



Design Technology



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|--|---|---|---|---|--|--|---|
| Threshold concepts: | | Master practical skills 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) | Design, make, evaluate and improve This concept involves developing the process of design thinking and seeing design as a process. | Take inspiration from design throughout history This concept involves appreciating the design process that has influenced the products we use in everyday life. | | | |
| | | Unit 1 | Unit 2 | Unit 3 | | | |
| | | All about me | Celebrations | Amazing Animals | Isn't life wonderful | Kings and Queens | Let's explore |
| EYFS Design Technology Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Share their creations, explaining the process they have used; Make use of props and materials when role playing characters in narratives and stories. | | <ul style="list-style-type: none"> Junk modelling-explore Construction-explore | <ul style="list-style-type: none"> Junk modelling-explore Construction-explore Diva lamps (using clay) – materials, tools, technique. Split-pin Father Christmas/snowman on a card etc | <ul style="list-style-type: none"> Junk modelling-animal models Construction-building animal pens for the different farm animals Animal masks Making lanterns (Chinese New Year) | <ul style="list-style-type: none"> Basic food technology skills – spreading etc. Creating and tasting fruit kebabs and smoothies Junk modelling Construction | <ul style="list-style-type: none"> Junk modelling-castles Construction-castles Design a brand-new hat for the Queen | <ul style="list-style-type: none"> Junk modelling-transport Construction-transport Structures- boats |
| Year 1 | Design Technology | Food | Mechanisms | Textiles | | | |
| | Outcome | To make a healthy portable snack (e.g. wrap, sandwich, samosas) using seasonal ingredients | To make an Eid card using a slider or lever mechanism | To make a hand puppet | | | |
| | Inspirational Designers/key events (engineers, inventors, etc) | <ul style="list-style-type: none"> Philippe Starck (Juicer) | Mary Anderson | <ul style="list-style-type: none"> Cath Kidston William Morris Laura Ashley | | | |
| | Awe and Wonder | Invite parents in to demonstrate how to make samosas/portable snack Visit from Hasan and his truck | • | • | | | |
| | Links to other units | • | • | • | | | |
| | Design Process | Lesson 1 Look at existing products / designers for inspiration <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 | Lesson 1 Look at different types of sliders and levers <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 | Lesson 1 Look at different types of puppets made of fabric <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 | | | |



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|--------------------------|---|---|------------------|---|---|------------------|---|---|------------------|-------------|
| | | Unit 1 | | | Unit 2 | | | Unit 3 | | |
| Year 2 | | Practice finger fluency: <ul style="list-style-type: none"> • Spreading • Grating • Peeling • Fork secure • The bridge hold • Folding • Snipping Lesson 3 Design thinking <ul style="list-style-type: none"> • Complete product outline • Make a mood board for Inspiration • Decide on ingredients and techniques Lesson 4 <ul style="list-style-type: none"> • Create a design diagram showing the process of making the snack Lesson 5 <ul style="list-style-type: none"> • Make a prototype • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify recipe explaining reasons Lesson 6 <ul style="list-style-type: none"> • Make final product • Give it to intended user • Get feedback from the user | | | Finger fluency: How do sliders work? <ul style="list-style-type: none"> • Make a slider with and without a guide bridge • Make a slider using a curved and wavy slot • Make a slider using tabs to make an object stand out • Evaluate Lesson 3 Finger fluency: How do levers work? <ul style="list-style-type: none"> • Make a 1-lever image with a pivot • Make a 2-lever image with a pivot • Evaluate Lesson 4 Design thinking <ul style="list-style-type: none"> • Complete product outline • Make a mood board for Inspiration • Decide on materials Lesson 5 <ul style="list-style-type: none"> • Create a design diagram showing the process of making the card Lesson 6 <ul style="list-style-type: none"> • Make a prototype • Test the design • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify design explaining reasons Lesson 7 <ul style="list-style-type: none"> • Create final Eid card to take home | | | Finger fluency: Running stitch <ul style="list-style-type: none"> • Practice threading a needle • Practice basic running stitch method Lesson 3 Design thinking <ul style="list-style-type: none"> • Complete product outline • Make a mood board for Inspiration • Decide on materials Lesson 4 <ul style="list-style-type: none"> • Create a design diagram showing the process of making the puppet Lesson 5 <ul style="list-style-type: none"> • Make a prototype • Test the design • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify design explaining reasons Lesson 6 <ul style="list-style-type: none"> • Make modifications to their puppet | | |
| | Assessment Questions | Basic | Advancing | Deep | Basic | Advancing | Deep | Basic | Advancing | Deep |
| | Master practical skills | <ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Assemble or cook ingredients. | | | <ul style="list-style-type: none"> • Create products using slider and lever mechanisms | | | <ul style="list-style-type: none"> • Shape textiles using templates. • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). | | |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. | | | <ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. | | | <ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • | | |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created. | | | <ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created | | | <ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created. | | |
| Design Technology | Structures | | | Mechanisms | | | Food | | | |
| Outcome | To create a chair for a traditional tale character (link to English unit) | | | To make an improved auto rickshaw so it has 4 wheels. | | | <ul style="list-style-type: none"> • To make a healthy couscous salad. | | | |



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|---|--|---|--|--|
| | | Unit 1 | Unit 2 | Unit 3 |
| Inspirational Designers /key events (engineers, inventors, etc) | | <ul style="list-style-type: none"> Sebastian Cox | <ul style="list-style-type: none"> Corradino D'Ascanio | <ul style="list-style-type: none"> Nadiya Hussain |
| Awe and Wonder | | Interview with someone who designs and makes chairs | | Share a meal with parents in school |
| Links to other units | | English – Twisted Traditional Tales | | |
| Design Process | | <p>Lesson 1 Look at natural and manufactured structures in everyday life</p> <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences What makes them stable? <p>Lesson 2 Finger fluency: How do we strengthen structures?</p> <ul style="list-style-type: none"> Experiment with folding, rolling and joining techniques <p>Lesson 3 Finger fluency: Frame structures</p> <ul style="list-style-type: none"> Look and experiment with different frame structures <p>Lesson 4 Design thinking</p> <ul style="list-style-type: none"> Complete product outline Make a mood board for Inspiration Decide on materials <p>Lesson 5</p> <ul style="list-style-type: none"> Create a design diagram showing the process of making a chair <p>Lesson 6</p> <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons <p>Lesson 7 Modify chair, test the new design and evaluate.</p> | <p>Lesson 1 Look at different types of wheel and axel products</p> <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences <p>Lesson 2 Finger fluency: How do wheel and axles work?</p> <ul style="list-style-type: none"> Make wheels and axels with different materials and attach to different chassis' (different wheel materials and different chassis materials) <p>Lesson 3 Finger fluency: How do wheel and axles work?</p> <ul style="list-style-type: none"> Make wheels and axels with different materials and attach to different chassis' (different wheel materials and different chassis materials) <p>Lesson 4 Design thinking</p> <ul style="list-style-type: none"> Complete product outline Make a mood board for Inspiration Decide on materials <p>Lesson 5</p> <ul style="list-style-type: none"> Create a design diagram showing the process of making an auto rickshaw <p>Lesson 6</p> <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons <p>Lesson 7 Modify Auto Rickshaw</p> | <p>Lesson 1 Look at existing products / chefs for inspiration</p> <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences <p>Lesson 2 Practice finger fluency:</p> <ul style="list-style-type: none"> Fork secure The bridge hold Weighing Snipping Stirring Shredding <p>Lesson 3 Design thinking</p> <ul style="list-style-type: none"> Complete product outline – consider sources of food (plants / animals (reared / caught) / processed / grown) Make a mood board for Inspiration Decide on ingredients and techniques <p>Lesson 4</p> <ul style="list-style-type: none"> Create a design diagram showing the process of making the healthy couscous salad. <p>Lesson 5</p> <ul style="list-style-type: none"> Make a prototype Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify recipe explaining reasons <p>Lesson 6</p> <ul style="list-style-type: none"> Make final product Give it to intended user Get feedback from the user |
| | | | Basic Advancing Deep | Basic Advancing Deep |



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| | | Unit 1 | Unit 2 | Unit 3 |
| | Assessment Questions | | | |
| | Master practical skills | <ul style="list-style-type: none"> Cut materials safely using tools provided. Measure and mark out to the nearest centimetre. Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). Model designs using software. Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products | <ul style="list-style-type: none"> Create products using sliders, levers, wheels and winding mechanisms | <ul style="list-style-type: none"> Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients. |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> Design products that have a clear purpose and an intended user. Make products, refining the design as work progresses. Use software to design. | <ul style="list-style-type: none"> Design products that have a clear purpose and an intended user. Make products, refining the design as work progresses. | <ul style="list-style-type: none"> Design products that have a clear purpose and an intended user. Make products, refining the design as work progresses. |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> Explore objects and designs to identify likes and dislikes of the designs. Suggest improvements to existing designs. Explore how products have been created. | <ul style="list-style-type: none"> Explore objects and designs to identify likes and dislikes of the designs. Suggest improvements to existing designs. Explore how products have been created. | <ul style="list-style-type: none"> Explore objects and designs to identify likes and dislikes of the designs. Explore how products have been created. |
| Year 3 | Design Technology | Food | Mechanisms | Structures |
| | Outcome | To make a healthy pizza (linked to Stone Age) | To create a mechanism that uses linked levers that will help tell the story of Iron Man (Linked to Iron Man) E.g. - Grabber, Safety barrier or a moving Iron Man. | To create a structure. (Desk tidy, packaging) |
| | Inspirational Designers /key events (engineers, inventors, etc) | <ul style="list-style-type: none"> Jamie Oliver Minca Geltti | James Dyson Mary Anderson along with Charlotte Bridgwood | |
| | Awe and Wonder | Hasan (a local food truck businessmen) to visit with truck and carry out a food workshop. | <ul style="list-style-type: none"> | |
| | Links to other units | <ul style="list-style-type: none"> | <ul style="list-style-type: none"> | <ul style="list-style-type: none"> |



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|--------------------------------|-----------------------------|---|------------------|-------------|--|------------------|-------------|--|------------------|-------------|
| | | Unit 1 | | | Unit 2 | | | Unit 3 | | |
| Master practical skills | Design Process | <p>Lesson 1 Look at existing products / chefs for inspiration</p> <ul style="list-style-type: none"> • What is the product? • What is its purpose? • Who will use it? • What features might it have? • What materials and techniques might you use? • Similarities and differences <p>Lesson 2 Practice finger fluency:</p> <ul style="list-style-type: none"> • The claw grip • The bridge hold • Weighing • Snipping • Stirring <p>Lesson 3 Design thinking</p> <ul style="list-style-type: none"> • Consider sources of food (plants / animals (reared / caught) / processed / grown) • Make a mood board for Inspiration • Decide on ingredients and techniques <p>Lesson 4</p> <ul style="list-style-type: none"> • Create a design diagram showing the process of making the healthy pizza. <p>Lesson 5</p> <ul style="list-style-type: none"> • Make a prototype • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify recipe explaining reasons <p>Lesson 6</p> <ul style="list-style-type: none"> • Make final product • Give it to intended user • Get feedback from the user | | | <p>Lesson 1 Look at different types of linked lever products</p> <ul style="list-style-type: none"> • What is the product? • What is its purpose? • Who will use it? • What features might it have? • What materials and techniques might you use? • Similarities and differences <p>Lesson 2 Finger fluency: How do linked levers work?</p> <ul style="list-style-type: none"> • Make different linked levers for different purposes. <p>Lesson 3 Design thinking</p> <ul style="list-style-type: none"> • Complete product outline • Make a mood board for Inspiration • Decide on materials <p>Lesson 5</p> <ul style="list-style-type: none"> • Create a design diagram showing the process of making a linked lever product. <p>Lesson 6</p> <ul style="list-style-type: none"> • Make a prototype • Test the design • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify design explaining reasons <p>Lesson 7 Modify product</p> | | | <p>Lesson 1 Look at natural and manufactured structures in everyday life (Shell structures, frame structures)</p> <ul style="list-style-type: none"> • What is the product? • What is its purpose? • Who will use it? • What features might it have? • What materials and techniques might you use? • Similarities and differences • What makes them stable? <p>Lesson 2 Finger fluency: Shell Structures - How do we strengthen structures?</p> <ul style="list-style-type: none"> • Experiment with shaping and joining • Score and bend to make a corner, score and bend to make a curve, bend to make a curve. • Flange, slots, tab, single foot fold, double foot fold. <p>Lesson 3 Finger fluency: Shell structures</p> <ul style="list-style-type: none"> • Look and experiment with different frame structures <p>Lesson 4 Design thinking</p> <ul style="list-style-type: none"> • Complete product outline • Make a mood board for Inspiration • Decide on materials <p>Lesson 5</p> <ul style="list-style-type: none"> • Create a design diagram showing the process of making a chair <p>Lesson 6</p> <ul style="list-style-type: none"> • Make a prototype • Test the design • Evaluate – <ul style="list-style-type: none"> ○ What are the weaknesses? ○ How can you improve it? ○ Modify design explaining reasons <p>Lesson 7 Modify chair, test the new design and evaluate.</p> | | |
| | Assessment Questions | Basic | Advancing | Deep | Basic | Advancing | Deep | Basic | Advancing | Deep |
| | | | | | | | | | | |
| | Food | <ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). | | | | | | | | |



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| | | Unit 1 | Unit 2 | Unit 3 |
| | Materials | | | <ul style="list-style-type: none"> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). <ul style="list-style-type: none"> Select appropriate joining techniques. |
| | Textiles | | | |
| | Electricals and electronics | | <ul style="list-style-type: none"> Create series and parallel circuits. | |
| | Computing | | <ul style="list-style-type: none"> Control and monitor models using software designed for this purpose. | |
| | Construction | | | <ul style="list-style-type: none"> Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques. |
| | Mechanics | | <ul style="list-style-type: none"> Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). | |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs. | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> Improve upon existing designs, giving reasons for choices. | <ul style="list-style-type: none"> Disassemble products to understand how they work. | <ul style="list-style-type: none"> Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Improve upon existing designs, giving reasons for choices. |
| Year 4 | Design Technology | Mechanisms/Digital World | Food | Textiles |
| Master practical skills | Outcome | To make a motorised car. | To make a vegan dip. | To make a Tote bag. |
| | Inspirational Designers /key events (engineers, inventors, etc) | Nikola Tesla Elon Musk Mary Jackson | Ella Woodward - Deliciously Ella Rick Stein | Lucienne Day |
| | Awe and Wonder | | Invite parents to taste dips | To design and sell to a local store |
| | Links to other units | | | |
| | Design Process | Lesson 1 Look at different types of pulley products <ul style="list-style-type: none"> What is the product? | Lesson 1 Look at existing products / chefs for inspiration <ul style="list-style-type: none"> What is the product? | Lesson 1 Look at different types of Tote bags <ul style="list-style-type: none"> What is the product? |



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|------------------------------------|--|---|-----------|------|--|-----------|------|---|-----------|------|
| | | Unit 1 | | | Unit 2 | | | Unit 3 | | |
| | | <ul style="list-style-type: none"> What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 Finger fluency: How do pulleys work? <ul style="list-style-type: none"> Make pulleys using different sized pulleys, use of a motor and investigate with a twisted drive belt. What is the effect? Lesson 3 Design thinking <ul style="list-style-type: none"> Make a mood board for Inspiration Decide on materials, sizes etc. Lesson 5 <ul style="list-style-type: none"> Create an exploded diagram showing the process of making a motorised car. Lesson 6 <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 7 Modify motorised car | | | <ul style="list-style-type: none"> What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 Practice finger fluency: <ul style="list-style-type: none"> The claw grip The bridge hold Weighing Snipping Stirring Mincing Lesson 3 Design thinking <ul style="list-style-type: none"> Consider sources of food (plants / animals (reared / caught) / processed / grown) Make a mood board for Inspiration Decide on ingredients and techniques Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making a healthy vegan dip. Lesson 5 <ul style="list-style-type: none"> Make a prototype Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify recipe explaining reasons Lesson 6 <ul style="list-style-type: none"> Make final product Give it to intended user Get feedback from the user | | | <ul style="list-style-type: none"> What is its purpose? Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 Finger fluency: Basic cross stitch and back stitch <ul style="list-style-type: none"> Practice threading a needle Practice cross stitch and back stitch method Lesson 3 Design thinking <ul style="list-style-type: none"> Complete product outline Make a mood board for Inspiration Decide on materials Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making the puppet Lesson 5 <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 6 <ul style="list-style-type: none"> Make modifications to their Tote bag | | |
| Assessment Questions | | Basic | Advancing | Deep | Basic | Advancing | Deep | Basic | Advancing | Deep |
| Food | | • | | | <ul style="list-style-type: none"> Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe. Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). | | | | | |
| Materials | | • | | | | | | <ul style="list-style-type: none"> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Select appropriate joining techniques. | | |
| Textiles | | • | | | | | | <ul style="list-style-type: none"> Understand the need for a seam allowance. Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles. | | |
| Electricals and electronics | | • | | | | | | | | |



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| | | Unit 1 | Unit 2 | Unit 3 |
| | Computing | <ul style="list-style-type: none"> Control and monitor models using software designed for this purpose | | |
| | | <ul style="list-style-type: none"> | | |
| | Construction | | | <ul style="list-style-type: none"> Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques. |
| | Mechanics | <ul style="list-style-type: none"> Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). | | |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs. | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). | <ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> Disassemble products to understand how they work. | <ul style="list-style-type: none"> Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. | <ul style="list-style-type: none"> Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Improve upon existing designs, giving reasons for choices. Disassemble products to understand how they work. |
| Year 5 | Design Technology | Mechanisms | Digital World | Food |
| | Outcome | To create an automaton character display (The Lion, the witch and the wardrobe) https://www.bbc.co.uk/teach/class-clips-video/design-challenge-make-moving-shop-window-display/z7ytscw | To make a night light https://www.bbc.co.uk/programmes/p02hpl99 | To make a healthy stew (link to South America) |
| | Inspirational Designers /key events (engineers, inventors, etc) | Al-Jazari | Thomas Edison and Joseph Swan Vint Cerf Charles Babbage Ada Lovelace Callum Daniel Eneni Abban | Nicola Appert Peter Durand Michael Caines |
| | Awe and Wonder | Create a display for a local shop window | | Visit from a chef / watch a chef in action Use cooking facilities at Rhyddings High School |
| | Links to other units | The Lion, the witch and the wardrobe | | |
| | Design Process | Lesson 1 Look at different types of Automaton products <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? | Lesson 1 Look at Smart home devices <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? | Lesson 1 Look at existing products / chefs for inspiration <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? What features might it have? |



Design Technology



| Threshold concepts: | | Master practical skills 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) | | | Design, make, evaluate and improve This concept involves developing the process of design thinking and seeing design as a process. | | | Take inspiration from design throughout history This concept involves appreciating the design process that has influenced the products we use in everyday life. | | |
|-------------------------|---|---|-----------|------|--|-----------|------|--|-----------|------|
| | | Unit 1 | | | Unit 2 | | | Unit 3 | | |
| Master practical skills | | <ul style="list-style-type: none"> What materials and techniques might you use? Similarities and differences Lesson 2 Finger fluency: How does CAMS work? <ul style="list-style-type: none"> Make CAMS circular movement Make CAMS side to side movement Lesson 3 Design thinking <ul style="list-style-type: none"> Make a mood board for Inspiration Decide on materials, sizes etc. Lesson 5 <ul style="list-style-type: none"> Create a design diagram showing the process of making an automaton toy using CAMS Lesson 6 <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 7 Modify automaton toy | | | <ul style="list-style-type: none"> What features might it have? (Inputs, processes, outputs) What materials and techniques might you use? Similarities and differences Lesson 2 Draw annotated diagrams with notes to explain it (automatic and manual) <ul style="list-style-type: none"> Draw annotated diagrams showing the automatic input and output process. Draw annotated diagrams showing the manual input and output process. e.g., light bulb, thermostat, security camera, speaker, light bulb. Lesson 3 Practice finger fluency: <ul style="list-style-type: none"> Practice constructing AI systems that use sensors in different ways. Practice programming Apps to control them. Lesson 4 Design thinking – Computer-aided design <ul style="list-style-type: none"> Consider different Sensored Night Lights Decide on purpose and audience Make a mood board for inspiration Decide on materials, input and output processes. Lesson 5 Create a design diagram showing the construction steps and how you will make the product. Lesson 6 <ul style="list-style-type: none"> Make a prototype of the product Make a prototype of the app to control the product. <ul style="list-style-type: none"> Evaluate - What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 7 Modify product | | | <ul style="list-style-type: none"> What materials and techniques might you use? Similarities and differences Lesson 2 Practice finger fluency: <ul style="list-style-type: none"> The claw grip The bridge hold Weighing Snipping Stirring Lesson 3 Design thinking <ul style="list-style-type: none"> Consider sources of food (plants / animals (reared / caught) / processed / grown) Make a mood board for Inspiration Decide on ingredients and techniques Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making a healthy vegetable stew. Lesson 5 <ul style="list-style-type: none"> Make a prototype Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify recipe explaining reasons Lesson 6 <ul style="list-style-type: none"> Make final product Give it to intended user Get feedback from the user | | |
| | Assessment Questions | Basic | Advancing | Deep | Basic | Advancing | Deep | Basic | Advancing | Deep |
| Food | <ul style="list-style-type: none"> Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients, methods, cooking times and temperatures. | | | | | | | | | |



Design Technology



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|---------------------|--|--|---|---|
| | | Unit 1 | Unit 2 | Unit 3 |
| | Materials | | | |
| | Textiles | | | |
| | Electricals and electronics | | <ul style="list-style-type: none"> Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). | |
| | Computing | | <ul style="list-style-type: none"> Write code to control and monitor models or products. | |
| | Construction | | | |
| | Mechanics | | | <ul style="list-style-type: none"> Convert rotary motion to linear using cams. Use innovative combinations of electronics (or computing) and mechanics in product designs. |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Ensure products have a high-quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. | <ul style="list-style-type: none"> Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Make products through stages of prototypes, making continual refinements. | <ul style="list-style-type: none"> Make products through stages of prototypes, making continual refinements. Ensure products have a high-quality finish, using art skills where appropriate. |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> Create innovative designs that improve upon existing products. Evaluate the design of products so as to suggest improvements to the user experience. | <ul style="list-style-type: none"> Create innovative designs that improve upon existing products. Evaluate the design of products so as to suggest improvements to the user experience. | <ul style="list-style-type: none"> Create innovative designs that improve upon existing products. Evaluate the design of products so as to suggest improvements to the user experience. |
| Year 6 | Design Technology | Food | Textiles | Structure |
| | Outcome | To make a variety of healthy breads | To make a pencil case https://livingwellmom.com/make-pencil-case-felt/ | To make kites to sell at the summer fair |
| | Inspirational Designers /key events (engineers, inventors, etc) | Nadiya Hussain | Tommy Hilfiger Ralph Lauren Anna Sui Naeem Khan | Zaha Hadid Fazlur Rahman Khan Frei Otto Gitanjali Rao |
| | Awe and Wonder | Visit a bakery/supermarket bakery class Visit from Hasan a local with a food truck business | | To sell at the summer fair – set up a store |
| | Links to other units | | | |
| | Design Process | Lesson 1 Look at existing products / chefs for inspiration <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? | Lesson 1 Look at different types of phone cases <ul style="list-style-type: none"> What is the product? What is its purpose? Who will use it? | Lesson 1 Look at natural and manufactured structures in everyday life (Shell structures, frame structures) <ul style="list-style-type: none"> What is the product? What is its purpose? |



Design Technology



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|--------------------------------|-----------------------------|--|--|--|--|---|-------------|--|------------------|-------------|
| | | Unit 1 | Unit 2 | | | Unit 3 | | | | |
| | | <ul style="list-style-type: none"> What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 Practice finger fluency: <ul style="list-style-type: none"> The claw grip The bridge hold Weighing Snipping Stirring Lesson 3 Design thinking <ul style="list-style-type: none"> Consider sources of food (plants / animals (reared / caught) / processed / grown) Make a mood board for Inspiration Decide on ingredients and techniques Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making a healthy vegetable stew. Lesson 5 <ul style="list-style-type: none"> Make a prototype Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify recipe explaining reasons Lesson 6 <ul style="list-style-type: none"> Make final product Give it to intended user Get feedback from the user | <ul style="list-style-type: none"> What features might it have? What materials and techniques might you use? Similarities and differences Lesson 2 Finger fluency: Back stitch for seams Running stitch to attach decoration Lesson 3 Design thinking <ul style="list-style-type: none"> Complete product outline Make a mood board for Inspiration Decide on materials Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making a pencil case Lesson 5 <ul style="list-style-type: none"> Make pattern pieces Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 6 <ul style="list-style-type: none"> Make modifications to their pencil cases | <ul style="list-style-type: none"> Who will use it? What features might it have? What materials and techniques might you use? Similarities and differences What makes them stable? Lesson 2 Finger fluency: Frame structures - How do we strengthen structures? <ul style="list-style-type: none"> Experiment with gluing joints together using straw (make tetrahedrons to create triangular pyramids. Thread straws together to make tetrahedrons Lesson 3 Design thinking <ul style="list-style-type: none"> Complete product outline Make a mood board for Inspiration Decide on materials Lesson 4 <ul style="list-style-type: none"> Create a design diagram showing the process of making a kite Lesson 5 <ul style="list-style-type: none"> Make a prototype Test the design Evaluate – <ul style="list-style-type: none"> What are the weaknesses? How can you improve it? Modify design explaining reasons Lesson 6 Modify kite, test the new design and evaluate. | | | | | | |
| | Assessment Questions | Basic | Advancing | Deep | Basic | Advancing | Deep | Basic | Advancing | Deep |
| Master practical skills | Food | <ul style="list-style-type: none"> Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients, methods, cooking times and temperatures. | | | | | | | | |
| | Materials | | | | <ul style="list-style-type: none"> Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). | | | <ul style="list-style-type: none"> Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). | | |



Design Technology



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|---------------------|--|---|---|---|
| | | Unit 1 | Unit 2 | Unit 3 |
| | Textiles | | <ul style="list-style-type: none"> • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). | |
| | Electricals and electronics | | | |
| | Computing | | | |
| | Construction | | <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). | <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). |
| | Mechanics | | | |
| | Design, make, evaluate and improve | <ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Ensure products have a high-quality finish, using art skills where appropriate. | <ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high-quality finish, using art skills where appropriate. | <ul style="list-style-type: none"> • Make products through stages of prototypes, making continual refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. |
| | Take inspiration from design throughout history | <ul style="list-style-type: none"> • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience. | <ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience. | <ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience. |