



Laurel Avenue Community Primary School: Design and Technology Curriculum Overview– Chris Quigley

As Designers, we will demonstrate:

- *Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.*
- *An excellent attitude to learning and independent working.*
- *The ability to use time efficiently and work constructively and productively with others.*
- *The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.*
- *The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.*
- *A thorough knowledge of which tools, equipment and materials to use to make their products.*
- *The ability to apply mathematical knowledge.*
- *The ability to manage risks exceptionally well to manufacture products safely and hygienically.*
- *A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.*

Breadth of Study: KS1

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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment.

When designing and making, pupils should be taught to:

Design

- *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.*

Make

- *select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing.*
- *select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.*

Breadth of Study: KS2

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, such as the home, school, leisure, culture, enterprise, industry and the wider environment.

When designing and making, pupils should be taught to:

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.*
- *generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.*

Make

- *select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, 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"> • explore and evaluate a range of existing products. • evaluate their ideas and products against design criteria. <p>Technical knowledge</p> <ul style="list-style-type: none"> • build structures, exploring how they can be made stronger, stiffer and more stable. • explore and use mechanisms, such as levers, sliders, wheels and axles, in their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes. • understand where food comes from. 	<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 design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages. • understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors. • apply their understanding of computing to programme, monitor and control their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> • 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>Threshold Concepts:</p>		
<p>Master practical skills</p> <p>This concept involves developing the skills needed to make high quality products (we have highlighted a range of skills but they may be added to or changed as appropriate for your school).</p>	<p>Design, make, evaluate and improve</p> <p>This concept involves developing the process of design thinking and seeing design as a process.</p>	<p>Take inspiration from design throughout history</p> <p>This concept involves appreciating the design process that has influenced the products we use in everyday life.</p>