical systems

		Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].			
	Working towards		**End of unit assessment** **Working at**		**Working above**
3	Lego League	**Design** 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. **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 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. **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	**Designing** Start to generate ideas, considering the purposes for which they are designing. Confidently 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. Identify the strengths and areas for development in their ideas and products. When planning considers the	**Design** I can, with growing confidence, generate ideas for an item, considering its purpose and the user/s. I can identify a purpose and establish criteria for a successful product. I can understand how well products have been designed, made, what materials have been used and the construction technique. I can learn about inventors, designers and engineers.	Build Structures Mechanisms Conducted

		Understand how key events and individuals in design and technology have helped to shape the world. **Technical knowledge** 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 [for example, series circuits incorporating switches, bulbs, buzzers and motors]. Apply their understanding of computing to program, monitor and control their products.	views of others, including intended users, to improve their work. Learn about inventors, designers and engineers. When planning explains their choice of materials and components including function and aesthetics. **Making** Start to join and combine materials and components accurately in temporary and permanent ways. Know how mechanical systems such as cams or pulleys or gears create movement. Start to understand that mechanical and electrical systems have an input, process and output. Know how simple electrical circuits and components can be used to create functional products. Understand how more complex electrical circuits and components can be used to create functional products.	I can start to understand whether products can be recycled or reused. I can make drawings with labels when designing. I can explain my choice of materials and components including function and aesthetics. **Make** I can select a wider range of techniques for making my product i.e. construction materials and kits. I can explain my choice of tools and equipment in relation to the skills and techniques they will be using. I can start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. I can start to think about my ideas as I make progress and be willing to change things if this helps me to improve my work. **Evaluate** I can start to evaluate my product against original design criteria.	

			Continue to learn how to program a computer to monitor changes in the environment and control their products. Understand how to reinforce and strengthen a 3D framework. Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. **Evaluating** Evaluate their products carrying out appropriate tests. Be able to evaluate familiar products and consider the views of others to improve them. Evaluate the key designs of individuals in design and technology and how it has helped shape the world.	I can evaluate familiar products and consider the views of others to improve them. I can evaluate the key designs of individuals in design and technology and how it has helped shape the world. **Programme** I can break an open ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome. I keep testing my program and can recognise when I need to debug it. I can use repeat commands, I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm.	

End of unit assessment

Working towards **Working at** **Working above**