



Design and Technology

The Federation of Nettlestone & Newchurch

Design					
<p><i>Design - purposeful, functional, appealing products for themselves and other users based on design criteria</i></p> <p><i>Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i></p>		<p><i>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</i></p> <p><i>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p>		<p><i>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</i></p> <p><i>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p>	
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>I can use my own ideas to design something and describe how their own ideas work.</p> <p>I can design a product which moves.</p> <p>I can use pictures and words to plan my designs.</p>	<p>I can design a product that looks good and works well.</p> <p>I can draw and talk about my designs.</p> <p>I can explain why I have chosen specific features.</p> <p>I can think of an idea and plan what to do next.</p>	<p>I can research existing products on the market.</p> <p>I can annotate my sketches and explain my design, to say how it is suitable for a specific purpose.</p> <p>I can make prototypes to explain ideas to see if they work.</p>	<p>I can research and use ideas from other people when designing.</p> <p>I can annotate my designs to explain it.</p> <p>Preserve and adapt plans when original plans do not work.</p> <p>I can make prototypes to explain ideas and see if they work.</p>	<p>I can research and collect information and ideas on existing products on the market.</p> <p>I can explain how a product will appeal to a specific audience.</p> <p>I can design a product that requires mechanical and electrical systems.</p> <p>I can make a product that is attractive and strong.</p>	<p>I can research existing and develop them so they are fit for purpose and aimed at a specific group.</p> <p>Follow and refine original plans.</p> <p>I can draw detailed designs, justifying planning in convincing way.</p> <p>I can show that culture and society is considered in plans and designs.</p>

Making

*Select from and use a range of tools and equipment to perform practical tasks [for example, 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*

*Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities*

*Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic*

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>I can use own ideas to make something.</p> <p>I can make a product which moves.</p> <p>I choose appropriate resources and tools.</p> <p>I can use simple safely.</p>	<p>I can choose tools and materials and explain why I have chosen them.</p> <p>I can join, measure and cut materials and components in different ways.</p>	<p>I can follow plans, choosing the right equipment and materials.</p> <p>I can select the most appropriate tools and techniques for a given task.</p> <p>I can make a product which uses mechanical components.</p> <p>I can work accurately to measure, make cuts and make holes.</p> <p>I can make a porotype to refine techniques.</p>	<p>I can say which tools to use for a particular tasks and show knowledge of handling the tools.</p> <p>I can say which material is likely to give the best outcome.</p> <p>I can measure accurately.</p> <p>I can show resilience in my work, even when my original ideas may not work.</p> <p>I can make a porotype to see if they work.</p>	<p>I can use a range of tools and equipment competently.</p> <p>I can make a porotype before making my final version.</p> <p>I can preserve through different stages of the making process to create a product of which I am proud.</p> <p>I can use mechanical and electrical systems in my own products, including programming.</p>	<p>I can say which tools to use for specific practical tasks.</p> <p>I can say how to use tools correctly and safely.</p> <p>I can say which tool is used for.</p> <p>I can explain why a specific tool is best for a specific action.</p> <p>I can make a product that relies on pulleys and gears.</p>

Evaluating

<p><i>Explore and evaluate a range of existing products evaluate their ideas and products against design criteria</i></p>	<p><i>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</i></p>	<p><i>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</i></p>
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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>I can describe how something works. I explain what works well .</p>	<p>I can explain what went well and not so well.</p>	<p>I can explain how to improve my finished model. I can explain why my product has or has not been successful.</p>	<p>I can evaluate and make suggest improvements for my design. I can evaluate products for both their appearance and purpose. I can explain how my original design has been improved.</p>	<p>I can suggest alternative plans; outlining the positive features and drawbacks. I can evaluate appearance and function against original plan.</p>	<p>I can say how to test and evaluate designed products. I can explain how products should be stored and give reasons. Evaluate product against original plan.</p>

Technical Knowledge

<p><i>Build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</i></p>	<p><i>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.</i></p>	<p><i>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.</i></p>
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I can make my model stronger.	I can make a model stronger and more stable. I can use wheels and axels when appropriate to do so.	I can say how to strengthen a product by stiffening a given part or reinforce a part of the structure. I can use a simple IT programme within the design. I can discuss famous inventors/designers.	I can link scientific knowledge by using light, switches and buzzers. I can electrical systems to enhance the quality of the product. I can use IT where appropriate to add to the quality of the product. I can discuss famous inventors/designers and explain the theory behind the product.	I can use electrical systems correctly and accurately to enhance a given product. I can use more complex IT programmes to help enhance the product produced. Programming. I can relate my work to a famous/designers inventor.	I can link scientific knowledge to design pulleys and gears. I know which IT product would further enhance a specific product. Programming I can use my knowledge to improve a made product by strengthening, stiffening or reinforcing. I can use my knowledge of famous inventors/designers to enhance my work.

Food Technology

*Use the basic principles of a healthy and varied diet to prepare dishes
understand where food comes from*

*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*

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I can cut food safely.	I can weigh ingredients to use in a recipe. I can describe the ingredients used when making a dish or cake.	I can describe how food ingredients come together. I can weigh out ingredients and follow a given recipe. I can talk about which food is healthy and which food is not. I can say when food is ready for harvesting.	I can say how to be both hygienic and safe when using food. I can bring a creative element to the food product being designed.	I can be both hygienic and safe in the kitchen. I can say how to prepare a meal by collecting the ingredients in the first place. I can say which season various foods are available.	I can explain food ingredients should be stored and give reasons. I can work within a budget to create and cook a meal. I can understand the difference between a savoury and sweet dish.

Fieldwork

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment e.g. note taking, videoing, data collection, sketches, and observations.</p> <p>Children to take photos of interesting things in the local area and explain what the photos show.</p> <p>On a walk in the local area, children to pick things up e.g. a stick, stone, leaf etc and use them to create memory maps to show the journey.</p>	<p>Fieldwork to develop knowledge and understanding of the school and their local area (School --Toton -- Nottinghamshire).</p> <p>Use simple fieldwork and observational skills to study the geography of their school grounds and the key human and physical features of its surrounding environment.</p> <p>Fieldwork in the local area/close proximity to the school e.g. the road, park, river, shops.</p>	<p>Use the eight points of a compass, symbols and keys (including the use of Ordnance Survey maps) to explain/identify points on a map and build their knowledge of the local area, United Kingdom and the wider world.</p> <p>Use locational language to describe the location of points on a map of the school/local area. (e.g. Plan a tour of the school, which includes a map/ plan of the school and the main geographical features you would see identified, with a key).</p> <p>Undertake environmental surveys of the school grounds - litter, noise, likes/ dislikes, areas for improvement.</p>	<p>Children begin to experiment with and understand 4 figure grid references on maps.</p> <p>During Jungles and Forests topic, visit Attenborough Nature Reserve. Plan route and look at real map views. Comparison between British climate, vegetation and wildlife compared to Amazon rainforest.</p> <p>Use recognised symbols to mark out local areas of interest on own maps. - Choose effective recording and presentation methods e.g. tables to collect data.</p>	<p>Use the eight points of a compass, four and six-figure grid references, symbols and keys (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world. Use the following classifications for buildings: Residential, retail, professional/ commercial, industrial and storage, entertainment/ leisure and public authorities.</p> <p>Choose effective recording and presentation methods e.g. tables to collect data. Present data in an appropriate way using keys to make data clear. Draw conclusions from the data.</p>	<p>Undertake a traffic survey of the local main road - tally counting, types of vehicle observed, comparing the traffic flow at different times of the day, parking problems, varying needs of different high street users - shopkeepers, children, senior citizens, businesses.</p> <p>Collate the data collected and record it using data handling software to produce graphs and charts of the results. - Ask Geographical questions e.g. How is traffic controlled? What are the main problems? - Analyse evidence and draw conclusions - Be aware of own responsibility in the world.</p>