



# Fernwood Primary and Nursery School

## Subject Implementation Overview

### Design Technology



Nursery		
Autumn 1	Spring 1	Summer 1
COEL, PSED- MS, UTW- PCC, <b>Exploring our Workshop and Food</b> What is in our making area workshop? What fruits would you like to try in your fruit salad? What toppings will I have on my pizza?		
Autumn 2	Spring 2	Summer 2
	UTW- TNW, PD- FM <b>Exploring Materials and Baking</b> What shall we use to make a strong house? How do I make a gingerbread man?	



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Foundation 2 -Reception		
Autumn 1	Spring 1	Summer 1
COEL <b>Our Workshop Area</b> What is in our making area workshop?	PD & EAD <b>Joining Skills</b> How do I join?	
Autumn 2	Spring 2	Summer 2
PD & EAD <b>Cutting Skills</b> How do I cut? What do Autumn vegetables look like?		EAD <b>Box Modelling</b> How can we explore 3D materials? (linked to access art)



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Y1		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><b>Mechanisms - Moving picture (sliders and levers)</b></p> <p><u>Designing</u></p> <ol style="list-style-type: none"> <li>How are existing products designed?</li> <li>Who is the audience and what is the purpose for my moving picture?</li> </ol> <p><u>Making</u></p> <p>To measure, mark out, cut (accurately) and shape a range of materials with support            To use tools e.g. scissors and a hole punch safely.            To assemble, join and combine materials/components together using a variety of temporary methods (including different glues, taping and split pins).</p> <ol style="list-style-type: none"> <li>How will I assemble, join and combine materials? (focused task)</li> <li>Which tools and materials will I choose to make my product?</li> </ol> <p><u>Evaluating</u></p> <p>To evaluate a product by discussing how well it works.</p> <ol style="list-style-type: none"> <li>Have you made any changes to your product?</li> </ol>	<p><b>Freestanding Structures - Park for Barnaby Bear</b></p> <p><u>Designing</u></p> <ol style="list-style-type: none"> <li>How are existing products designed?</li> </ol> <p>To draw on own experience to help generate ideas.            To design (talk about, draw and list my ideas) with a purpose/audience in mind.            To model ideas in card and paper.</p> <ol style="list-style-type: none"> <li>Who is the audience and what is the purpose for my park design?</li> </ol> <p><u>Making</u></p> <p>To assemble, join and combine materials/components together using a variety of temporary methods (including different glues, taping and split pins).</p> <ol style="list-style-type: none"> <li>How will I assemble, join and combine materials? (focused task)</li> <li>Which tools and materials will you choose to make your product?</li> </ol> <p><u>Evaluating</u></p> <p>To say what I like about my product and make suggestions for improvement.            To evaluate products as they are developed, identifying strengths and possible changes.</p> <ol style="list-style-type: none"> <li>What went well and what can you improve?</li> </ol>	<p><b>Food - Funny face salad (linked to Jamie Oliver's Vegetables)</b></p> <p><u>Designing</u></p> <ol style="list-style-type: none"> <li>What are popular vegetables to have in a salad?</li> </ol> <p>To design (talk about, draw and list my ideas) with a purpose/audience in mind.            To suggest ideas/explain what they are going to do.</p> <ol style="list-style-type: none"> <li>What might a child's salad look like?</li> </ol> <p><u>Making</u></p> <p>To select from and use a wide range of materials and components, including ingredients, according to their characteristics.            To use basic food handling and hygiene routines.            To use simple finishing techniques to improve the appearance of product.            To construct my salad based on my designs</p> <ol style="list-style-type: none"> <li>How will I assemble my salad to make it look like a face?</li> </ol> <p><u>Evaluating</u></p> <p>To say what I like about my product and make suggestions for improvement.</p> <ol style="list-style-type: none"> <li>Does your salad face look like your design?</li> </ol>



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Y2		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><u>Mechanisms - Space Buggy (NASA engineers)</u> <u>Designing (wheels and axles)</u> To explore and evaluate a range of existing products.</p> <p>1) How do the wheels move in existing products?</p> <p>To design purposeful, functional, appealing products for themselves and other users To generate, develop, model and communicate their ideas through talking, drawing and mocks ups. To identify a purpose for product. To identify simple design criteria. To design a space buggy</p> <p>2) Who is the audience and what is the purpose for my space buggy?</p> <p><u>Making</u> To make simple drawings and label parts. To select from and use accurately a range of tools to join, cut, shape and finish. To measure and cut with some accuracy. To use hand tools safely and appropriately. To assemble, join and combine materials in order to make product. To use mechanisms in models. To construct and make my space buggy</p> <p>3) How will I assemble, join and combine materials? (focused task)</p>	<p><u>Food - Fruit salad</u> <u>Designing</u> To explore and evaluate a range of existing products.</p> <p>1) What make a good fruit salad?</p> <p>To design purposeful, functional, appealing products for themselves and other users. To generate, develop, model and communicate their ideas through talking, drawing and mocks ups. To identify a purpose for product. To design a fruit salad. To communicate my ideas by presenting my design</p> <p>2) How will I design my salad to suit the audience and purpose?</p> <p><u>Making</u> To follow safe procedures for food safety and hygiene. To choose and use appropriate finishing techniques. To make my fruit salad based on my designs</p> <p>3) What tools and skills will I choose to make my fruit salad?</p> <p><u>Evaluating</u> To talk about their ideas, saying what they like and dislike.</p> <p>4) What do I like about my salad and what would I change?</p>	<p><u>Textiles - Bookmark (templates and joining)</u> <u>Designing</u> To explore and evaluate a range of existing products.</p> <p>1) How are existing bookmarks designed?</p> <p>To design purposeful, functional, appealing products for themselves and other users To make simple drawings and label parts. To identify simple design criteria. To make purposeful designs of a bookmark and identify criteria</p> <p>2) How will you design your bookmark to suit the audience and purpose?</p> <p><u>Making</u> To assemble, join and combine materials in order to make product. To measure and cut with some accuracy. To use basic sewing techniques. To choose and use appropriate finishing techniques. To cut, sew and join materials to make a bookmark</p> <p>3) How will I assemble, join and combine materials? (focused task)</p> <p>4) Which sewing techniques will I choose to decorate my bookmark?</p> <p><u>Evaluating</u> To evaluate against design criteria.</p>



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<p>4) How will the I ensure the mechanism works effectively in my space buggy?</p> <p><u>Evaluating</u> To evaluate against design criteria. To evaluate products as they are developed, identifying strengths and possible changes they might make. To evaluate my strengths and changes against my criteria</p> <p>5) What went well and what can I improve?</p>		<p>5) Did I have to adapt my design?</p>
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Y3		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><u>Food - Healthy sandwich</u></p> <p><u>Designing</u> To research, investigate and analyse a range of existing products.</p> <p>1) <b>What makes a healthy sandwich?</b></p> <p>To establish criteria for a successful product. To design (talk about, draw and list my ideas) with a purpose/audience in mind. To make drawings with labels when designing.</p> <p>2) <b>Who is the audience and what is the purpose for your sandwich?</b></p> <p><u>Making</u> To plan the order of their work before starting. To select from and use a wide range of tools, techniques, materials and ingredients, according to their characteristics. Demonstrate hygienic food preparation and storage. To safely prepare and make a healthy sandwich</p> <p>3) <b>What ingredients and skills will you need to make your sandwich?</b></p> <p><u>Evaluating</u> To evaluate ideas and products against own design criteria and make suggestions for improvement.</p> <p>4) <b>What went well and what would you improve?</b></p>	<p><u>Shell Structures - Keep-sake box</u></p> <p><u>Designing</u> To use research, investigate and analyse a range of existing products.</p> <p>1) <b>How have existing products been constructed?</b></p> <p>To design (talk about, draw and list my ideas) with a purpose/audience in mind. To make drawings with labels when designing. To establish criteria for a successful product. To make labelled drawings of my design with success criteria identified</p> <p>2) <b>How will the audience and purpose affect your design decisions?</b></p> <p><u>Making</u> To explore, develop and communicate design proposals by modelling ideas To communicate my design ideas by explaining key concepts To make models/products with increasing independence and accuracy. Measure, mark out, cut, score and assemble components with some accuracy. Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment, including ICT. To construct my keepsake box</p>	<p><u>Mechanisms (levers and linkages)</u></p> <p><u>Pop up book (Voitech Kubasta)</u></p> <p><u>Designing</u> To use research, investigate and analyse a range of existing products.</p> <p>1) <b>How do the mechanisms work in existing pop-up books?</b></p> <p>To explore, develop and communicate design proposals by modelling ideas.</p> <p>To design (talk about, draw and list my ideas) with a purpose/audience in mind.</p> <p>2) <b>How will the audience and purpose affect my design decisions?</b></p> <p><u>Making</u> To begin to understand and use mechanical systems. Measure, mark out, cut, score and assemble components with some accuracy To select from and use a wide range of tools, techniques, materials and components, including ingredients, according to their characteristics. Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment, including ICT. To use design ideas to construct a pop up book</p>



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3) How will I assemble, join and combine materials? (focused task)

4) How will I ensure my product works well and has the right appearance?

#### Evaluating

To evaluate ideas and products against own design criteria and make suggestions for improvement.  
To be willing to change things if this helps improve work.

To make changes to improve my keepsake box

5) What changes could I make to improve my product?

3) How will I assemble, join and combine materials? (focused task)

4) What will move in my final product?

#### Evaluating

To evaluate ideas and products against own design criteria and make suggestions for improvement.

5) Does my design meet its intended user and purpose?



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Y4		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><u>Textiles- Pencil Cases (2D shape to 3D product)</u> <u>Designing</u> To investigate and analyse a range of existing products</p> <p>1) How have existing products been constructed?</p> <p>To consider purposes for which they are designing.</p> <p>2) Who is the intended user and what is the purpose of my product?</p> <p>To make labelled drawings from different views showing specific features. To plan the main stages of making To develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making. To use my analysis to make labelled designs for a pencil case .</p> <p>3) What are the main stages of making my product?</p> <p><u>Making</u> To select and use a range of appropriate tools with some accuracy. To use basic sewing techniques. To select fabrics and fastenings according to their functional characteristics.</p>	<p><u>Electrical Systems (simple circuits and switches)</u> <u>Torches (Thomas Edison and David Misell)</u> <u>Designing</u> To understand how key events in design and technology have helped shape the world.</p> <p>To investigate and analyse a range of existing products.</p> <p>1) How do existing products work?</p> <p>To consider purposes for which they are designing. To make labelled drawings from different views showing specific features. To develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making.</p> <p>2) Who is the intended user and what is the purpose of my product?</p> <p>To make careful plans for my design, including labelled diagrams from different view points</p> <p><u>Making</u> To understand and use electrical systems in products (series circuits incorporating switches, bulbs).  To select appropriate tools and techniques.</p>	<p><u>Food – Layered salad</u> <u>Designing</u> To investigate and analyse a range of existing products</p> <p>1) How is a layered salad constructed?</p> <p>To consider purposes for which they are designing. To make labelled drawings from different views showing specific features. To make clear designs of a layered salad from my research To develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making. To make a detailed plan of all the steps involved in the process</p> <p>2) What ingredients will you include and how will you layer them to create your salad?</p> <p><u>Making</u> To prepare a salad demonstrating safe chopping and cutting. To select appropriate tools and techniques. To prepare and make a layered salad</p> <p>3) What tools and techniques will I use to prepare my ingredient? (focused task)</p> <p>4) How will I assembly my salad?</p>





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<p>4) How will I decorate my product? (focused task)</p> <p>5) What tools and techniques will I use to make my final product?</p> <p><u>Evaluating</u> To evaluate ideas and products against design criteria. To evaluate work both during and at the end of the assignment. To evaluate products carrying out appropriate tests.</p> <p>6) Does the product match the design brief?</p>	<p>To measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. To join and combine materials and components accurately in temporary and permanent ways. To construct my torch following my plans and designs</p> <p>3) How will I assemble, join and combine materials? (focused task)</p> <p>4) How will I construct my final product?</p> <p><u>Evaluating</u> To evaluate ideas and products against design criteria. To evaluate work both during and at the end of the assignment. To evaluate products carrying out appropriate tests. To test my torch in different environments to see how successful it is</p> <p>5) Is the product suitable for its user and purpose?</p>	<p><u>Evaluating</u> To evaluate ideas and products against design criteria.</p> <p>5) Does my final product suit its intended user and purpose?</p>
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Y5		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><u>Frame Structures - Bird boxes (Charles Waterton)</u> <u>Designing</u> To research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. To investigate and analyse a range of existing products. To research bird boxes and create criteria for a successful design</p> <p>1) <a href="#">How are existing bird boxes designed and constructed?</a></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. Use results of investigations, information sources, including ICT when developing design ideas. To use my research to plan and draw my initial designs</p> <p>2) <a href="#">How will my bird box be constructed?</a></p> <p>To generate, develop, model (with prototypes) and communicate their ideas through discussion and annotated sketches. To make modelled prototypes of my designs and adapt designs as needed</p> <p>3) <a href="#">How can I strengthen joins using triangulation? (focused task)</a></p>	<p><u>Mechanisms - Cam toy</u> <u>Designing</u> To investigate and analyse a range of existing products. To research and develop design criteria to inform their designs that are fit for purpose. To research and investigate cams toys</p> <p>1) <a href="#">How do existing cam toys work?</a></p> <p>To generate, develop, model (with prototypes) and communicate their ideas through discussion and annotated sketches. To make model prototypes. 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. To begin to generate innovative ideas drawing on research</p> <p>2) <a href="#">What will my cam toy look like and how will it move?</a></p> <p><u>Making</u> To understand and use mechanical systems in products. Select appropriate materials, tools and techniques and use safely. Cut and join wood with accuracy to ensure a good quality finish.</p>	<p><u>Food - Chilli</u> <u>Designing</u> To investigate and analyse a range of existing products. To research and develop design criteria to inform their designs that are fit for purpose. To test products and ingredients prior to designing</p> <p>1) <a href="#">What flavours belong in a chilli?</a> 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. Use results of investigations, information sources, including ICT when developing design ideas. To begin to generate innovative ideas drawing on research.</p> <p>2) <a href="#">What is my chilli going to include?</a></p> <p><u>Making</u> To continue to develop the principles behind a healthy and varied diet. To prepare and cook a savoury dish using different cooking techniques. Select appropriate materials, tools and techniques and use safely. Weigh and measure accurately (time, dry ingredients, liquids). Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens.</p>



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<p><u>Making</u> Select appropriate materials, tools and techniques and use safely. Cut and join wood with accuracy to ensure a good quality finish. To use appropriate tools and techniques to make my bird box.</p> <p>4) What tools and techniques will I need to use to construct the final product?</p> <p><u>Evaluating</u> To evaluate ideas and products against design criteria and consider the views of others to improve own work. Evaluate product against the original design specification. Evaluate personally and seek evaluation from others. To give constructive criticism about mine and other's products, suggesting strengths and ideas for improvement</p> <p>5) What are the strengths and how could the design be improved?</p>	<p>To make a cam toy based on my designs and prototypes</p> <p>3) How does the shape of the cam affect the movement? (focused task)</p> <p>4) How will I construct your cam toy?</p> <p><u>Evaluating</u> To evaluate ideas and products against design criteria and consider the views of others to improve own work. Evaluate product against the original design specification. Evaluate personally and seek evaluation from others. To suggest enhancements that I could make to my cam toy and others'</p> <p>5) What improvements could be made to ensure the product is suitable for its user and purpose?</p>	<p>To prepare and cook a vegetarian chilli following food hygiene rules</p> <p>3) What skills and techniques do I need to use in preparing my ingredients? (focused task)</p> <p>4) How will I combine my ingredients to make my chilli recipe?</p> <p><u>Evaluating</u> To evaluate ideas and products against design criteria and consider the views of others to improve own work. Evaluate product against the original design specification. Evaluate personally and seek evaluation from others. To taste my chilli and identify strengths and suggest improvements</p> <p>5) How could I improve my chilli?</p>
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Y6		
Autumn 1	Spring 1	Summer 1
Autumn 2	Spring 2	Summer 2
<p><u>Electrical Systems (more complex switches)</u> <u>Motorised toy car</u> <u>Designing</u> To understand how key events and individuals in D&amp;T have helped shape the world. To research and develop design criteria to inform the design of an innovative, functional, appealing products. To research products which contain an electrical input and output</p> <p>1) How do existing products work?</p> <p>To develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes (including CAD). Plan the order of own work, choosing appropriate materials, tools and techniques</p> <p>2) How will the electrical components work as a system in my product?</p> <p><u>Making</u> To select the correct tools (use accurately and safely) and materials (according to functional properties and aesthetic qualities), components and techniques to make a successful product. To apply their understanding of computing to program, monitor and control their products (link to Year 5 computing unit on Crumble). Assemble components make working models.</p>	<p><u>Textiles (combining different fabric shapes)</u> <u>Bags (Walter H Deubner - reinforced paper bag)</u> <u>Designing</u> To understand how key events and individuals in D&amp;T have helped shape the world. To research and develop design criteria to inform the design of an innovative, functional, appealing products. To research and identify the best bags based on their purpose</p> <p>1) How have existing products been produced by combining fabric shapes?</p> <p>To develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes (including CAD). Plan the order of own work, choosing appropriate materials, tools and techniques. To plan, design and choose tools and material to make a bag</p> <p>2) What will my product look like and how will it be constructed?</p> <p><u>Making</u> To select the correct tools (use accurately and safely) and materials (according to functional properties and aesthetic qualities), components and techniques to make a successful product. Construct products using permanent joining techniques.</p>	<p><u>Food – Cupcakes Bake off (Nadiya Hussain)</u> <u>Designing</u> To understand how key events and individuals in D&amp;T have helped shape the world. To research and develop design criteria to inform the design of an innovative, functional, appealing products. To taste a range of products and conduct research prior to designing cupcakes</p> <p>1) What are the key ingredients in a cupcake?</p> <p>To develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. Plan the order of own work, choosing appropriate materials, tools and techniques. To make detailed designs of cupcakes based on quality research</p> <p>2) What ingredients will my cupcake include?</p> <p><u>Making</u> To select the correct tools (use accurately and safely) and materials (according to functional properties and aesthetic qualities), components and techniques to make a successful product.</p> <p>3) What skills and utensils will I need to make a successful product?</p> <p><u>Evaluating</u></p>



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<p>Construct products using permanent joining techniques. To construct my own fairground toy using appropriate tools and techniques</p> <p>3) How will I assemble, join and combine the electrical circuit? (focused task)</p> <p>4) What tools, materials and techniques will I use to make a working model?</p> <p><u>Evaluating</u> To evaluate ideas and products against own design criteria and consider the views of others to improve work. Evaluate products identifying strengths and areas for development, and carrying out appropriate tests. Record evaluations using drawings with labels. To carry out tests on my fairground toy and evaluate against the criteria</p> <p>5) Does my product work effectively for the intended user and purpose?</p>	<p>Pin, sew and stitch materials together. To use learned techniques to make a bag</p> <p>3) What sewing techniques and methods of strengthening will I use? (focused task)</p> <p>4) How will I use permanent joining techniques to construct my final product?</p> <p><u>Evaluating</u> To evaluate ideas and products against own design criteria and consider the views of others to improve work. Evaluate products identifying strengths and areas for development, and carrying out appropriate tests. Record evaluations using drawings with labels. To use my evaluations to design an enhanced bag, making note of any improvements suggested</p> <p>5) Is the product fit for its intended user and purpose?</p>	<p>To evaluate ideas and products against own design criteria and consider the views of others to improve work. Evaluate products identifying strengths and areas for development, and carrying out appropriate tests. Record evaluations using drawings with labels. To evaluate my cupcakes and make labelled drawings of improvements made</p> <p>4) What has been successful and what improvement would I make?</p>
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