

Key Stage 2 YEAR 3 DESIGN AND TECHNOLOGY

National Curriculum KS2 Programme of Study	Chris Quigley Essential Skills Milestone 2	
<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts <i>for example, the home, school, leisure, culture, enterprise, industry and the wider environment.</i></p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> 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</p> <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [<i>for example, cutting, shaping, joining and finishing</i>], 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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 D+T have helped 	<p>1.To master practical skills <u>Food</u></p>	<ul style="list-style-type: none"> Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe. Assemble or cook ingredients (<i>controlling the temperature of the oven or hob, if cooking</i>)
	<p>1. To master practical skills <u>Materials</u></p>	<ul style="list-style-type: none"> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (<i>such as slots or cut outs</i>). Select appropriate joining techniques.
	<p>1. To master practical skills <u>Computing</u></p>	<ul style="list-style-type: none"> Control and monitor models using software designed for this purpose.
	<p>1. To master practical skills <u>Mechanics</u></p>	<ul style="list-style-type: none"> Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (<i>such as levers, winding mechanisms, pulleys and gears</i>).
	<p>2. To design, make, evaluate and improve</p>	<ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (<i>e.g. by carefully selecting materials</i>). Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs.

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.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

- 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.