

Netherleigh and  
Rossefield School

Design Technology  
Scheme of Work

**Year 1** 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 [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Pupils should be taught: <ul style="list-style-type: none"> <li>▪ design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>▪ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> <li>• use the basic principles of a healthy and varied diet to prepare dishes</li> <li>▪ understand where food comes from.</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas from their own and others' experiences</li> <li>• Develop ideas by shaping materials and putting together components               <ul style="list-style-type: none"> <li>• talk about ideas</li> </ul> </li> <li>• Plan by suggesting what to do next as ideas develop</li> <li>• Communicate ideas using a variety of methods , including drawing and models</li> </ul>	<b>Mechanisms</b> -To design a product that moves using a turning mechanism (wheels, winding, lever, hinge) e.g. design a moving picture	Design sheets Pictures or images of what designing for stimuli Materials to be used
	<ul style="list-style-type: none"> <li>• Generate ideas from their own and others' experiences</li> <li>• Develop ideas by shaping materials and putting together components               <ul style="list-style-type: none"> <li>• talk about ideas</li> </ul> </li> <li>• Plan by suggesting what to do next as ideas develop</li> <li>• Communicate ideas using a variety of methods , including drawing and models</li> </ul>	<b>Structures</b> – To design a simple structure e.g. a house	
	<ul style="list-style-type: none"> <li>• Generate ideas from their own and others' experiences</li> <li>• Plan by suggesting what to do next as ideas develop</li> <li>• Communicate ideas using a variety of methods , including drawing and models               <ul style="list-style-type: none"> <li>• talk about ideas</li> </ul> </li> <li>• use the basic principles of a healthy and varied diet to design dishes</li> </ul> <ul style="list-style-type: none"> <li>▪ understand where food comes from</li> </ul>	<b>Cooking</b> – To design a fruit smoothie, fruit salad, jelly or ice lolly.	

Design

## Make

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"> <li>▪ <b>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</b></li> <li>§ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>• use the basic principles of a healthy and varied diet to prepare dishes</li> <li>▪ understand where food comes from.</li> </ul>	<ul style="list-style-type: none"> <li>• Explore how moving objects work</li> <li>• Look at wheels, axles. Turning mechanisms, hinges and simple levers</li> <li>• Make a simple structure</li> <li>• Describe the materials used to make the structure</li> <li>• measure and mark out the materials that are needed</li> <li>• Use knives safely to cut food with help</li> <li>• Use mixing bowls to prepare a mixture</li> <li>• Make a food product</li> <li>• Wash hands, keep work surfaces clean.</li> <li>• Make structures stronger by folding, joining and/or rolling</li> </ul>	<p><b>Mechanisms-</b> Make a product that moves using a turning mechanism ( wheels, winding, lever, hinge).</p> <p><b>Structures -</b> Make a simple structure using materials.</p> <p><b>Cooking -</b>Make a fruit smoothie, milk shake, fruit salad, jelly or ice lolly.</p> <ul style="list-style-type: none"> <li>• Discuss origins of milk, fruit</li> </ul> <p><b>Textiles – to join 2 pieces of materials together to make a strong join</b></p>	<p>Materials scissors mechanisms</p> <p>Food</p>

## Evaluate

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<p><b>Continuous throughout :</b></p> <p>§ explore and evaluate a range of existing products</p> <p>§ evaluate their ideas and products against design criteria</p>	<ul style="list-style-type: none"> <li>• <b>Talk about their own and others' work</b></li> <li>• Describe how a product works</li> </ul>	<ul style="list-style-type: none"> <li>• Share work together as a class</li> <li>• Discuss work in pairs and evaluate</li> <li>• Self evaluation – sheet or questionnaire using a design criteria</li> <li>• sheet or questionnaire</li> </ul>	

## Technical knowledge

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<p>§ build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>§ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<ul style="list-style-type: none"><li>· Cut materials using scissors</li><li>· Measure, mark out and cut fabric</li><li>· Join fabrics using glue</li><li>· Produce neat work</li><li>· Use knives safely to cut food with help</li></ul>	<p>To learn these skills when making products above so that children can take them forward into Year 2</p>	<p>As above</p>

# Design Technology

Year 2

Pupils should be taught:

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 [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

Year 2

**Design**

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Pupils should be taught:  § 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	<ul style="list-style-type: none"> <li>· Generate ideas from their own and others' experiences</li> <li>· Develop ideas by shaping materials and putting together components               <ul style="list-style-type: none"> <li>· talk about ideas</li> </ul> </li> <li>· Plan by suggesting what to do next as ideas develop</li> <li>· Communicate ideas using a variety of methods , including drawing and models</li> <li>· .Think of ideas and plan what to do next, based on my knowledge of materials and components</li> <li>· <b>Select appropriate tools, techniques and materials, explaining my choices</b> Use models, pictures and words to describe my designs</li> </ul>	<b>Mechanisms</b> -To design a product that uses movement e.g. wheels and axles for a vehicle	Wheels axles card
		<b>Structures</b> – To design a simple structure that is strong	Card Paper  wood Glue string
		<b>Cooking</b> – To design a pasta dish and / or salad	Pasta salad bowls
		<b>Textiles</b> – To design a puppet using textiles	Fabric  Paper – design a pattern to cut around Needles Cotton

Year 2

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
<p>Pupils should be taught:</p> <ul style="list-style-type: none"> <li>· select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> </ul> <p>§ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <ul style="list-style-type: none"> <li>· use the basic principles of a healthy and varied diet to prepare dishes</li> </ul> <p>§ understand where food comes from.</p>	<ul style="list-style-type: none"> <li>· Make a product that uses movement</li> <li>· Use the correct materials for the product so it works well</li> <li>· Use a number of materials with strong joints</li> <li>· Decorate my product, or add detail</li> <li>· Know that the product needs to be made from the materials that are suitable for the job</li> </ul>	<p><b><u>Mechanisms</u></b>-To make a product that uses movement e.g. wheels and axles for a vehicle</p>	<p>Wheels axles card</p>
	<ul style="list-style-type: none"> <li>· Make a structure that is strong</li> <li>· Measure and mark out materials with care.</li> <li>· Use safe ways of cutting including using a saw.</li> <li>· Use a range of joins</li> <li>· Make structures stronger by folding, joining or by shape (columns, triangles)</li> </ul>	<p><b><u>Structures</u></b> – To make a simple structure that is strong</p>	<p>Card Paper wood Glue string</p>
	<ul style="list-style-type: none"> <li>· Describe the properties of the ingredients</li> <li>· Weigh and measure accurately</li> <li>· Describe my food product using its properties</li> </ul>	<p><b><u>Cooking</u></b> – To make a pasta dish and / or salad</p>	<p>Pasta salad bowls</p>
	<ul style="list-style-type: none"> <li>· Use accurate measurements in cm</li> <li>· Use scissors precisely when cutting out</li> <li>· Join textiles using glue, staples, tying or a simple stitch</li> </ul> <p>Make a textile product that is finished well and does the job it was made for</p> <ul style="list-style-type: none"> <li>· Know that textiles have different properties ( feel, texture, insulation, waterproof)</li> </ul> <p>Select the appropriate textile so that it does the job well</p>	<p><b><u>Textiles</u></b> – To make a puppet using textiles</p>	<p>Fabric Paper – design a pattern to cut around Needles Cotton</p>

Make

Year 2

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Evaluate	<p><b>Continuous throughout :</b></p> <ul style="list-style-type: none"> <li>▪ explore and evaluate a range of existing products</li> <li>▪ evaluate their ideas and products against design criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Talk about ideas, saying what they like and dislike</li> <li>• Identify what they could have done differently and how they could improve their work in the future</li> <li>• Recognise what has been done well in my work</li> <li>• Suggest things I could do in the future to improve my work</li> </ul>	<ul style="list-style-type: none"> <li>• Share work together as a class</li> <li>• Discuss work in pairs and evaluate</li> <li>• Self evaluation – sheet or questionnaire using a design criteria sheet or questionnaire</li> </ul>	Questionnaire sheet

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Technical Knowledge	<p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <ul style="list-style-type: none"> <li>▪ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about the working characteristics of materials (folding paper, plaiting yarn to make it stronger)</li> <li>• How mechanisms can be used in different ways (wheels and axles that allow movement)</li> </ul>	To learn these skills when making products above so that children can take them forward into Year 3.	



# Design Technology

Year 3

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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

Year 3

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Design	<ul style="list-style-type: none"> <li>• 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</li> <li>• generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas and recognise that designs have to meet a range of different needs</li> <li>• Make realistic plans to achieve aims</li> <li>• Think ahead about the order of work, choose appropriate tools, equipment, materials, components and techniques</li> <li>• Clarify ideas using labelled sketches and models to communicate details of the design</li> </ul>	<u>Mechanical</u> To design a mechanical wind -up toy e.g. lion	Toys
			<u>Materials</u> To design packaging for a product e.g. cereal box	Card / boxes from home
			<u>Textiles ( link to Art S.O.W.)</u> To plan a sewing / weaving design/ To design a floral bag (smelly bag) or pin cushion	Paper strips/card Lavender / material / sewing implements
			<u>Food</u> To design a sandwich filling / bread that is aesthetically pleasing	Bread / marg knife /fillings

Make	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Select the most appropriate tools and techniques to make my product</li> <li>Come up with solutions to problems as they happen</li> <li>Make a product that uses both electrical and mechanical components</li> <li>Product is finished well</li> <li>Select the most appropriate tools and techniques to make my product</li> <li>Come up with solutions to problems as they happen</li> <li>Make a product that uses both electrical and mechanical components</li> <li>Product is finished well</li> </ul>	<p><u>Mechanical</u> To make a mechanical wind -up toy e.g. lion</p> <hr/> <p><u>Electrical</u> To make a product that uses electrical components</p>	<p>toys</p> <hr/> <p>Electrical equip</p>
		<ul style="list-style-type: none"> <li>Use appropriate mouldable materials suitable for the product</li> <li>Shape the product carefully using appropriate techniques and tools</li> <li>Apply texture or design to the product</li> <li>Select appropriate textiles for my product</li> <li>Use scissors accurately</li> </ul>	<p><u>Materials</u> To make packaging for a product e.g. cereal box</p> <hr/> <p><u>Textiles (link to Art S.O.W.)</u> To make a sewing / weaving design/ To make a floral bag (smelly bag) or pin cushion</p>	<p>materials/card / boxes from home to show net</p> <hr/> <p>Paper/card Lavender /</p>
		<ul style="list-style-type: none"> <li>Select ingredients for the product</li> <li>Work in a safe and hygienic way</li> <li>Measure ingredients by weight or quantity using scales</li> <li>The product is presented well</li> </ul>	<p><u>Food</u> To make a sandwich filling / bread</p>	<p>Bread fillings /knife</p>

Year 3

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<ul style="list-style-type: none"> <li>Reflect on work in relation to intended use ( and users) and identify improvements needed</li> <li>Carry out appropriate tests first                             <ul style="list-style-type: none"> <li>something is made and if it meets its intended use</li> </ul> </li> <li>Evaluate products and suggest improvements</li> </ul>	<ul style="list-style-type: none"> <li>Share work together as a class</li> <li>Discuss work in pairs and evaluate</li> <li>Self evaluation – sheet or questionnaire using a design criteria sheet or questionnaire</li> <li>understand how key events and individuals in design and technology have helped shape the world : Link ideas to <b>Leonardo Da Vinci</b> and his work</li> </ul>	Evaluation sheet
	<p>Statutory requirements (National Curriculum)</p> <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>	<p>N and R School Essentials(Skills)</p> <ul style="list-style-type: none"> <li>Describe the qualities of the material and say why it will be the most suitable choice</li> <li>Join materials to make products using both permanent and temporary fixings</li> <li>Combine materials to add strength and visual appeal</li> <li>Apply mechanisms to create movement</li> <li>Combine a number of components well in my product</li> <li>Use simple circuits to either illuminate or create motion</li> <li>Learn how mechanisms can be used to make things move in different ways, using a range of equipment including ICT control programs</li> </ul>	Suggested Activities	Resources
			As above –skills to learn to take into Year 4	

# Design Technology

Year 4



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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

Year 4

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Desi gn	<ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul>	<ul style="list-style-type: none"> <li>Generate ideas by collecting and using information.</li> <li>Take the views of users' into account when designing my products.</li> <li><b>Beginning to produce step by step plans</b></li> <li>Communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design.</li> </ul>	<u>Mechanical</u> <ul style="list-style-type: none"> <li>Use electrical components to design a product that can be controlled by switches or by ICT equipment</li> </ul>	Switches/ electrical components
			<u>Electrical</u> <ul style="list-style-type: none"> <li>Use electrical components to design a product that can be controlled by switches or by ICT equipment</li> </ul>	Electrical equipment
			<u>Materials</u> <ul style="list-style-type: none"> <li>To design and make a product that is fit for purpose linked to topic work using materials</li> </ul>	As needed
			<u>Textiles ( link to Art S.O.W.)</u> <ul style="list-style-type: none"> <li>To design a relevant textile product linked to topic work</li> </ul>	As needed
			<u>Food</u> <ul style="list-style-type: none"> <li>Design a food product e.g. stir fry</li> </ul>	As required

Year 4

**Make**

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
<ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Choose components that can be controlled by switches or by ICT equipment</li> <li>Improve product after testing</li> </ul> Product is well finished in a way that appeals	<u>Mechanical</u> <ul style="list-style-type: none"> <li>Make a mechanism that can be controlled by switches or by ICT equipment</li> </ul>	
	<ul style="list-style-type: none"> <li>Choose components that can be controlled by switches or by ICT equipment</li> <li>Improve product after testing</li> </ul> Product is well finished in a way that appeals	<u>Electrical</u> <ul style="list-style-type: none"> <li>Make a mechanism that can be controlled by switches or by ICT equipment</li> </ul>	
	<ul style="list-style-type: none"> <li>Measure using mm, and use scoring and folding to shape materials accurately.</li> <li>Make cuts accurately and reject pieces that are not accurate.</li> <li>I make holes accurately</li> <li>Make sure methods of working are precise</li> </ul>	<u>Materials</u> <ul style="list-style-type: none"> <li>To make a product that is fit for purpose linked to topic work using materials</li> </ul>	
	<ul style="list-style-type: none"> <li>My textile work reflects the views of users and its purpose</li> </ul>	<u>Textiles (link to Art S.O.W.)</u> <ul style="list-style-type: none"> <li>To make a relevant textile product linked to topic work</li> </ul>	
	<ul style="list-style-type: none"> <li>Use a selection of ingredients to meet an identified need (lunchtime snack, healthy sandwich)</li> <li>Work in a safe and hygienic way</li> <li>Present the food well and begin to think about packaging</li> </ul>	<u>Food</u> <ul style="list-style-type: none"> <li>To make a food product e.g. stir fry</li> </ul>	

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<ul style="list-style-type: none"> <li>Reflect on my designs and develop them Identify what is working well and what can be improved</li> </ul>	<ul style="list-style-type: none"> <li>Share work together as a class</li> <li>Discuss work in pairs and evaluate</li> <li>Self evaluation – sheet or questionnaire using a design criteria sheet or questionnaire</li> <li>understand how key events and individuals in design and technology other designer</li> </ul>	Questionnaire sheet
	<ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>	<ul style="list-style-type: none"> <li>Textile products include changes such as plaiting or weaving to create new products such as ropes, belts ,bracelets and to strengthen structures</li> <li>Joins are strong and stable, giving extra strength to products Some joints are flexible to allow for dismantling or folding</li> </ul>	As above –skills to learn to take into Year 5	
	<ul style="list-style-type: none"> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>	See Statutory Requirements only		
	<ul style="list-style-type: none"> <li>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> </ul>	See Statutory Requirements only		
	<ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>	See Statutory Requirements only		





# Design Technology

## Year 5

Year 5

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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

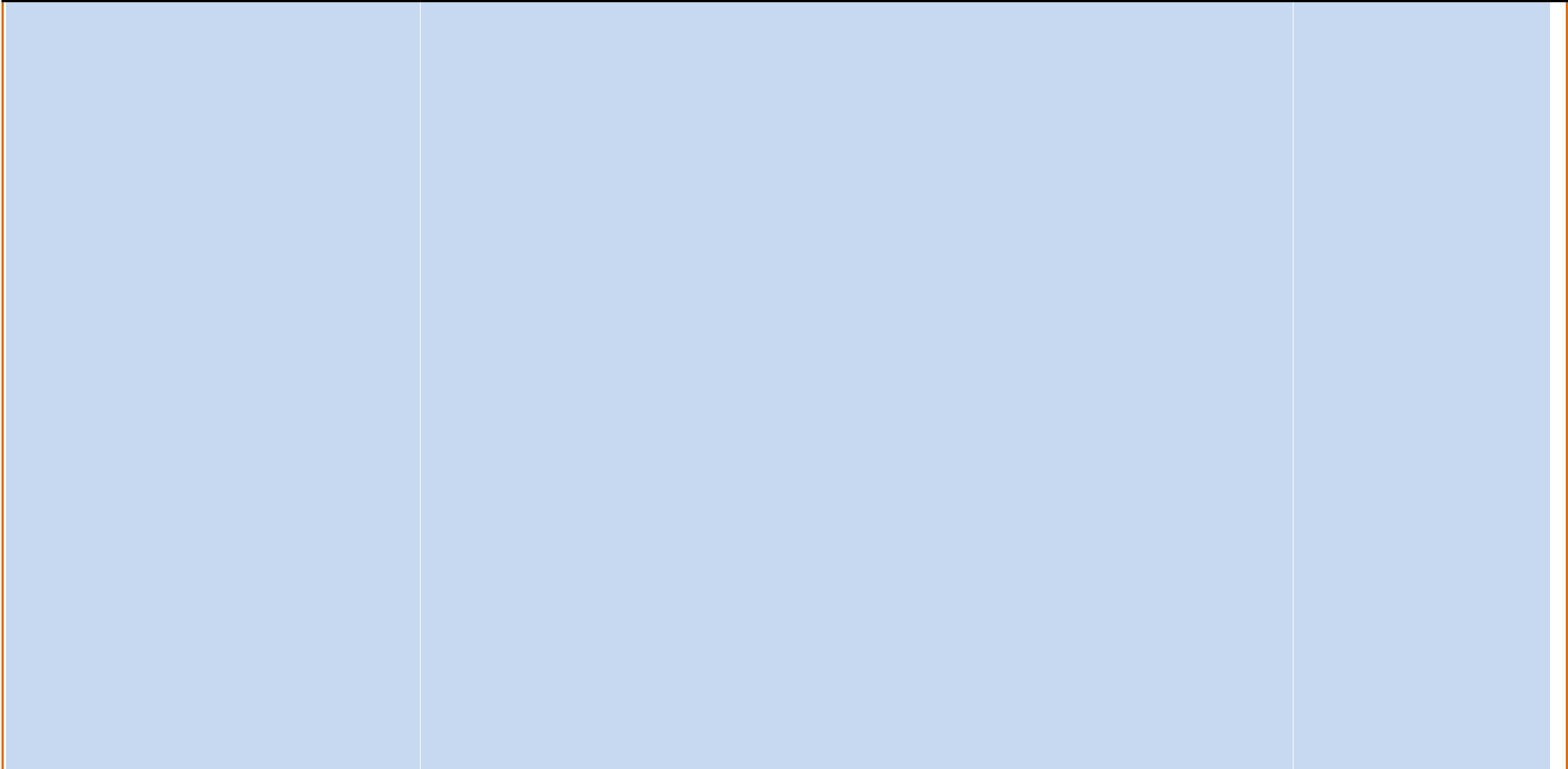
	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)
Design	<ul style="list-style-type: none"><li>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</li><li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li></ul>	<ul style="list-style-type: none"><li>Draw on and use various sources of information</li><li>Use understanding of familiar products to help develop my own ideas</li><li>Work from detailed plans, modifying where appropriate</li><li>Clarify ideas through discussion, drawing and modelling</li><li>Communicate ideas</li></ul>

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Make		<ul style="list-style-type: none"> <li>• <b>Make careful and precise measurements</b> so that joins, holes and openings are exactly in the right place</li> <li>• Methods of working are precise</li> </ul> Finish edges by adding other materials (edging strips)	<b>Textiles and Materials</b> To make a more complicated hand piece e.g. hand puppet	Materials Pattern
		<ul style="list-style-type: none"> <li>• Experiment with a range of materials until I find the correct ones for the job (appropriate, affordability, appeal)</li> <li>• Add colour and texture to my work</li> <li>• \mark out using own patterns and templates</li> </ul>		
			<ul style="list-style-type: none"> <li>• Use a selection of ingredients to meet an identified need</li> <li>• <b>Work in a safe and hygienic way</b></li> </ul>	<b>Food</b> <b>To make a pasta or casserole</b>

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
Evaluate	<ul style="list-style-type: none"> <li>• investigate and analyse a range of existing products</li> <li>• <b>evaluate their ideas and products</b> against their own design criteria and consider the views of others to improve their work</li> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reflect on designs and develop them</b></li> <li>• <b>Identify what is working well and what can be improved</b></li> <li>• Awareness of limited resources (budget, time availability)</li> <li>• <b>Evaluate products in light of information sources used to inform the design</b></li> <li>• <i>understand how key events and individuals in design and technology have helped shape the world</i> : Link ideas to Roberto. Peterson – Jack in the Box and his work or other designer</li> </ul>		

Year 5

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>	<ul style="list-style-type: none"> <li>Joins are strong and stable, giving extra strength to products</li> <li>Some joints are flexible to allow for dismantling or folding</li> <li>Hide joins for aesthetic effect</li> </ul>	As above –skills to learn to take into Year 6 Linked to electrical mechanisms e.g. fairground ride	
	<ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>	See Statutory Requirements only	See electrical above	



# Design Technology

Year 6

Year 6

**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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].**

**When designing and making, pupils should be taught to:**

Statutory requirements (National Curriculum)

N and R School Essentials(Skills)

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
- Draw on and use various sources of information
  - Use understanding of familiar products to help develop my own ideas
  - Work from detailed plans, modifying where appropriate
  - Clarify ideas through discussion, drawing and modelling
  - Communicate ideas

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
<ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul>	<p><b>Mechanical</b></p> <ul style="list-style-type: none"> <li>Make a mechanism that can be controlled by switches or by ICT equipment</li> </ul>		Dimmers / switches
	<ul style="list-style-type: none"> <li>Make careful and precise measurements so that joins, holes and openings are exactly in the right place</li> <li>Methods of working are precise</li> <li>Finish edges by adding other materials (edging strips)</li> </ul>	<p><b>Textiles and Materials</b></p> <p>To make a bag using appliqué pattern pieces</p>	Materials Pattern
		<ul style="list-style-type: none"> <li>Experiment with a range of materials until I find the correct ones for the job (appropriate, affordability, appeal)</li> <li>Add colour and texture to my work</li> <li>mark out using own patterns and templates</li> </ul>	<p><b>Food</b></p> <p>To make a pizza</p>

Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
<ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<ul style="list-style-type: none"> <li>Reflect on designs and develop them</li> <li>Identify what is working well and what can be improved</li> <li>Awareness of limited resources (budget, time availability)</li> <li>Evaluate products in light of information sources used to inform the design</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<p><i>Link ideas to a current designer</i></p>	



Year 6

	Statutory requirements (National Curriculum)	N and R School Essentials(Skills)	Suggested Activities	Resources
	<ul style="list-style-type: none"><li>• apply their understanding of how to strengthen, stiffen and reinforce more</li></ul>	<ul style="list-style-type: none"><li>• Joins are strong and stable, giving extra strength to products dismantling or folding</li><li>• Hide joins for aesthetic effect</li></ul>	As above –skills to learn to take into Year 6 E.g. Making a pulley system using materials to make a toy Using gears on a buggy	
	<ul style="list-style-type: none"><li>• understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li></ul>	See Statutory Requirements only		
	<ul style="list-style-type: none"><li>• apply their understanding of computing to program, monitor and control their products</li></ul>	See Statutory Requirements only	Completed through ICT curriculum	