



# DESIGN TECHNOLOGY

Skills Progression Grids for Parkland Infant and Junior

## INTENT

**“Creativity is inventing, experimenting, growing, taking risks, breaking rules, making mistakes and having fun.” - Mary Lou Cook**

At Parkland, we aim to ensure that Design and Technology is an inspiring and practical subject. We promote the use of creativity and imagination so that pupils can design and make products that solve real and relevant problems within a varied contexts. We develop children’s technical and practical expertise as well as their ability to evaluate, test and critique their designs. We are passionate about teaching the children about nutrition and where food comes from and use our school allotment and chickens/ducks to support this.

We recognise that the future will see new technologies that today’s society has yet to experience. We hope to inspire our children to contribute towards driving this future forwards.



## IMPLEMENTATION

At Parkland, teachers encourage pupils to think outside the box and take risks with design. A vast array of ICT supports design and technology so that pupils can use software to enhance their skills in designing and making. This supports the designing process and enables pupils to alter designs in order to improve them.

Children are taught to select and use appropriate tools safely and effectively to make a product. In all areas of Design and Technology the children are encouraged to consider the effectiveness of their designs and requirements of the product.



Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<p style="text-align: center;"><b>Key Stage 1</b></p>	<p style="text-align: center;"><b>1</b></p>	<p>When producing their own designs, children will look at different structures, drawing on their own experience to help generate ideas</p> <p>They will design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>They will model and communicate their ideas through talking, and drawing,</p> <p>Children will design, make and evaluate</p> <p>A model house based on the key text: The Jolly Postman</p> <p>A felt picture for a patchwork blanket.</p> <p>A moving picture model using pivots and levers</p>	<p>When immersed in the making process, children will practise and use appropriate techniques such as:</p> <p>With help measure, mark out, cut and shape a range of materials</p> <p>Select from a range of tools and use tools to perform practical tasks [for example, cutting, shaping, joining and finishing] safely</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Select and use appropriate fruit and vegetables, processes and tools</p> <p>Use simple finishing techniques to improve the appearance of their product</p>	<p>The children will explore and evaluate a range of existing products and evaluate their ideas and products against design criteria</p>	<p>Children will be taught how to build structures, exploring how they can be made <b>stronger, stiffer and more stable</b></p> <p>They will explore and use mechanisms including <b>levers, sliders, wheels and axle</b></p>	<p>Our Year 1 children will take part in 'Let's Get Cooking' and participate in a series of bespoke lessons to produce:</p> <p>Fruit Kebabs Fruit Smoothies Vegetable Pizzas Sweet and savoury scones</p> <p>Pupils will look at where these foods come from and why our body needs healthy foods in order to function at its optimum level.</p>

Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Key Stage 1	2	<p>When designing their own products, children will look at drawing on their own experience to help generate ideas. They will:</p> <p>Identify a purpose for what they intend to design and make</p> <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p> <p>They will model and communicate their ideas through :</p> <p>Discussion drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Children will design and make:</p> <p>Hand Puppets linked to their Dragons and Dinosaurs topic</p> <p>Fire Engines linked to their inventions topic</p>	<p>To further develop children's knowledge and understanding of how to construct their products:</p> <p>Children will:-</p> <p>Begin to select tools and materials; using technical vocabulary to name and describe them</p> <p>Measure and cut with some accuracy</p> <p>Use hand tools safely and appropriately</p> <p>Assemble, join and combine materials in order to make a product</p> <p>Cut, shape and join fabric</p> <p>Use basic sewing techniques</p> <p>Choose and use appropriate finishing techniques</p>	<p>While researching their designs, children will explore and evaluate a range of existing products.</p> <p>The children will:</p> <p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p>	<p>Children will be taught how to build structures, exploring how they can be made <b>stronger, stiffer and more stable</b></p> <p>They will explore and use mechanisms including <b>levers, sliders, wheels and axles</b></p>	<p>As part of our cooking and nutrition education, Year 2 children will look at where our foods come from and why our body need healthy foods in order to function at its optimum level.</p> <p>Children will make:</p> <p>A healthy lunch design whereby they will negotiate the type of filling for a sandwich and what snacks should be included. (Linked to work in Science on what makes a healthy lunchbox)</p>

Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Key Stage 2	3	<p>As part of our Extreme Earth topic, we will be designing a structure which will withstand the effects of a powerful earthquake, the children will:</p> <p>Generate ideas for an item, considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product.</p> <p>Plan the order of their work before starting.</p> <p>Explore, develop and communicate design proposals by modelling ideas</p> <p>Make drawings with labels when designing</p> <p>Children will also be revisiting these skills later on in the year when exploring different types of Stone Age homes and deciding which would be the most sustainable.</p> <p>Children will design and make:</p> <p>A structure which will withstand the powerful effects of an earthquake</p> <p>A replica of a Stone Age Home using different resources.</p>	<p>Children will:</p> <p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Think about their ideas as they make progress and be willing to change things if this helps them improve their work</p> <p>Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT</p>	<p>In order to understand what went well and what may need to be improved for next time, children will be testing out their designs and models and will:</p> <p>Evaluate their product against original design criteria e.g. How well it meets its intended purpose</p> <p>Disassemble and evaluate familiar products</p>	<p>Children will be taught to apply their understanding of how to <b>strengthen, stiffen and reinforce more complex structures</b></p> <p>understand and use mechanical systems in their products, including <b>gears, pulleys, cams, levers and linkages</b></p> <p>Understand and use <b>electrical systems in their products, including a series circuits incorporating switches, bulbs, buzzers and motors</b></p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>As part of our cooking and nutrition education, Year 3 children will:</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare a healthy fruit salad using tropical fruits that are new to them. They will use a range of techniques such as chopping, peeling and deseeding</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. This will be linked to home grown vegetables, herbs and eggs laid by our school ducks and chickens</p> <p>Children will make: A Tropical Fruit Salad (Linked to work on the Amazon Rainforest)</p>

Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Key Stage 2	4	<p>When designing a working lighthouse, incorporating a simple electrical system, the children will:</p> <p>Look at a variety of materials in order to generate ideas and consider the purposes for which they are designing.</p> <p>Make labelled drawings from different views showing specific features.</p> <p>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.</p> <p>Children will revisit these skills later on in the term when they design and plan to build their a Shaduf.</p> <p>Children will design and make:</p> <p>A working Shaduf A working lighthouse</p>	<p>Children will:</p> <p>Select appropriate tools and techniques for making their product</p> <p>Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques</p> <p>Join and combine materials and components accurately in temporary and permanent ways</p>	<p>As a final step in their Design and Technology adventure, children will:</p> <p>Evaluate their work both during and at the end of the assignment.</p> <p>Evaluate their products carrying out appropriate tests evaluate products and identify criteria that can be used for their own designs</p>	<p>Children will be taught to apply their understanding of how to <b>strengthen, stiffen and reinforce more complex structures</b></p> <p>understand and use mechanical systems in their products, including <b>gears, pulleys, cams, levers and linkages</b></p> <p>Understand and use <b>electrical systems in their products, including a series circuits incorporating switches, bulbs, buzzers and motors</b></p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>As part of our cooking and nutrition education, Year 4 children will:</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. This will be linked to home grown vegetables, herbs and eggs laid by our school ducks and chickens</p> <p>Children will make:</p> <p>Healthy pizzas (including the history of the Margarita Pizza)</p>

Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Key Stage 2	5	<p>When planning their designs, children will :</p> <p>Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>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</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Children will design and make:</p> <p>A Moon Buggy linked to their topic around Earth and Space.</p> <p>A fabric container with a focus on sewing and weaving.</p>	<p>When producing their moon buggies and fabric purses the children will: -Select appropriate materials, tools and techniques</p> <p>Measure and mark out accurately</p> <p>Use skills in using different tools and equipment safely and accurately. Sew using a range of different stitches, weave or knit</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p>	<p>When completing their projects the children will:</p> <p>Evaluate a product against the original design specification</p> <p>Evaluate it personally and seek evaluation from others</p>	<p>Children will be taught to apply their understanding of how to <b>strengthen, stiffen and reinforce more complex structures</b></p> <p>understand and use mechanical systems in their products, including <b>gears, pulleys, cams, levers and linkages</b></p> <p>Understand and use <b>electrical systems in their products, including a series circuits incorporating switches, bulbs, buzzers and motors</b></p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>As part of our cooking and nutrition education, Year 5 children will:</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. This will be linked to home grown vegetables, herbs and eggs laid by our school ducks and chickens</p> <p>Children will make: Hummus and falafels linked to their Greek Odyssey topic.</p>



Key Stage	Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Key Stage 2	6	<p>When generating ideas and planning their designs, children will:</p> <p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p> <p>Children will design:</p> <p>A beating heart as part of their 'Heartbeat' topic, incorporating a series of electrical systems to demonstrate the different parts..</p> <p>An Anderson Shelter as part of their 'We'll meet again' topic</p>	<p>When making their models the children will:</p> <p>Select appropriate tools, materials, components and techniques</p> <p>Assemble components and make working models</p> <p>Use tools safely and accurately</p> <p>Construct products using permanent joining techniques</p> <p>Make modifications as they go along</p>	<p>When completing their projects the children will:</p> <p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>	<p>Children will be taught to apply their understanding of how to <b>strengthen, stiffen and reinforce more complex structures</b></p> <p>understand and use mechanical systems in their products, including <b>gears, pulleys, cams, levers and linkages</b></p> <p>Understand and use <b>electrical systems in their products, including a series circuits incorporating switches, bulbs, buzzers and motors</b></p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>As part of our cooking and nutrition education, Year 6 children will:</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. This will be linked to home grown vegetables, herbs and eggs laid by our school ducks and chickens</p> <p>Children will make: A variety of savoury dishes found in South America</p>



Design Technology 2020-2021  
The Parkland Federation Subject Leader: Miss Lauren Shadwell  
Subject Skills Reviewed: September 2020