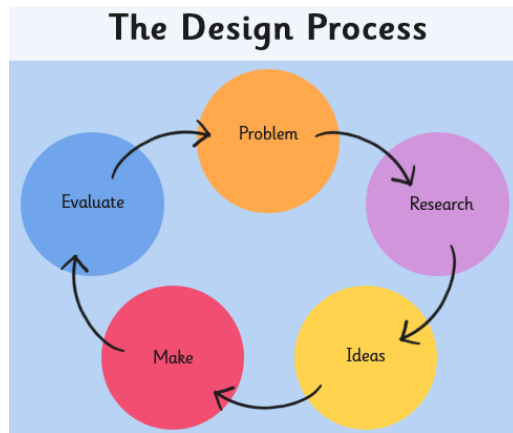


## Subject Overview - Short Term Planning

### Subject: Design and Technology



#### Useful websites used throughout this document -

<http://hillsgrove.net/design-tech/4581913852>

KS1 - <https://www.twinkl.co.uk/search>

KS2 - <https://www.twinkl.co.uk/search>

<https://www.planbee.com/design-technology/ks1-design-technology>

<https://www.planbee.com/design-technology/ks2-design-technology>

Colour coding below shows where prior learning has occurred and in which unit

Year Group	Autumn	Spring	Summer	Food Product
Y1	Solid Structure Begin to join structures	Mechanical Sliders and Levers	Textile animal face	Food (1 lesson each term) Cut food safely

			Glue to join & Begin to learn running stitch	
Y2	Mechanical Moving wheels  Wheels and Axels	Textile spoon doll  Running stitch	Solid Structure den  Begin to strengthen and join card	Food (1 lesson each term)  Cut food safely (Y1)  & Weigh ingredients
Y3	Nets packaging  Learn how to strengthen card & nets	Mechanical  Levers (Y1)  & Linkages	Electrical  Circuit with a bulb	Food (1 lesson each term)  Cut food safely (Y1) Weigh ingredients (Y2)  & Follow a plan/recipe
Y4	Textile  Running Stitch (Y2)  & Back Stitch	Food  Cut food safely (Y1) Weigh ingredients (Y2) Follow a plan/recipe (Y3)  & Be hygienic and safe Creative element	Electrical  Circuit with a bulb (Y3)  & Circuit with a buzzer or switch	
Y5	Food  Cut food safely (Y1) Weigh ingredients (Y2) Follow a plan/recipe (Y3) Be hygienic and safe Creative element (Y4)	Mechanical  Levers (Y1) Wheels and Axels (Y2) Linkages (Y3)  & Gears and Pulleys	Solid Structure  Begin to strengthen and join card (Y2) Learn how to strengthen card & nets (Y3)  & Strengthen joints	

	& Use ingredients from all food groups. Use seasonal food to plan a dish			
Y6	<b>Food</b>  Cut food safely (Y1) Weigh ingredients (Y2) Follow a plan/recipe (Y3) Be hygienic and safe Creative element (Y4) Use ingredients from all food groups (Y5)  & Use global ingredients to plan a dish within a given budget	<b>Electrical</b>  Circuit with a bulb (Y3) Circuit with a buzzer or switch (Y4)  & Circuit with a motor in a parallel circuit e.g. one switch to turn on the light, another switch to turn on the motor.	<b>Textile</b>  Running Stitch (Y2) Back Stitch (Y4)  & Decorative stitch e.g. cross stitch, plus attach a fastening element e.g. zip button, Velcro etc.	

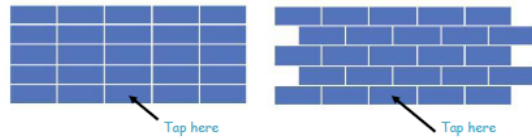
Year group	Autumn	Spring	Summer
Nursery	Me and My World	Rumble in the Jungle	Land Ahoy
	<b>Expressive Arts and Design</b> <ul style="list-style-type: none"> <li>• Make imaginative 'small worlds' with blocks and construction kits such as cities with multiple buildings</li> <li>• Explore a range of materials freely and use these to develop their ideas of what to make and how to use them</li> <li>• Develop their own ideas, choose materials to express their imagined design</li> <li>• Create closed shapes with continuous lines and begin to use these to represent objects</li> </ul> <b>Physical Development</b> <ul style="list-style-type: none"> <li>• Use large-muscle movements (waving flags, painting, making marks)</li> <li>• Choose the appropriate resources to carry out their plan</li> <li>• Use one-handed tools and equipment (e.g. making snips in paper with scissors)</li> </ul> <b>Understanding the World</b> <ul style="list-style-type: none"> <li>• Explore how things work</li> </ul>		

	<b>Personal, Social and Emotional Development</b> <ul style="list-style-type: none"> <li>Select and use activities and resources, with and without help to achieve a goal</li> </ul>		
	<b>Autumn</b> <ul style="list-style-type: none"> <li>Complete large scale paintings/drawings</li> <li>Use pencils to draw freely</li> <li>Paint on flat surface</li> <li>Paint on easel</li> <li>Explore and re-create art in the style of Jackson Pollock</li> </ul>	<b>Spring</b> <ul style="list-style-type: none"> <li>Explore colour mixing</li> <li>Use pencils to draw closed shapes (e.g. rectangle)</li> <li>Explore painting with a range of tools (e.g. cotton buds, vegetables, toothbrushes etc.)</li> <li>Explore and re-create art in the style of an artist</li> </ul>	<b>Summer</b> <ul style="list-style-type: none"> <li>Explore various painting techniques (e.g. bubble painting)</li> <li>Explore and re-create art in the style of an artist</li> </ul>
Reception	<b>Expressive Arts and Design</b> <ul style="list-style-type: none"> <li>Explore, use and develop a variety of artistic effects to express feelings and ideas</li> <li>Recap and build on previous learning, developing ideas</li> <li>Work collaboratively with others, sharing ideas, equipment and skills</li> </ul> <b>Physical Development</b> <ul style="list-style-type: none"> <li>Progress towards a more fluent style of moving, developing control</li> <li>Develop small motor skills to use a range of tools successfully, confidently and safely</li> <li>Use core muscle strength to achieve good posture when sitting on the floor or at a table</li> </ul> <u>ELG:</u> Physical Development: Fine motor skills Expressive Arts and Design: Creating with materials  <u>Use a range of small tools including scissors, paintbrushes and cutlery</u> <u>Safely use and explore a variety of materials, tools and techniques</u> <u>Experiment with colour, design, texture, form and function</u> <u>Share their creations, explaining the process that they have used</u> <u>Begin to understand design process (imagine what they want to draw beforehand, create and then tell an adult what they like/what they would change)</u>		
	<b>Autumn</b> <ul style="list-style-type: none"> <li>Mix primary colours to make secondary colours using poster paints</li> </ul>	<b>Spring</b> <ul style="list-style-type: none"> <li>Make 2D collages</li> <li>Make an L-brace join</li> <li>Use and mix watercolour paints</li> </ul>	<b>Summer</b> <ul style="list-style-type: none"> <li>Make a mono print</li> <li>Make a tab join</li> <li>Sew to join materials</li> </ul>

	<ul style="list-style-type: none"> <li>• Draw a person (head, body, arms, legs, facial features)</li> <li>• Make the flange join</li> <li>• Make the treasury tag join</li> <li>• Mould clay</li> <li>• Explore and re-create art in the style of Wassily Kandinsky</li> </ul>	<ul style="list-style-type: none"> <li>• Use different techniques to create 3D collages</li> <li>• Make a slot join</li> <li>• Explore and re-create art in the style of an artist</li> </ul>	<ul style="list-style-type: none"> <li>• Make different shades of the same colour</li> <li>• Make a split pin join</li> <li>• Explore and re-create art in the style of an artist</li> </ul>
Y1 Prior Learning	<ul style="list-style-type: none"> <li>• Experience of using construction kits to build walls, towers and frameworks e.g. Lego in play</li> <li>• Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</li> <li>• Experience of different methods of joining card and paper e.g. glue and sellotape</li> </ul>		
Y1 Key Skills this year	<p><b><u>A Street through Time</u></b>  <b><u>(Build a house from the Great Fire of London)</u></b>  <b><u>(Christmas cones)</u></b></p> <p>-Use their own ideas to design something &amp; describe how their own idea works          -Choose appropriate tools and resources          -Make their own model stronger</p> <p><b>Lesson 1) Ask: How do we design a strong structure?</b>          Explain that we are going to build a house or row of houses from the Great Fire of London. Show chn images of houses at that time. Do they look the same or different as houses now? (In history compare old and new houses)  <b>Why have structures changed over time? (Materials developed to be stronger)</b></p> <p><b>Lesson 2) Research materials and joining skills</b>          Use the "Freestanding structures" document <a href="http://hillsgrove.net/design-tech/4581913852">http://hillsgrove.net/design-tech/4581913852</a>          Page 2 - Allow chn to use wooden bricks to build a row of houses. Try the wooden blocks into two patterns (image below)</p>	<p><b><u>Alive and Kicking</u></b>  <b><u>Moving Healthy Poster</u></b>  <b><u>Sliders and Levers</u></b>  <b><u>(Fruit kebabs)</u></b></p> <p>-Use their own ideas to design something &amp; describe how their own idea works          -Design a product which moves</p> <p><b>Lesson 1 and 2) Ask: How do moving pictures work? And Research: levers and sliders</b>          Show chn images of what they are going to make e.g. moving pictures in picture books. Explain sliders, levers and pivots. Let chn have a practise of making a slider and lever.          Discuss making a moving, healthy poster encouraging people to exercise. What sport could be on the poster? What body part could be moving on the poster? E.g. whole person on a slider walking the dog, of arm moving swimming etc.</p> <p>-Explain to someone else how they want to make their product and make a simple plan before making</p> <p><b>Lesson 3) Planning</b></p>	<p><b><u>Carnival of the Animals</u></b>  <b><u>Textile - Fabric Animal Faces</u></b>  <a href="https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack">https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack</a></p> <p>-Use their own ideas to design something &amp; describe how their own idea works          -Choose appropriate tools and resources          -Make their own model stronger</p> <p><b>Lesson 1) Ask: What materials are most suitable to represent a specific face?</b>          Show chn images of what they are going to make. Animal faces onto fabric e.g. show chn a selection of different animals that they could make into faces e.g. tiger, lion, giraffe etc. Discuss possible materials and tools. What do you think you will use to make a "fabric" face? Have a selection of different fabrics available in the classroom. Share PPT lesson 1 from twinkl link  <a href="https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack">https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack</a>          Discuss, explain and use new vocab: woven, knitted, yarn, wool, cotton, thread, textile, material, cloth.          Play pass the fabric, discussing how it feels, what might this fabric be used for? E.g.</p>

#### Technical knowledge and understanding

Build walls with these different patterns. Tap away the centre brick in the bottom row of each wall in turn. What happens? Which wall is the strongest?



Discuss with the chn what happens to the wooden bricks if somebody taps out the block?

Then ask chn to build the rows of houses in the two same patterns but with cardboard boxes e.g. matchboxes or smaller box shapes and ask chn to sellotape the boxes together. Now push one of the boxes. Is the structure stronger or weaker now that we have used sellotape? Explain that sellotape is strengthening our structure.

Which pattern was the stronger pattern?

#### Lesson 3) Planning: Design house

Chn to draw a design for their house structure using the knowledge from this lesson e.g. what pattern will they place their boxes in? How will they join their boxes to strengthen them? Sellotape? Or are there other joining methods they could use? E.g. glue? Pritt stick? PVA glue? Paper mache? String?

Display the tools to the chn and ask them to label with a word bank which they will use? E.g. PVA glue? Pritt stick? Scissors? Paint brushes? Glue spreaders?

Re-cap what are we designing and then making? Show chn their designs from previous lesson. Talk to a partner - how are you going to make your house? Which pattern will use? Which was stronger? How

Ask chn to design how they want their moving healthy poster to look. Word bank to support their labels.

Re-cap what are we designing and then making? Show chn their designs from previous lesson. Talk to a partner - how are you going to make your poster move? Lever or slider? Which body part will be still on the picture and which body part will be moving?

Adults move around the room and listen to children's designs, offering support and suggestions where necessary. Ask some chn to feedback at end of lesson to whole class. Chn are improving their skills to start to formulate a step by step plan of how they will make their product.

-Use own ideas to make something

-Make product which moves

#### Lesson 4 and 5) Make the Moving Poster and Improve

Discuss safety of using scissors (images on twinkl PPT lesson 4)

<https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack>

Model the correct of use of tools e.g. blu-tac and split pin to encourage chn to work safely.

**Adults to encourage chn to think about improvements as they are making their moving poster**

-Describe how something works

-Explain what works well & not so well in the model that they have made

rubbery materials would be better for waterproof.

What tools will they use?

What could we use to strengthen the fabric and for decoration? E.g. we might glue pieces of fabric together, or glue buttons for eyes on. However, sewing them on will be stronger.

#### Lesson 2) Research range of faces

Chn to use iPads or images selected by the teacher to look at a range of different animal faces, considering their features. Link back to materials from previous lesson and discuss which materials could be used for which part of the face and why it is the most appropriate.

Share lesson 4 PPT from twinkl link.

Discuss animal face shapes. Chn to look closely at the shape of their animal head e.g. oval, round.

Chn to practise drawing their shape head.

(Teacher could have template of shapes ready for less able chn).

#### Lesson 3) Planning

Allow chn to choose their own materials and tools. Chn to draw their animal design and label the materials and tools they will use. Word bank to support their labels e.g. felt head, silk ears, button eyes, cotton nose, glue for eyes, thread and sewing for ears.

Discuss the success criteria, what should a good animal face have on it?

Eyes, ears, nose, fur, mouth

-Explain to someone else how they want to make their product and make a simple plan before making

	<p>will you join your cardboard boxes together? Adults move around the room and listen to children's designs, offering support and suggestions where necessary e.g. will PVA glue stick the boxes together? You might need paper mache to strengthen your boxes with PVA glue. Ask some chn to feedback at end of lesson to whole class and verbally explain their method, first, then, next etc. <u>-Explain to someone else how they want to make their product and make a simple plan before making</u></p> <p><b>Lesson 4 and 5) Make and Improve</b> Make the houses by stacking boxes in their chosen pattern. Join the boxes together with their chosen materials. <b>Adults to encourage chn to consider how to improve their houses.</b> Discuss safety of using scissors (images on twinkl PPT lesson 4) <a href="https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack">https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack</a> <u>-Use own ideas to make something</u> <u>-Make their own model stronger</u> <u>-Choose appropriate tools and resources</u></p> <p><b>Lesson 6) Evaluate</b> Talk to the chn about what they like about their houses (what went well). Ask the chn what they would change? (What went not so well?) Verbally discuss chn's ideas first. In a smiley face/sad face table, chn draw and label (wordbank) which parts/features for their house went well and not so well.</p>	<p><b>Lesson 6) Evaluate</b> Talk to the chn about what they like about their moving poster (what went well). Ask the chn what they would change? (What went not so well?) Verbally discuss chn's ideas first. In a smiley face/sad face table, chn draw and label (word bank) which parts/features for their moving poster went well and not so well. Teacher to model answers to the chn e.g. My poster has a moving part and encourages people to exercise more. That worked well. However, the arm that was moving while swimming was too thin. It was difficult to cut out and too bendy when I put the split pin in. Teacher could scribe chn's answers or record in a smiley/sad face table.</p> <p><b>Lesson 7) Food Technology - Fruit kebabs</b> Draw a simple image of what they would like their food item to look like, make the food and discuss what went well/not so well. <i>(The main focus of the food lesson, should be the making. Design and evaluation is already covered this term).</i></p>	<p>Re-cap what are we designing and then making? Share lesson 5 PPT from twinkl link Check your design, does it include all of these things? If not, chn to amend their design. If yes then chn talk to a partner - how are you going to make it? What features will it have on it? What will you make it out of? Can you remember any of the new words from last lesson E.g. cotton, silk, felt, woven, wool, thread?</p> <p>Adults move around the room and listen to children's designs, offering support and suggestions where necessary. Ask some chn to feedback at end of lesson to whole class and describe to others how they will make their animal face. Chn are continuing to build their skills to start to formulate a step by step plan of how they will make their product.</p> <p><u>-Use own ideas to make something</u> <u>-Make their own model stronger</u> <u>-Choose appropriate tools and resources</u></p> <p><b>Lesson 4) Make</b> Discuss safety of using scissors (images on twinkl PPT lesson 4) Chn should have support safety pinning their shape template to their chosen material. Chn should then cut out their animal head shape. Chn could repeat this with pre-made template for eyes, ears, nose etc. More able chn could cut their shapes more independently. By the end of the lesson chn should have all of the</p>
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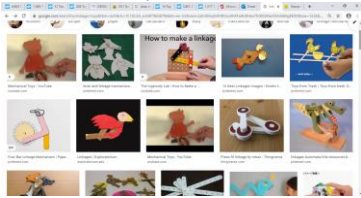
	<p>Teacher to verbally model answers e.g. I stacked the boxes into the strongest pattern. This made my house the strongest and worked well. However, I joined my boxes together with PVA glue which did not join them as securely as sellotape. Next time I will use paper mache with PVA glue to strengthen the house.</p> <p><u>-Describe how something works</u>  <u>-Explain what works well &amp; not so well in the model that they have made</u></p> <p><b>Lesson 7) Food Technology - Christmas Tree Cones</b></p> <p>Draw a simple image of what they would like their food item to look like, make the food and discuss what went well/not so well. <i>(The main focus of the food lesson, should be the making. Design and evaluation is already covered this term).</i></p> <p><u>-Cut food safely</u></p>		<p>pieces they need to create their animal, ready to assemble next lesson.</p> <p><b>Lesson 5) Improve</b></p> <p>Share lesson 3 PPT from twinkl. Re-cap methods of joining materials discussed in the first lesson, e.g. we could glue pieces together, but sewing would be stronger.</p> <p>Teach chn running stitch on spare fabric. Chn to practise this new skill.</p> <p>When secure chn can begin to use running stitch to join and assemble the ears, nose etc to their face template. Less able chn at stitching could use other methods of joining and assembling their faces e.g. glue, stapling, sticky tape.</p> <p><u>-Describe how something works</u>  <u>-Explain what works well &amp; not so well in the model that they have made</u></p> <p><b>Lesson 6) Evaluate</b></p> <p>Talk to the chn about what they like about their face (what went well). Ask the chn what they would change? (What went not so well?)</p> <p>Verbally discuss chn's ideas first. In a smiley face/sad face table, chn draw and label (word bank) which parts/features for their animal face went well and not so well. Teacher to model verbal answers e.g. I cut the shape of the face well, but the stitching was difficult so I glued the eyes on instead.</p> <p>Next time I will practise stitching and sew the eyes on to make it stronger.</p> <p>Teachers could scribe answers for chn.</p> <p><u>-Cut food safely</u></p>
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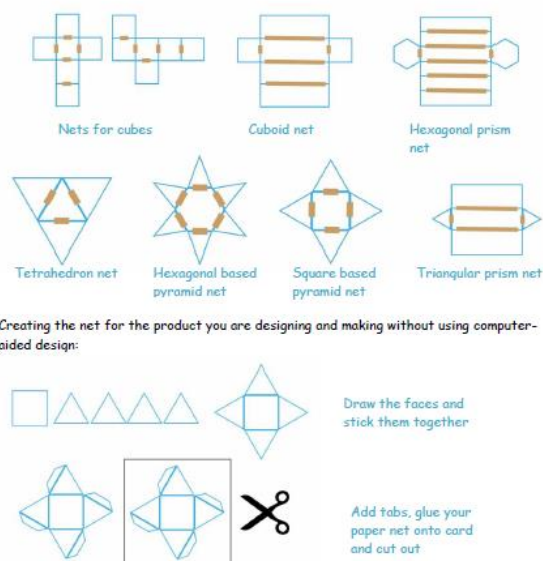
			<b>Lesson 7) Food Technology -</b> Draw a simple image of what they would like their food item to look like, make the food and discuss what went well/not so well. <i>(The main focus of the food lesson, should be the making. Design and evaluation is already covered this term).</i>
Y2 Learning gained in previous year	<ul style="list-style-type: none"> <li>• Explore moving vehicles through play.</li> <li>• Gained some experience of designing, making and evaluating products for a specified user and purpose.</li> <li>• Developed some cutting, joining and finishing skills with card.</li> <li>• Began to learn running stitch and developed some cutting, joining and finishing skills with textiles.</li> </ul>		
Y2	<p><u>Journeys</u> <u>(Vehicle with moving wheels</u> <u>-Food from a journey)</u></p> <p><u>-Think of an idea and plan what to do next</u> <u>- Choose tools and materials and explain why they have chosen them</u></p> <p><b>Lesson 1) Ask: How do moving vehicles work?</b></p> <p>Show chn images of what they are going to make e.g. a vehicle that goes on journeys - aeroplane, truck, car, van, train. Identify features of a moving vehicle e.g. body of vehicle, windows, wheels and axels. Chn to understand how these components work at a basic level</p> <p><a href="https://www.twinkl.co.uk/resource/ks1-wheels-and-axles-powerpoint-t-d-68">https://www.twinkl.co.uk/resource/ks1-wheels-and-axles-powerpoint-t-d-68</a></p> <p><b>Lesson 2) Research: How to strengthen materials and how to join components together</b></p> <p>Discuss what chn can make their vehicle out of -cardboard box</p> <p>Re-cap Year 1 - Discuss possible materials and tools. Display the tools to the chn and ask them which they will use? How will they</p>	<p><u>Toy Story</u> <u>Textile Product</u> <u>(Wooden Spoon Doll</u> <u>-Pancakes/Easter Nests)</u></p> <p><u>-Think of an idea and plan what to do next</u> <u>- Choose tools and materials and explain why they have chosen them</u> <u>-Explain why they have chosen specific textiles</u></p> <p><b>Lesson 1) Ask: What materials are needed to create a wooden spoon doll?</b></p> <p>Share with chn different images of dolls, then wooden spoon dolls. Discuss what materials are used as well as colour and design and how this impacts the appeal of the doll</p> <p>Re-cap which tools and materials they might need for this job. Then model new learning to the chn responses of why they should chose certain materials for certain jobs.</p> <p><a href="https://www.twinkl.co.uk/resource/t4-dt-37-manufacturing-processes-joining-and-forming-fibres-and-fabrics-l1-properties-and-characteristics-lesson-pack">https://www.twinkl.co.uk/resource/t4-dt-37-manufacturing-processes-joining-and-forming-fibres-and-fabrics-l1-properties-and-characteristics-lesson-pack</a></p>	<p><u>Third Rock from the Sun</u> <u>(Animal shelter/den</u> <u>-Healthy food - fruit smoothie)</u></p> <p><u>-Think of an idea and plan what to do next</u> <u>- Choose tools and materials and explain why they have chosen them</u></p> <p><b>Lesson 1) Ask: What materials are the strongest and most effective for an animal den?</b></p> <p>Share with chn images of real life animal shelters and dens. Discuss natural materials that animals choose and the potential reasons for this. Can chn think of any similar materials that we have available if we were to re-create these dens? Which would be the strongest/most effective? Why?</p> <p>Chn to make a shortlist of materials E.g. lollipop sticks because they are strong, pipe cleaners because they bendy, string to tie the lollipop sticks together, waxy leaves because they are waterproof.</p> <p><b>Lesson 2) Research: The most effective ways and components to strengthen materials</b></p> <p>Build on learning from year 1 freestanding boxes when they built the houses from Great Fire of London. Chn practise making a free</p>

	<p>join the materials together? E.g. PVA glue? Pritt stick? Tools - Scissors? Paint brushes? Glue spreaders?</p> <p>What could chn use to strengthen their model? Card? Straws (plastic or paper)? Pipe cleaners?</p> <p>Recap Y1 safe cutting:  <a href="https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack">https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack</a></p> <p>Display several methods of how to join their components together e.g. PVA glue, double sided tape, or paper mache with tissue paper/newspaper to strengthen their model, string to tie components together. Use PPT with ways to join paper together.  <a href="https://www.twinkl.co.uk/resource/t4-dt-16-manufacturing-processes-joining-and-forming-paper-and-boards-l3-addition">https://www.twinkl.co.uk/resource/t4-dt-16-manufacturing-processes-joining-and-forming-paper-and-boards-l3-addition</a></p> <p>Chn to experiment joining materials in different ways, focusing on the strongest joins and connections</p> <p><u>- Join materials and components in different ways</u></p> <p><b>Lesson 3) Planning - Design moving vehicle</b>  Allow chn to choose their own materials and tools. Encourage chn to draw their design and label what materials they will use. Word bank to support their labels.</p> <p><b>New learning this year</b> - encourage chn to explain <i>why</i> they have chosen the materials and tools e.g. shoe box to make a strong body of the vehicle, PVA glue because it is strong, paper straws to strengthen the model.</p>	<p>Give the chn a selection of materials, let them feel. Can chn remember new vocab from Y1 textiles? Re-cap PPT lesson 1 from twinkl link  <a href="https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack">https://www.twinkl.co.uk/resource/tp-d-033-planit-dt-ks1-our-fabric-faces-unit-pack</a> (Y1)</p> <p>Re-cap Y1 vocab: woven, knitted, yarn, wool, cotton, thread, textile, material, cloth.</p> <p>Discuss with chn about the jobs that certain fabrics would do? E.g. thick and warm/waterproof/stretchy to let us move.</p> <p><b>Lesson 2) Research: The most effective ways to join materials</b>  Re-cap safety whilst cutting, then chn to practise</p> <p>Remind chn of previous learning (EYFS, Y1) and different ways to join materials</p> <p>Chn to experiment on scrap fabric how to complete these joins</p> <p>Discuss with chn what they think are the most effective ways to join different materials</p> <p>Consider wooden spoon doll- do their answers remain the same or would other joins suit this product better?</p> <p>Chn practise stapling, gluing, taping, safety pinning and finally stitching a selection of fabrics. At the end of the lesson chn write a sentence explaining which way they will join their wooden spoon doll fabric and why e.g. stitching</p>	<p>standing structure (e.g. no joining) e.g. blocks stacked up, or sticks leaning towards each other. Ask chn how can we make the structure stronger? E.g. glue, tape. Can chn recall the ways to join learned previously this year? PVA glue, double sided tape, string, stitching, safety pinning, etc. Ask chn to choose which ways would best make their structure stronger and explain their chosen method.</p> <p>Should we strengthen our model with anything? Experiment with an "arm joint" with split pin (re-capping year 1 levers) Which materials makes this arm stronger? E.g. paper straw, plastic straws, pipe cleaners, rolled foil, rolled card.</p> <p>Can chn do this more independently now that we are in the summer term? At the end of the lesson, chn write a sentence of how they will make their structure stronger, which method of joining will they choose and why? (Chn are beginning to independently put the joining learned into practise now)</p> <p><u>- Join materials and components in different ways</u></p> <p><u>- Make a model stronger and more stable</u></p> <p><b>Lesson 3) Planning: Design animal shelter</b>  Chn draw their design, word bank for labels for their chosen materials, tools, textiles.</p> <p>Sentence to explain their choice. Chn write a sentence explaining what they will do next.</p> <p>Begin to think about how break making it down into steps.</p> <p><u>- Measure materials to use in a model or structure (shelter)</u></p> <p><u>- Make a model stronger and more stable</u></p>
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	<p>Encourage chn to describe what they will do next, explaining their method of <b>how</b> they will make their vehicle e.g. first...then...next.</p> <p><b>Lesson 4 and 5) Make and Improve: Create moving vehicle and enhance strength and movement of wheels</b></p> <p>Chn to make their designs. Chn should follow their own planning and ideas with some support from adults as necessary. Chn should focus in the lesson to improve as they build</p> <ul style="list-style-type: none"> <li>- <u>Make a model stronger and more stable</u></li> <li>- <u>Use wheels and axles when appropriate to do so</u></li> </ul> <p><b>Lesson 6) Evaluate</b></p> <p>Talk to the chn about what they like about their moving vehicle (what went well). Did the vehicle move? Was it strong? Ask the chn what they would change? (What went not so well?) Could they have made the wheels turn more easily? How? How could they have made their vehicle stronger? Building on year 1 evaluations, year 2 now explain in writing why it was good and how they could make it better.</p> <ul style="list-style-type: none"> <li>- <u>Think of an idea and plan what to do next</u></li> <li>- <u>Weigh ingredients to use in a recipe</u></li> <li>- <u>Describe the ingredients used when making a dish or a cake</u></li> <li>- <u>Explain what went well with their work</u></li> </ul> <p><b>Lesson 7) Food Technology -Pizza</b></p>	<p>because it is stronger. Gluing because it is neater etc.</p> <p><a href="https://www.twinkl.co.uk/resource/tp-d-036-planit-dt-ks1-our-fabric-faces-lesson-3-joining-fabrics-lesson-pack">https://www.twinkl.co.uk/resource/tp-d-036-planit-dt-ks1-our-fabric-faces-lesson-3-joining-fabrics-lesson-pack</a></p> <p>- <u>Join materials and components in different ways</u></p> <p><b>Lesson 3) Planning: Design wooden spoon doll</b></p> <p>Chn to design their own wooden spoon doll, giving a reason for their chosen material e.g. easy to cut, stretchy for my ballerina wooden spoon doll, or waterproof for my doll to go outside etc. Chn draw their design for their doll, word bank to label the tools and materials the chn will use. Chn write a sentence explaining why they chose their material. Chn use reasons as practised orally at the beginning of the lesson.</p> <p><b>Lesson 4 and 5) Make and Improve: Create wooden spoon doll and develop wooden spoon doll focusing on finer details, joins and adjusting materials to best fit</b></p> <p>Chn to make their wooden spoon doll</p> <p>Chn to cut, adjust and attach fabrics.</p> <p>Chn can use templates of dresses/trousers to mark out onto the chosen fabric before cutting.</p> <p>Chn to follow their design idea to create doll</p> <p>As lesson progresses, chn to identify what is not working well and amend</p>	<p><b>Lesson 4 and 5) Make and Improve: Create animal shelter and develop by adjusting joins, materials and reinforcements</b></p> <p>Chn to create their designs and adjust as they go, considering strength and usability. Chn to be encouraged to reinforce materials throughout</p> <p><b>Lesson 6) Evaluate</b></p> <p>Talk to the chn about what they like about their structure (what went well). Focus on what they were aiming to make e.g. a strong structure for an animal e.g. a den. Is the den standing? Were the ways we joined effective? Is the structure strong?</p> <p>Ask the chn what they would change? (What went not so well?) Could we have joined the materials in a different way to make the structure stronger? Should we have strengthened anything?</p> <p>Building on year 1 evaluations, year 2 now explain why it was good and how they could make it better.</p> <p><u>Explain what went well with their work</u></p> <p><b>Lesson 7) Food Technology -Healthy Sandwich</b></p> <p>Remind chn of balanced diet and food groups. What are 'healthy' foods? Chn to make their dish following the recipe with teachers support</p> <p>At the end of the lesson ask chn to explain what went well. Begin to get ready for Year 3 and ask chn did they meet the brief? Did they make a healthy sandwich? How could they have made it healthier? E.g. wrap instead of bread?</p>
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	<p>Consider food from around the world. Display the recipe and images of what we will be making (Pizza- Italy) Have ingredients for chn to choose which would suit their dish better.</p> <p>Chn to draw a simple image of what they would like their dish to look like. Label ingredients and materials (e.g. pots, pans, spatulas etc) they will need to create this dish.</p> <p>Encourage chn to think about what they will do next e.g. First, then, next...</p> <p>Chn make their dish following the recipe with support. Chn should be taught to weigh accurately using scales.</p> <p>At the end of the lesson ask chn to explain what went well. Did they meet the brief? Did they make a pizza similar to those from Italy? What should a good pizza be like? Ask chn what they could do better next time?</p> <p><u>- Weigh ingredients to use in a recipe</u></p> <p><u>-Describe the ingredients used when making a dish or a cake</u></p> <p><u>-Explain what went well with their work</u></p>	<p>accordingly, focusing on joins as well as amount of fabric for different parts</p> <p><b>Lesson 6) Evaluate</b></p> <p>Talk to the chn about what they like about their wooden spoon doll (what went well). Begin to focus on what they were aiming to make e.g. a wooden spoon doll with fabric clothes joined together in different ways. Has their doll got fabric clothes? Does the fabric do the job? E.g. waterproof, or stretchy? Have the chn joined the fabric together in the the ways practised in lesson 2?</p> <p>Ask the chn what they would change? (What went not so well?) Could they have chosen a different fabric? Could they have joined the fabric in a different way? E.g. has the glue stuck the fabric together, or come off?</p> <p>Building on year 1 evaluations, year 2 now explain why it was good and how they could make it better.</p> <p><u>-Explain what went well with their work</u></p> <p><b>Lesson 7) Food Technology - Pancakes/Easter nest</b> Show the chn pics of ways they can use fruit to design their pancake e.g. will they make a face? An animal? A pattern?</p> <p>Remind chn of how to cut safely from Year 1. Chn cut their fruit for their design. In small groups chn practise using scales to weigh ingredients and make the pancakes. Class work on independent activities and then assembly their cut</p>	<p>Light mayo instead of butter? Have they included all of the food groups? Should we have put fruit and veg in the sandwich?</p>
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		<p>fruit into their chosen design. Can the chn follow their design?</p> <p>At the end of the lesson - evaluate what went well? What would they do better next time?</p> <ul style="list-style-type: none"> <li>- <u>Weigh ingredients to use in a recipe</u></li> <li>- <u>Describe the ingredients used when making a dish or a cake</u></li> <li>- <u>Explain what went well with their work</u></li> </ul>	
Y3 Learning gained in previous year	<ul style="list-style-type: none"> <li>• Have used simple patterns and templates for marking out.</li> <li>• Have strengthened and reinforced a freestanding structure</li> <li>• Have created a mechanical moving picture using sliders and levers (Y1)</li> </ul>		
Y3	<p><b>Shell structures (e.g. nets for boxes - chn create packaging)</b></p> <p><a href="http://hillsgrrove.net/design-tech/4581913852">http://hillsgrrove.net/design-tech/4581913852</a></p> <ul style="list-style-type: none"> <li>- <u>Design a product and make sure that it looks attractive.</u></li> <li>- <u>Choose a material for both its suitability and its appearance</u></li> <li>- <u>Select the most appropriate tools &amp; techniques for a given task</u></li> </ul> <p><b>Lesson 1) Ask: What materials are the most suitable for box packaging?</b></p> <p>Chn to research product e.g. boxes for packaging, to try and reduce the amount of plastic needed in packaging goods. Discuss environmental issues including the importance of wastage of materials when packaging items including the three R's - reducing, recycling and reusing.</p> <p>Have available a collection of packaging for chn to investigate. What materials is the packaging made from? Have a collection of boxes of various shapes and flatten them for storage so that chn can investigate the nets of shapes.</p>	<p><b>Mechanical Components</b></p> <ul style="list-style-type: none"> <li>- <u>Design a product and make sure that it looks attractive.</u></li> <li>- <u>Choose a material for both its suitability and its appearance</u></li> <li>- <u>Select the most appropriate tools &amp; techniques for a given task</u></li> </ul> <p><b>Lesson 1) Ask: How are levers used in children's toys?</b></p> <p>Share with chn a range of images/real life toys or books that include levers</p> <p>Create success criteria together. What should a good mechanical product look like? E.g. use children's picture books to demonstrate levers. Children's toys to demonstrate linkages (or make one beforehand)</p> 	<p><b>Electrical Components</b></p> <p>Torch or light up sign with lettering</p> <p><a href="https://www.planbee.com/design-technology/ks2-design-technology/year-3-design-technology">https://www.planbee.com/design-technology/ks2-design-technology/year-3-design-technology</a></p> <ul style="list-style-type: none"> <li>- <u>Design a product and make sure that it looks attractive.</u></li> <li>- <u>Use a simple IT program within the design (link with graph recording)</u></li> <li>- <u>Choose a material for both its suitability and its appearance</u></li> <li>- <u>Select the most appropriate tools &amp; techniques for a given task</u></li> </ul> <p><b>Lesson 1) Ask: How do battery operated light-up signs work?</b></p> <p>Research product e.g. a battery operated light that needs to be used in the garden (where there is no electricity), or by a child (where it would be dangerous for a child to have mains operated light).</p> <p>Create success criteria together. What should a good electrical product look like?</p> <p><b>Lesson 2) Research: Electrical circuits</b></p>



Create success criteria together. What should a good packaging product look like? What product will you package? What shape will it be? What material will it be made from? Chn draw design shape, remembering to include tabs on the net. Chn label materials they have chosen and explain why (re-capping on Y2 learning) thinking about why their material would be best for this packaging?

-Know how to strengthen a product by stiffening a given part or reinforce a part of the structure

**Lesson 2) Research: Skills needed to score paper and practising different strengthening techniques**

Teach specific skills needed help with this packaging product.

**Lesson 2) Research: Skills needed to create levers and linkages, identify most appropriate materials**

Teach and practise skills that the chn may need in the making of their product. e.g. lever and linkages - practise making a snapping crocodile for example so that the chn can then apply this to their product.

<https://www.twinkl.co.uk/resource/tp2-d-100-planit-dt-lks2-mechanical-posters-unit-pack>

Levers and linkages re-caps year 1 learning of levers and sliders in their healthy moving poster.

After practising making a lever and linkage, chn think about how they can apply this to their design. Will it be a hippo snapping? Egg breaking? Bird flying?



What materials will be stronger? How can they strengthen their product and reinforce the joining techniques? E.g. double sided tape first, then fold and glue the edges?

Re-cap year 2 and Y3 Autumn learning of explaining their chosen materials and joining techniques. Can chn recall how to join materials? PVA glue, double sided tape, string, paper mache, stitching, safety pinning etc.

Chn to familiarise themselves with electrical circuits and have a practical session exploring how these work

**Lesson 3) Planning: Design sign with bulb circuits**

Chn design what they want their light to look like e.g. for a child it should be bright and colourful, perhaps in the shape of an animal, or children's TV character. Chn to think about the end user, how old will they be, what are their interests?

Chn could use an IT program to create and print an animal or TV character to include on their design e.g. could they print a reindeer and the light bulb goes into the nose like Rudolph? Chn to remember to keep the design attractive. Chn experiment on the computer with a choice of templates and colours until they find the design they would like to create.

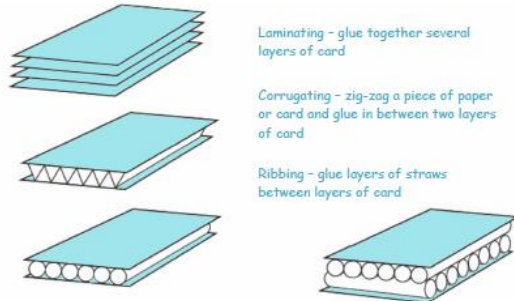
(Chn should control a light switch. Aiming for in year 4 to control the buzzer with a switch)  
<https://www.twinkl.co.uk/resource/tp2-d-128-planit-dt-lks2-battery-operated-lights-unit-pack>

E.g. what material should the light be fixed in? Strong card? Will a piece of fabric hold the light bulb up? Chn choose and label their designs from lesson 1 labelling the materials, tools and joining methods they will use and explain their reasons why. E.g. will we use stitching to join card together? Re-cap joining methods from year 2 e.g. PVA glue, double sided tape, paper mache, string.

-Make a product which uses electrical components

Teach safe use of the use of an empty ball point pen together with a safety rule is ideal for scoring.  
Build on Y2 learning to try and reinforce and strengthen card/paper. Let chn practise these methods of strengthening below and decide for themselves which method will best work with their design.

Stiffening and strengthening sheet materials:-



-Work accurately to measure, make cuts & make holes

### Lesson 3) Planning: Design basic net shape using IT

[https://static.purplemash.com/mashcontent/applications/lessonplans/info/2dam\\_guide/2Design%20and%20Make.pdf](https://static.purplemash.com/mashcontent/applications/lessonplans/info/2dam_guide/2Design%20and%20Make.pdf)

Chn use CAD (Computer Aided Design): Purple Mash to create their basic net shape, remembering to include tabs on the edges. Chn then experiment with designs and colours until they find the attractive design they wish to use that is suitable for their product. Chn can use this net to help them accurately measure and use this template to begin to make the outline of their packaging.  
- Use a simple IT program within the design

### Lesson 3) Planning: Design toy with lever

Chn to plan their toy that includes a lever mechanism

Ensure chn are explaining their chosen materials, tools and techniques for joining with a reason. Is it more suitable to the task? How? Or will it look more attractive?

Chn draw, label and explain their design keeping in mind the success criteria.

### Lesson 4 and 5) Make and Improve: Create toy with lever mechanism and develop toy by changing or strengthening materials, reinforcing joins

Chn to create their designs

Re-cap Autumn term learning - chn may need templates to mark and measure out the outline of their product. Chn apply the skills learned in lesson 1 to make the linkages.

Chn keep in mind their success criteria. Is it attractive? Is it bright etc...? Does it move?

-Follow a step-by-step plan, choosing the right equipment & materials

- Make a product which uses mechanical components

-Know how to strengthen a product by stiffening a given part or reinforce a part of the structure

### Lesson 6) Evaluate

-Follow a step-by-step plan, choosing the right equipment & materials

### Lesson 4 and 5) Make and Improve: Create light-up sign and develop by adjusting circuit

Chn to follow their designs to create a light up sign. Chn to improve as necessary, reinforcing it with 2 methods e.g. double sided tape and then paper mache to reinforce the edges.

Add in their finished electrical circuit to their design after it is finished.

Chn keep in mind their success criteria. Is it attractive? Is it bright etc...?

### Lesson 6) Evaluate

Remind chn of the success criteria created together at the beginning of the design.

Allow chn time to "test" their product. Move it about, does it fall apart? Does it light up? Are their joining techniques strong at holding the product together?

Perhaps swap products with a partner and allow feedback against the success criteria.

I think your product meets the success criteria because it....

I think your product could better meet the success criteria if next time you....

Chn use their partners critique to help them record their own evaluation.

Ensure chn state how to improve their design. Next time to meet the success criteria I will...

Evaluate the finished product

-Prove that a design meets a set criteria

-Explain how to improve a finished model

-Know why a model has or has not been successful

**Lesson 4 and 5) Make and Improve:  
Create box packaging using net and  
develop box by adjusting joins, materials  
and reinforcements**

Chn use templates to create their packaging products. Chn to improve and adjust as they create by reinforcing joins. Decorating the packaging to ensure it is attractive and therefore fit for purpose before assembly the packaging into shape.

**Lesson 6) Evaluate**

Remind chn of the success criteria created together at the beginning of the design. Allow chn time to "test" their product. Move it about, does it fall apart? Are their joining techniques strong at holding the product together?

Perhaps swap products with a partner and allow feedback against the success criteria. I think your product meets the success criteria because it....

I think your product could better meet the success criteria if next time you....

Chn use their partners critique to help them record their own evaluation.

Evaluate the finished product against the design criteria

-Prove that a design meets a set criteria

**Lesson 7 - Food Technology - Simple Recipe**

Re-cap food technology skills learned in Y1 and Y2. Remind chn of cutting safely and weighing ingredients. Talk through a recipe with the class. Describing how to follow the step by step plan. Discuss vocab used e.g. fold, beat what do these mean? Can chn

Remind chn of the success criteria created together at the beginning of the design.

Allow chn time to "test" their product.

Move it about, does it fall apart? Or are their joining techniques strong at holding the product together?

Perhaps swap products with a partner and allow feedback against the success criteria.

I think your product meets the success criteria because it....

I think your product could better meet the success criteria if next time you....

Chn use their partners critique to help them record their own evaluation.

New learning - ensure chn state how to improve their design. Next time to meet the success criteria I will...

Evaluate the finished product

-Prove that a design meets a set criteria

-Explain how to improve a finished model

**Lesson 7 - Food Technology- Simple Recipe**

Re-cap food technology skills learned in Y1 and Y2. Remind chn of cutting safely and weighing ingredients. Talk through a recipe with the class. Describing how to follow the step by step plan. Discuss vocab used e.g. fold, beat what do these mean? Can chn choose the correct equipment to match the recipe e.g. a whisk to beat, a wooden spoon to fold. Chn safely cut fruit to decorate their dish.

**Lesson 7 - Food Technology- Simple recipe**

Re-cap food technology skills learned in Y1 and Y2. Remind chn of cutting safely and weighing ingredients. Talk through a recipe with the class. Describing how to follow the step by step plan. Discuss vocab used e.g. fold, beat what do these mean? Can chn choose the correct equipment to match the recipe e.g. a whisk to beat, a wooden spoon to fold.

Chn safely cut fruit to decorate their dish. Verbally evaluate dish - is the dish attractive? Does it taste good? Did we follow correctly? E.g. is the dish flat, did we fold too much and knock the air bubbles out?

	<p>choose the correct equipment to match the recipe e.g. a whisk to beat, a wooden spoon to fold.</p> <p>Chn safely cut fruit to decorate their dish.</p> <p>Verbally evaluate dish - is the dish attractive? Does it taste good? Did we follow correctly? E.g. is the dish flat, did we fold too much and knock the air bubbles out?</p> <p><u>-Follow a step-by-step plan, choosing the right equipment &amp; materials</u></p>	<p>Verbally evaluate dish - is the dish attractive? Does it taste good? Did we follow correctly? E.g. is the dish flat, did we fold too much and knock the air bubbles out?</p> <p><u>Follow a step-by-step plan, choosing the right equipment &amp; materials</u></p>	
Y4 Learning gained in previous year	<ul style="list-style-type: none"> <li>• Experience of using different joining, cutting and finishing techniques with materials such as wood, card, plastic, reclaimed materials and glue paper and card.</li> <li>• A basic understanding of turning 2-D nets and design shapes into a finished 3-D product.</li> <li>• Constructed a simple series electrical circuit using bulbs.</li> <li>• Think about the user and success criteria for the product</li> <li>• Have joined fabric in simple ways by gluing and stitching (running stitch)</li> <li>• Knowledge of cutting food safely, weighing ingredients accurately and following a step-by-step plan/recipe.</li> </ul>		
Y4	<p><b>Textile product with stitching</b> <b>Money wallet</b></p> <p><u>-Produce a plan and explain it</u> <u>-Know which tools are used for a specific task and show knowledge of handling the tool</u></p> <p><b>Lesson 1) Ask: What are the features of a money wallet that is fit for purpose?</b></p> <p>Explain task/product the chn need to design. Allow chn to research other products like this.</p> <p>Together as a class create a success criteria. What should a good money wallet look like?</p> <p>e.g. it should look attractive, be bright colours etc.</p> <p>Have some examples of the product e.g. money wallets available for chn to see a</p>	<p><b>Food Product</b> <b>Bread?</b> <b>Adapt and have a cake bake off?</b></p> <p><a href="https://www.twinkl.co.uk/resource/tp2-d-027-planit-dt-ks2-the-great-bread-bake-off-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-027-planit-dt-ks2-the-great-bread-bake-off-unit-pack</a></p> <p><a href="https://www.twinkl.co.uk/resource/tp2-d-026-planit-dt-lks2-edible-garden-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-026-planit-dt-lks2-edible-garden-unit-pack</a> - cooking with tomatoes</p> <p><u>-Use ideas from other people when designing</u> <u>-Bring a creative element to the food product being designed</u></p> <p><b>Lesson 1) Ask: What flavours are used in bread making?</b></p>	<p><b>Electrical Product with switches/buzzers</b></p> <p>Build on prior learning and include lights. Alarm</p> <p>Y3 produce a light, Y4 should include buzzers/switches, they can also include a light as well as a buzzer.</p> <p><a href="https://www.planbee.com/design-technology/ks2-design-technology/year-4-design-technology">https://www.planbee.com/design-technology/ks2-design-technology/year-4-design-technology</a></p> <p><a href="https://www.twinkl.co.uk/resource/tp2-d-128-planit-dt-lks2-battery-operated-lights-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-128-planit-dt-lks2-battery-operated-lights-unit-pack</a></p> <p><u>-Communicate ideas in a range of ways, including sketches and drawings which are annotated</u> <u>-Know which material is likely to give the best outcome</u></p>

finished product. Perhaps have one that can be pulled apart so that the chn can explore how it is made e.g. doubling of fabric at the seams to reinforce it. Allow extra material around the edges of the seams.  
Research on iPads to give chn ideas for their wallet. What would they like their wallet to look like?

### **Lesson 2) Research: Explore materials, practise skill of stitching**

Have a range of materials ready for chn to explore strength, texture. Re-cap year 2 learning - why have chn chosen the materials? E.g. wood because it is strong, waxy textiles because it will be waterproof. Teach and Practise skills that the chn may need in the making of their product e.g. re-cap running stitch (Y2) and teach back stitch.

Teach chn how to strengthen their product by folding material, doubling it over.  
Or strengthening the product by stitching twice to ensure it is securely joined together (reinforcing the stitching)

-Measure accurately

### **Lesson 3) Planning: Design money wallet**

Chn to design what they want their product to look like. Draw and label materials. Chn explain the reasons for choosing their materials, this could be because the material is good for the job, or because it will make the product attractive.

Re-cap year 2 learning of which tools and techniques to choose e.g. can chn remember

Research - Have a selection of shaped loaves (plait, knot, long French stick, round etc) and various flavours e.g. poppy seeds, garlic bread, rosemary loaves. Chn perform a taste test and vote for their favourite shape and favourite flavour loaf.

### **Lesson 2) Research: Taste various flavoured bread and research recipes**

Chn to taste different breads and use the iPads to research different recipes. Have a vote of flavours within the group.

### **Lesson 3) Planning: Design bread loaf**

Chn to design their bread loaf based on their recipe research and flavours  
Chn to consider shape and decoration  
Chn to draw their shape and label flavours. Encourage chn to be creative by perhaps making a face or an animal on top of their loaf, or think of a creative way to display their bread e.g. in a tower.



-Know how to be both hygienic and safe when using food

-Measure accurately

### **Lesson 1) Ask: How does an alarm system work?**

Explain product to chn: alarm system. Allow chn time to research product online. What do other products like this look like?

Build on Y3 learning and create a success criteria together, what should a successful alarm have?

e.g. a working light, a switch to turn on and off, a buzzer for the alarm etc...

### **Lesson 2) Research: Practise electrical circuits to include buzzer and bulb**

Chn to have time to experiment with electrical circuits, including a buzzer and bulb

-Link scientific knowledge by using lights, switches or buzzers

Use electrical systems to enhance the quality of the product

### **Lesson 3) Planning: Design electrical circuit and alarm case to be placed on outside of the circuit**

Chn draw design of what they would like their product to look like. Remembering to make it attractive and suitable for the user e.g. Alarm box with logo of the alarm company - bright colours to draw people's attention to the box as a deterrent.

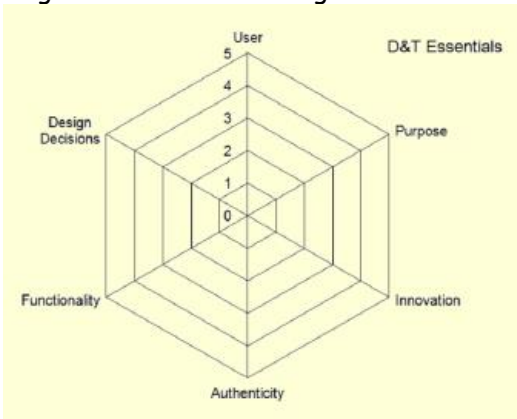
Is the picture in your head mainly a tube?  
If your idea is mainly a tube then perhaps you should start with a plastic bottle or a card tube.

Is the picture in your head mainly a box?  
If your idea is mainly a box then perhaps you should start with a cardboard box or a net that forms a box.



Chn label the materials they want to use and explain the suitability. Why have they chosen

	<p>joining techniques? PVA glue or double sided tape? Stitching or safety pinning? Chn to explain on the bottom of their design, which tools and how they will join their materials and why e.g. stitching because it is neater or string to tie things together because it is strong, PVA glue because it is neater. Chn should show more skill of gluing, stapling, safety pinning fabrics that they previously learned in y2.</p> <p><b>Lesson 4 and 5) Make and Improve: Create money wallet and reinforce stitching, adjust materials</b></p> <p>Make their designs. Re-cap year 2 learning and y3 learning on nets. Chn measure accurately by creating templates to mark and measure out the outline of their product. This could also build on Y3 learning and IT packages could be used to design their template accurately. Then print out template to use on their work.</p> <p>Chn apply the sewing skills learned in lesson 3 and should use at least 2 stitches - e.g. running stitch, back stitch.</p> <p>Chn keep in mind their success criteria. Is it attractive? Is it bright etc.</p> <p>-Persevere and adapt when original ideas do not work</p> <p>Chn continue checking the original success criteria, is it suitable for purpose? Is it strong? Is it being reinforced by folding material over and stitching twice along the edges? Chn should be guided through and encouraged by the teacher to adapt their product mid "make". Chn should adapt their</p>	<p><b>Lesson 4 and 5) Make and Improve: Create bread loaf and present bread in a creative and attractive way</b></p> <p>Remind chn of year 2 science learning on how to be hygienic and avoid germs. Encourage correct washing of hands with soap, discuss coughing and sneezing into a tissue or sleeve, not over the food. Then re-washing hands. Discuss how to be safe with equipment. Re-cap year 1 learning of how to cut safely.</p> <p>Re-cap Y3 learning and read through the recipe together and discuss any new vocab e.g. knead, explain what that means. Watch video demonstration if necessary.</p> <p>Ensure chn are measuring their ingredients accurately (Y2). Model to the chn measuring ingredients accurately. Do a few measurements together and teacher supports measuring accurately around the room. Checking everyone has the correct amount.</p> <p>Chn then re-cap year 3 learning of following a plan (the recipe) step by step. Chn make the bread and choose their flavours based on the ideas of others in lesson 1. Chn shape their loaves in their chosen way.</p> <p><u>-Present a product in an interesting way</u></p> <p><u>-Evaluate and suggest improvement for design</u></p> <p><b>Lesson 6) Evaluate</b></p> <p>After baking their bread and letting it cool, chn should present their bread in an</p>	<p>that alarm box? Which shape net for the alarm box? (Y3 nets re-cap above)</p> <p>Use computer aided design (Purple Mash) for the template for their net (alarm box) and logo for their alarm box. On the computer, chn can experiment with colours and the alarm logo. When they are happy with their design and colours chn print and use this as a template to measure accurately the size of their product.</p> <p><u>-Use IT where appropriate to add to the quality of the product</u></p> <p><b>Lesson 4 and 5) Make and Improve: Create electrical circuit and alarm case. Chn to adjust circuit to ensure it is fit for purpose</b></p> <p>Using their templates and their electrical circuits, chn create their product by building around the circuit e.g. cut out the shape from their card tube, or card net to fit the correct size bulb in.</p> <p><b>Lesson 6) Evaluate</b></p> <p>Remind chn of the success criteria created together at the beginning of the design. Allow chn time to "test" their product. Move it about, does it fall apart? Does it light up? Does it turn on/off with the switches? Does the buzzer make an alarm sound? Are their joining techniques strong at holding the product together? Have they successfully reinforced the paper and card using techniques in Y3? Perhaps swap products with a partner and allow feedback against the success criteria. I think your product meets the success criteria because it....</p> <p>I think your product could better meet the success criteria if next time you....</p>
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	<p>work and veer away from their original design where necessary.  <u>-Explain how the original design has been improved</u></p> <p><b>Lesson 6) Evaluate</b>  Remind chn of the success criteria created together at the beginning of the design.  Re-cap year 3 learning of allowing chn time to "test" their product. Move it about, does it fall apart? Or are their joining techniques strong at holding the product together?  Chn write an evaluation explaining how their product meets the success criteria. How could they better improve their product?  New learning - Explain how their end product has been improved from the beginning design.</p>	<p>interesting way e.g. round loaves in a tower, in a basket, or create a template of a shape and dust flour over the top (see images at the top).  Remind chn of the success criteria created together at the beginning of the design.  Re-cap year 3 learning of allowing chn time to "test" their product. Taste the bread, even ask others to taste their bread. Score the bread on how attractive, taste, texture and give marks to the child.  Chn write an evaluation explaining how their product meets the success criteria. How could they better improve their product?  e.g. I scored 5 for the appearance of the bread, but the texture was only 2. It was too squishy I should bake it for longer or knead it for longer.</p> 	<p>Chn use their partners critique to help them record their own evaluation ensuring they answer Is the product fit for purpose?  Does the alarm make a noise and have a flashing light? Can it be turned off?  <u>-Evaluate products for both purpose and design</u></p>
Y5 Learning gained in previous year	<ul style="list-style-type: none"> <li>• Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</li> <li>• Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</li> <li>• Have knowledge and understanding about food hygiene, how to cut safely, weigh ingredients accurately, follow a recipe and bring a creative element to the food product</li> </ul>		

	<ul style="list-style-type: none"> <li>• Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.</li> <li>• Have knowledge of mechanisms e.g. sliders and levers (Y1), levers and linkages (Y3)</li> </ul>		
Y5	<p><b>Food Technology</b></p> <p><a href="https://www.twinkl.co.uk/resource/tp2-d-028-planit-dt-uks2-super-seasonal-cooking-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-028-planit-dt-uks2-super-seasonal-cooking-unit-pack</a></p> <p>-Know which season various foods are available</p> <p>-Come up with a range of ideas after collecting information</p> <p><b>Lesson 1) Ask: What is seasonal food?</b></p> <p>Show chn PPT lesson 1 on twinkl link above. Discuss with the chn seasonal food at different times of the year. (Link to Geography re-capping countries and climates)</p> <p>Chn create their own table in books stating which food is available in each season in England.</p> <p>Research on iPads/laptops if chn require more foods in each season.</p> <p>Once chn know which foods are available in early autumn (Sept/Oct) in England, <a href="http://www.greatgrubclub.com/in-season#.XoXca4hKjIW">http://www.greatgrubclub.com/in-season#.XoXca4hKjIW</a></p> <p>Show chn PPT Lesson 3 twinkl link: <a href="https://www.twinkl.co.uk/resource/tp2-d-028-planit-dt-uks2-super-seasonal-cooking-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-028-planit-dt-uks2-super-seasonal-cooking-unit-pack</a></p> <p>Have a selection of autumn foods ready to taste (some need to be cooked before-hand)</p> <p>Chn should all taste and vote and as a class decide which is the favourite. This will be the food that the class use to research recipes next lesson.</p>	<p><b>Mechanical Product</b></p> <p><b>Gears and Pulleys</b></p> <p>Link to Forces in Science <a href="https://www.planbee.com/forces-in-action-levers-and-pulleys">https://www.planbee.com/forces-in-action-levers-and-pulleys</a></p> <p>(Builds on Y2 moving vehicle using wheels and axels.</p> <p>Also re-cap levers (Y1), levers and linkages (Y3) as types of mechanisms, before moving onto gears and pulleys.</p> <p><a href="https://nustem.uk/wp/wp-content/uploads/2015/01/On-the-Move-5Mar15.pdf">https://nustem.uk/wp/wp-content/uploads/2015/01/On-the-Move-5Mar15.pdf</a></p> <div data-bbox="911 700 1397 863"> </div> <p><b>Lesson 1) Ask: What is a pulley mechanism?</b></p> <p><a href="https://www.twinkl.co.uk/resource/science-forces-marvellous-mechanisms-year-5-lesson-pack-6-tp2-s-329">https://www.twinkl.co.uk/resource/science-forces-marvellous-mechanisms-year-5-lesson-pack-6-tp2-s-329</a></p> <p>Ensure chn have re-capped levers (y1), levers and linkages (y3).</p> <p>Then explain that gears and pulleys are another type of mechanism to make life easier and difficult tasks possible.</p> <p>Chn to identify mechanisms in different contexts</p> <p>-Come up with a range of ideas after collecting information</p>	<p><b>Solid Structures/Nets</b></p> <p><b>Building Bridges</b></p> <p><a href="https://www.planbee.com/building-bridges-ks2-structures">https://www.planbee.com/building-bridges-ks2-structures</a> or <a href="https://www.twinkl.co.uk/resource/tp2-d-081-planit-dt-uks2-marbulous-structures-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-081-planit-dt-uks2-marbulous-structures-unit-pack</a></p> <div data-bbox="1449 485 1991 1426"> </div>

	<p><b>Lesson 2) Research: Balanced diet, seasonal recipes</b></p> <p>Share Twinkl PPT from lesson 5. Discuss the eatwell plate with the chn. Re-capping Science of how to eat a balanced meal. Work through a food plate, can chn plan seasonal ingredients into each section e.g. seasonal fruit? Seasonal veg? seasonal meat? Making sure there is protein, dairy, carbohydrates etc.</p> <p>Discuss success criteria with the class. Create a list of things that a good dish should have:</p> <p>e.g. use seasonal ingredients, use a selection of different food groups, taste good, be attractive, presented in interesting way etc.</p> <p><b>Lesson 3) Planning: Design seasonal meal, including list of ingredients and steps to create it</b></p> <p>Now that the class have picked the favourite food from Autumn - chn then research recipes with this ingredient e.g. apples, butternut squash, pumpkins - pumpkin pie, pumpkin soup etc.</p> <p>Try to encourage chn to choose recipes with more than one food group e.g. pumpkin mac and cheese, or pumpkin soup with bread. By the end of the lesson chn should have a list of possible recipe options. Then as a group choose their favourite and this will be their final product idea. (Each group could make a different recipe)</p> <p>Chn to draw and label their final product with how they will decorate/garnish it/present it, building on previous learning</p>	<p><b>Lesson 2) Research: Testing out different pulleys, make prototypes and measure against success criteria</b></p> <p>Explain the design problem to the class - <a href="https://practicalaction.org/schools/squashed-tomato-challenge/">https://practicalaction.org/schools/squashed-tomato-challenge/</a></p> <p>In Nepal farmers have difficulty getting their tomatoes up the mountain without squashing them. Chn are to design a way of moving the tomatoes without squashing them. Discuss which mechanism would be best. Should we use a lever to catapult the tomatoes out? (squash them) What about a pulley?</p> <p>Allow chn to make a pulley in the classroom to practise the mechanism. (Below)</p> <p><a href="https://content.twinkl.co.uk/resource/ef-cd-us2-re-89-make-a-pulley-activity-english-united-states_ver_1.pdf?token=exp=1585857934~acl=%2Fresource%2Fef%2Fcd%2Fus2-re-89-make-a-pulley-activity-english-united-states_ver_1.pdf%2A~hmac=ec718136aabb9ee1903eb0765b437d08faab86ca852af9a1152618c00c37f3ba">https://content.twinkl.co.uk/resource/ef-cd-us2-re-89-make-a-pulley-activity-english-united-states_ver_1.pdf?token=exp=1585857934~acl=%2Fresource%2Fef%2Fcd%2Fus2-re-89-make-a-pulley-activity-english-united-states_ver_1.pdf%2A~hmac=ec718136aabb9ee1903eb0765b437d08faab86ca852af9a1152618c00c37f3ba</a></p> <p>At the end of the lesson, discuss the pulley. Was it successful? Do you think it would carry heavy tomatoes up a "mountain." Do we need to amend our design for the pulley? (This will be a verbal evaluation, helping chn to adapt their plans mid make.)</p> <p><u>-Make a prototype before making a final version</u></p>	<p><u>-Come up with a range of ideas after collecting information</u></p> <p><u>-Suggest alternative plans; outlining the positive features and drawbacks</u></p> <p><b>Lesson 1) Ask: What materials are the strongest bridges made from?</b></p> <p>Look at images of existing bridges and discuss shapes. Chn to use iPads to research range of bridges around the world. Research their materials and how these bridges are made. What do bridges need to be in order to be successful?</p> <p><b>Lesson 2) Research: Testing out different bridges, make prototypes and measure against success criteria</b></p> <p>Explain task - building the strongest bridge competition. We will be re-capping how to strengthen and reinforce models (from Y3). Chn look at a selection of materials e.g. art straws, glue, pipe cleaners, card etc. Chn begin to explore how the art straws/pipe cleaners could be used. Which material is stronger and therefore better for a bridge? Can chn recall how to bend and layer card to reinforce it? (from Y3)</p> <p>After exploring the materials and practising re-creating bridges using similar shapes to the research bridges, chn can now draw a range of possible designs of the bridge that they think will be strongest.</p> <p>Chn should then outline positive features of each design and drawbacks, before they pick their favourite final design based on more positive features.</p>
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Y3 (ensuring a product is attractive) and Y4 (bring a creative element to the product and present the product in an interesting way). e.g. can chn design what the top of their pumpkin pie should look like e.g. seeds in the shape of a pumpkin? Or seeds on top in the shape of a carved Halloween pumpkin, or extra pastry using a cutter/stamp to create an autumn leaf on top?

Could the soup have seeds as a garnish on top or bread rolls decorated and dusted with flour using a template shape? (Building on Y4 bread baking)



Chn draw their final design and label their ingredients and topping ideas.

Once the chn have picked their favourite recipe with more than one food group, chn create a shopping list for their recipe, what ingredients will they need. (Chn should group together to create group recipes)

-Know how to prepare a meal by collecting the ingredients in the first place

### Lesson 3) Planning: Design pulley

After making the prototype pulley last lesson, chn re-cap the evaluation of the success of their first pulley, did it work? What were the positive features, what were the drawbacks? Chn should now draw and label their final design, making any necessary changes to their pulley e.g. if it is travelling up a mountain, does it need to be made of stronger material? Is the pulley long enough?

Chn should label the materials and tools they will use.

Chn should include how this product will appeal to the people of Nepal. Why are we making the pulley?

Chn record step-by-step how they will build their pulley. (Chn should use their knowledge from the prototype build).

Design a product that requires pulleys or gears

-Produce a step-by-step plan

-Explain how a product will appeal to a specific audience

-Suggest alternative plans; outlining the positive features and drawbacks

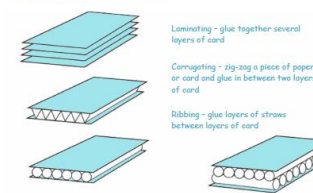
### Lesson 4 and 5) Make and Improve: Create pulley and adjust materials, tools, strength as they go

Chn should make their pulley. Encourage chn to adapt their plans mid make if necessary. Keep checking the success criteria, will the product be fit for purpose at the end?

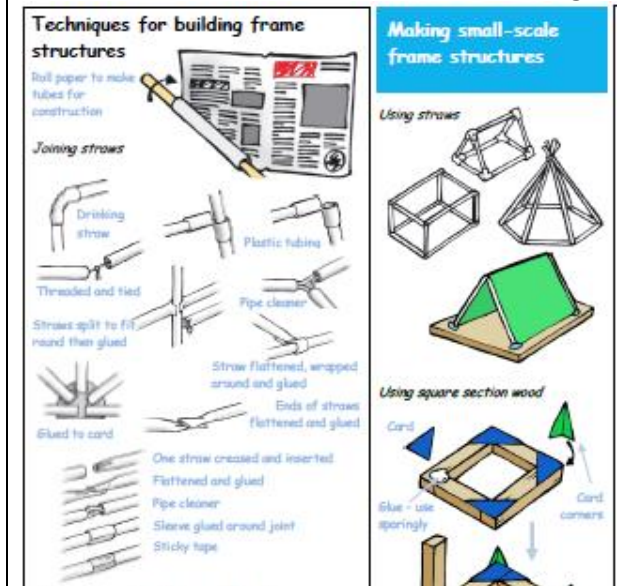
At the end of the lesson, create success criteria together as a class. What should a good bridge look like? What shapes will you use? What material will it be made from? Is it strong? Can it hold a weight? How will we strengthen it?

Re-cap previous learning on strengthening and reinforcing from Y3 e.g. layering and folding card.

Stiffening and strengthening sheet materials:



Now teach specific skills needed to make the bridge and explain how to strengthen and reinforce the art straws (below) new learning.



Chn should practise this new skill of strengthening the art straws and making joints.

**Lesson 4 and 5) Make and Improve: Cook seasonal meal, adjusting meal through taste**

Share PPT lesson 6 from twinkl link. Re-cap with the chn how to be hygienic when cooking (previous learning from Y4). Also discuss with the chn how to handle and store meat to be hygienic and safe to avoid becoming poorly. Also discuss chopping board colours to avoid contamination. Explain to chn that they should regularly taste their dish whilst cooking, to ensure it is tasting ok. However, every time they place the spoon into the dish, it must be a clean spoon, otherwise they are putting their germs into the dish.

Chn to follow their recipes and instructions  
Chn remember to add the original idea of decoration to present their dish in an original way

-Be both hygienic and safe in the kitchen

**Lesson 6) Evaluate**

Remind chn of the success criteria created together at the beginning of the design. Re-cap year 3 and year 4 learning of allowing chn time to "test" their product. Taste the dish, even ask other groups to taste their dish. Score the dish on how attractive, taste, texture and give marks to the group. Chn write an evaluation explaining how their product meets the success criteria. How could they better improve their product? e.g. I scored 5 for the appearance of the dish, but the texture was only 2. I could have blended the soup more to make a

-Link specific knowledge of design by using pulleys or gears

-Make a product that relies on pulleys and gears

-Use a range of tools and equipment competently

**Lesson 6) Evaluate**

Remind chn of the success criteria created together at the beginning of the design.

Allow chn time to "test" their product. Ensure the chn have a "mountain" to carry the tomatoes up to ensure their pulley is both long enough and strong enough.

Hold a "strength" competition and test the pulleys by putting 1 tomato on top of them Test one pulley at a time, if the pulley moves the tomato, test the next pulley. Keep adding another tomato to all of the pulleys until there is only one pulley left.

Look at the strongest pulley as a class, why was this pulley the strongest? What strengthening techniques did they use? Evaluate verbally together and then chn record their written response.

I think the winning product meets the success criteria because it....

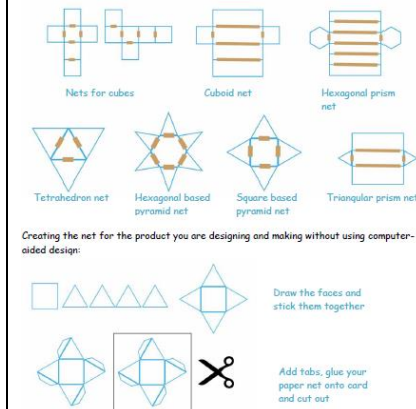
I think my product could better meet the success criteria if next time I....

-Evaluate appearance and function against original criteria

-Use a range of tools and equipment competently

**Lesson 3) Planning: Design bridge**

Chn should re-cap Y3 module on nets, remembering to include tabs.



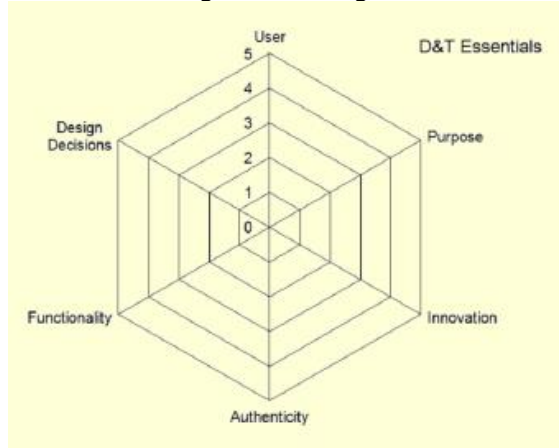
Chn use computer aided design (CAD) to explore the net shapes, remembering to include tabs on the edges (Purple Mash/Tinkercad). Chn experiment with the 2D nets to determine which shapes will make their 3D bridge stronger. Once they are happy with their refined plans, chn can print their net and use this as a template to begin to make the outline of their bridge.

-Use more complex IT program to help enhance the quality of the product produced

**Lesson 4 and 5) Make and Improve: Create bridge and adjust materials, tools, strength as appropriate**

After practising the reinforcing joints, chn can use these joints to create structures and 3D shapes and begin to build their bridge.

smoother texture. Did it meet the purpose?  
Is it a dish using seasonal ingredients?



-Evaluate appearance and function against original criteria

Chn should use their refined IT net to help with the shape of their bridge.  
Chn should be encouraged to evaluate whilst making their product throughout the whole process, refining and improving where necessary and adapting original plans.  
-Use a range of tools and equipment competently

### Lesson 6) **Evaluate**

Remind chn of the success criteria created together at the beginning of the design.  
Allow chn time to "test" their product. Move it about, does it fall apart? Are their joining techniques strong at holding the product together?

Hold a "strength" competition and test the bridges by putting weights on top of them whilst they are between 2 tables. Test one bridge at a time, if the bridge holds a small weight, test the next bridge. Keep adding a small weight to all of the bridges until you have the last bridge standing.

Look at the strongest bridge as a class, why was this bridge the strongest? What shapes did it use? What strengthening techniques did they use? Why was this bridge more successful than the other bridges? Evaluate verbally together and then chn record their written response.

I think the winning product meets the success criteria because it....

I think my product could better meet the success criteria if next time I....

Chn should explain how to store the finished product e.g. away from water because it will

			break the art straws, nothing on top so that it doesn't squash the design. <u>-Evaluate appearance and function against original criteria</u>
Y6 Learning gained in previous year	<ul style="list-style-type: none"> <li>• Understanding of the essential characteristics of a series circuit and experience of creating a battery powered, functional, electrical product.</li> <li>• Experience of an electrical circuit using a bulb (Y3) and an electrical circuit using a buzzer or a switch (Y4)</li> <li>• Experience of basic stitching, joining textiles and finishing techniques e.g. running stitch (Y2), running and back stitch to strengthen (Y4)</li> <li>• Experience of making and using simple pattern pieces, using IT packages to create templates.</li> <li>• Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.</li> <li>• Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.</li> <li>• Have knowledge of seasonal ingredients and using all food groups to create a full dish.</li> </ul>		
Y6	<p><b>Food Technology</b> <b>Balanced Meal</b> <a href="https://www.twinkl.co.uk/resource/tp2-d-063-planit-dt-uks2-global-food-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-063-planit-dt-uks2-global-food-unit-pack</a> <u>-Show that culture and society is considered in plans and designs</u></p> <p><b>Lesson 1) Ask: What do foods from different cultures include?</b> Use twinkl link above and show chn lesson 1 PPT. Have ingredients from around the world e.g. pineapple, chillies, swiss cheese, coconut and salami etc in the classroom ready for chn to taste/explore. Ask chn where do these ingredients come from in the world. Help chn to gain an understanding of food from different cultures. Discuss and research with the chn recipes/dishes that include these ingredients? Has anyone ever tasted a dish that using coconut as an ingredient? E.g. Korma, Thai green curry? This one ingredient can be used in the food from different cultures.</p>	<p><b>Textile Product</b> <b>(Bag/Phone Case)</b> <a href="https://www.twinkl.co.uk/resource/tp2-d-043-planit-dt-uks2-felt-phone-cases-unit-pack">https://www.twinkl.co.uk/resource/tp2-d-043-planit-dt-uks2-felt-phone-cases-unit-pack</a></p> <p>This should build on Y4 and include more stitches and stitches for a decorative effective, not just for joining. Also product should have a method of fastening e.g Velcro, toggle, zip sewn in.</p>	<p><b>Electrical Product</b> <b>Fairground Ride with a motor</b> <a href="https://www.planbee.com/fairground-the-complete-series">https://www.planbee.com/fairground-the-complete-series</a></p> <p>To ensure progression from Y3/4, children need to develop an understanding of 'monitoring' as well as control and the idea of 'input' as well as 'output'.</p> <p><u>Use electrical systems correctly and accurately to enhance a given product</u></p> <p><b>Lesson 1) Ask: How do fairground rides work?</b> It is important that year 6 discuss existing products that use monitoring and control .e.g. burglar alarm and outdoor <b>security lighting</b>. With the class discuss the difference between products that rely upon timed events, such as traffic lights, and those that depend upon monitoring to make something happen such as a security alarm. Use <a href="https://www.planbee.com/fairground-the-complete-series">https://www.planbee.com/fairground-the-complete-series</a></p>

-Understand the difference between a savoury and a sweet dish

-Show that culture and society is considered in plans and designs

**Lesson 2) Research/Planning: Parts of a balanced meal, modelled quesadilla cooking to develop recipe designs**

Share Lesson 2 PPT on the twinkl

link <https://www.twinkl.co.uk/resource/tp2-d-063-planit-dt-uks2-global-food-unit-pack>

Re-cap the eatwell plate and the food groups from Y5 learning. Discuss the images on the PPT of the global food e.g. Paella, Biryani. Discuss where this food comes from and the ingredients they have used from the food groups plate.

Ask the class what is the difference between a savoury and a sweet dish. Explain the difference.

Teacher to model cooking of quesadilla and chn to note the steps. Chn should then use this information to develop their recipe designs.

Chn could consider global ingredients, food groups etc.

Chn should use iPads to research cost of ingredients in their design and work with a given budget to adjust design as necessary Chn to design final plan for quesadilla

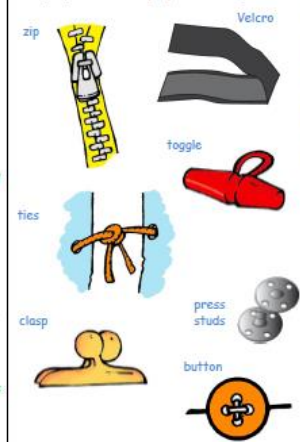
1) Why did you choose this dish and not another?

2) Itemise the cost of each ingredient to check it is under budget (Ipad to research cost of ingredients)

**Teaching aids**

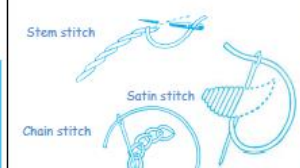
**Possible fasteners**

Children may want to use a fastener which should be appropriate for the purpose for the product.



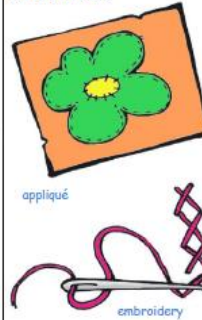
**Stitches**

Children can use different stitches to decorate their products.



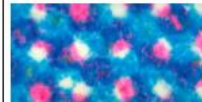
**Using stitches as a finish for the product**

The children could design their finish for their product using a variety of appropriate stitches. They could draw enlarged examples of e.g. insects, flowers, animals and then decide which stitch would be best for each part. Use square paper for a grid to ensure the stitches are in the right place and are the right size.



**Tie dye**

Children could decorate their fabric before they make up their product by tie dyeing.



-Use knowledge to improve a made product by strengthening, stiffening or reinforcing

**Lesson 1) Ask: What materials are the products made from?**

Explain the product the chn will be making. Tell the class they will be making a phone case out of material. Have ready a selection of phone covers for chn to look at for their research. Chn look at the materials they are used from, the stitching, how strong they are. It would be good to have one that can be pulled apart so that the chn can see the fabric

To examine several fairground rides that use a motor in an electrical circuit.

Allow chn time to research product online.

What do other products like this look like?

Build on Y3, Y4, Y5 learning and create a success criteria together, what should a successful fairground ride have?

e.g. a working light (re-capping Y3), a switch to turn on and off (re-capping Y4), a working motor to turn the ride (new learning), attractive design/bright colours

**Lesson 2) Research: Practise using electrical circuits with multiple components**

Model to chn how to build an electrical circuit with a motor.

Some children will be ready to use parallel circuits in their electrical systems and this enables two or more sensors or switches to be incorporated in their products e.g. one switch to turn on the light, another switch to turn on the motor.

Discuss how the electrical equipment should be stored e.g. batteries away from water and switched off etc.

**Lesson 3) Planning: Design fairground ride with electrical circuit**

Chn to design a fairground ride that includes and electrical circuit. Chn to identify how to use strong joining techniques to join the card on their ride (re-cap Y3), also can they reinforce the paper and card (re-cap Y3) etc. Chn draw design of what they would like their product to look like. Remembering to make it attractive and suitable for the user e.g. look at

3) Chn explain how they will store these ingredients and short sentence explaining how to cook hygienically.

-Work with a budget to create a meal

-Use market research to inform plans and ideas

**Lesson 3) Make and Improve: Cook quesadilla, adjusting to taste and to meet success criteria**

As a class discuss success criteria together. Create a list of things that a good dish should have:

e.g. be a sweet or savoury dish, as a class each group should have a different dish from a different culture, taste good, be attractive, presented in interesting way etc  
Recap food hygiene from year 5 and previously year 4.

Share PPT lesson 6 from twinkl link below.

<https://www.twinkl.co.uk/resource/tp2-d-028-planit-dt-uks2-super-seasonal-cooking-unit-pack>

Also discuss with the chn how to handle and store meat to be hygienic and safe to avoid becoming poorly. Also discuss chopping board colours to avoid contamination.

Explain to chn that they should regularly taste their dish whilst cooking, to ensure it is tasting ok. However, every time they place the spoon into the dish, it must be a clean spoon, otherwise they are putting their germs into the dish.

New learning - how should food be stored correctly?

Chn to draw and label the ingredients in their dish. Re-cap previous learning of

has been overlapped for strength (re-cap of year 4 learning). The phone cases should have a design on the front. Phone covers should be created for a child with a stitched image on the front.

Then have ready a selection of materials for the class. Chn look through the materials as possible ideas. They should name the material e.g. felt, cloth, cotton, silk and explain the positive features of each material and also the drawbacks e.g. felt is very bright and colourful which will appeal to the target user. However, it isn't the strongest material. Together write a success criteria as a class e.g. securely hold a phone, should appeal to boys or girls, include at least 3 types of stitching, be colourful etc.

Chn draw at least 3 possible designs for their target audience. After each design chn should say the positive features of each and the drawbacks of each design. Then they can choose their strongest design as their final design, label the materials and explain the choice of materials e.g. I have chosen cotton because it is stronger. I have chosen a bright unicorn design to appeal to girls. I will double fabric over to reinforce it. I will use running stitch and back stitch to securely finish the product. Then I will use cross stitch to decorate my design. My design will have Velcro to seal the phone case.

existing shapes of fairground rides (tend to be in a circular motion/shape as that's how the motor turns them. (e.g. waltzers, ferris wheel, carousel, young child friendly rides (below)



**Lesson 4 and 5) Create and adjust fairground ride**

Using their templates and their electrical circuits from lesson 2 and 3, chn create their product by building around the circuit e.g. cut out the correct shape to fit the bulb into their ride.

It is important that chn understand they can adapt their designs and refine original plans during the making of their product e.g. if the electrical circuit isn't turning the ride, perhaps the ride is too large or heavy and they might need to use a lighter weight material for their ride.

Follow and refine original plans

**Lesson 6) Evaluate**

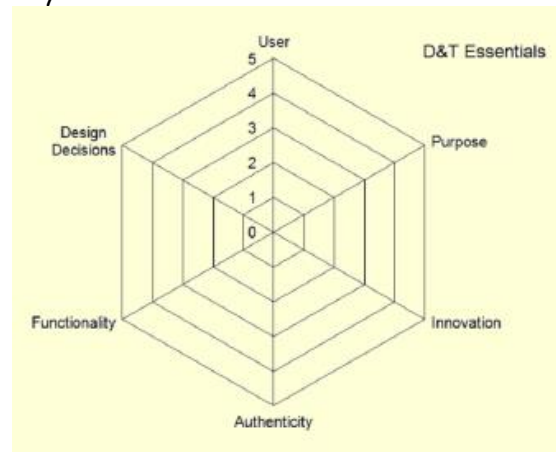
Remind chn of the success criteria created together at the beginning of the design. Allow chn time to "test" their product. Move it about, does it fall apart? Does it light up? Does it turn on/off with the switches? Does the motor turn the ride? Are their joining

	<p>bringing a creative element to the product and present the product in an interesting way e.g. ensure their design has an attractive garnish, etc.  <u>-Follow and refine original plans</u></p> <p><b>Lesson 4) Research/Planning: Modelled vegetable fried rice cooking to develop recipe designs</b>  Teacher to model cooking of vegetable fried rice and chn to note the steps. Chn should then use this information to develop their recipe designs.  Chn should use iPads to research cost of ingredients in their design and work with a given budget to adjust design as necessary  Chn to design final plan for vegetable fried rice  <u>-Work with a budget to create a meal</u>  <u>-Use market research to inform plans and ideas</u></p> <p><b>Lesson 5) Make/Improve: Cook vegetable fried rice, adjusting to taste and to meet success criteria</b>  As a class discuss success criteria together.  Chn to create fried rice and taste and adjust as necessary</p> <p><b>Lesson 6) Make and Evaluate: Cook desert element of meal (pancakes) and consider what went well</b>  Chn to make pancakes as desert element of their meal</p>	<p><b>Lesson 2) Research: Make prototypes and measure against success criteria</b>  Chn to consider a success criteria for a successful textile product. Chn to use a range of fabrics and joining techniques and experiment with what they think will help them achieve the most appropriate product</p> <p><b>Lesson 3) Planning: Design product and practise cross stitching</b>  Show "making a template" PPT lesson 3 in twinkl link. Discuss the 2 options of 2 different templates the chn could use. Use measurements from an actual phone and accurately measure the size of the back/front and the top/bottom and the side edges of the phone. Chn could use computer aided design (Purple Mash or Tinkercad) to design templates if appropriate  Chn decorate the template and experiment with colours and designs until they are happy with the look of their phone case. Explain that it is ok to change the colours or design from their original idea if they find something more effective. Chn then print their template and begin to cut out the shape of their chosen material.</p> <p>Re-cap running stitch (taught in Y2 and Y4, re-cap back stitch (taught in Y4). Explain that this is used to join materials  Teach 1 or 2 new decorative stitches for chn to choose their favourite from e.g. cross stitch (to decorate), back stitch</p>	<p>techniques strong at holding the product together? Have they successfully reinforced the paper and card using techniques re-capping Y3?  Perhaps swap products with a partner and allow feedback against the success criteria.  I think your product meets the success criteria because it....  I think your product could better meet the success criteria if next time you....  Chn use their partners critique to help them record their own evaluation ensuring they answer Is the product fits the specified success criteria? Can the motor turn the ride? Does the light work? Can it be turned off?  <u>Know how to test and evaluate designed products</u>  <u>Evaluate product against clear criteria</u></p>
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Chn to then consider their success criteria and discuss what went well across the three elements of the meal

Score the dish on how attractive, taste, texture and give marks to the group.

Chn write an evaluation explaining how their product meets the success criteria. How could they better improve their product? e.g. I scored 5 for the appearance of the dish, but the texture was only 2. I could have stirred the dish more to make a smoother texture. Did it meet the purpose? Is it a dish using from a different culture? Is it attractive and presented in an original way?



(to strengthen and reinforce) Other stitches can include stem stitch, chain stitch, satin stitch (below)

#### Stitches

Children can use different stitches to decorate their products.



Chn to practise stitching techniques

#### Lesson 4 and 5) **Make and Improve:** **Create product and adjust tools and materials and reinforce as appropriate**

Chn to stitch their phone cases, including decorative stitches on the cover with their chosen image stitched from a selected material on the front. Chn could stitch buttons or beads etc. Chn should also stitch a fastening element onto their phone cover e.g. Velcro, zip, toggle, buttons etc. Chn should be guided through checking the success criteria at each step and encouraged by the teacher to adapt their product mid "make". Chn should adapt their work and veer away from their original design where necessary.

-Follow and refine original plans

#### Lesson 6) **Evaluate**

Remind chn of the success criteria created together at the beginning of the design. Re-cap allowing chn time to "test" their product.

		<p>Move it about, does it fall apart? Or are their joining techniques strong at holding the product together?</p> <p>Chn write an evaluation explaining how their product meets the success criteria. How could they better improve their product?</p> <p>Does the product meet the purpose?</p> <p>Does the product hold a phone? Is it suitable for a boy or girl? Is it bright?</p> <p>Does it have at least 3 stitches on? Does it have a fastening element? Etc. Chn write their evaluation based upon the questions from their original success criteria.</p> <p><u>Know how to test and evaluate designed products</u></p> <p><u>Evaluate product against clear criteria</u></p> <p><u>-Explain how products should be stored and give reasons</u></p>	
Y7	<p><u>Food Technology</u></p> <ul style="list-style-type: none"> <li>• Hygiene and safety</li> <li>• Equipment, skills and processes</li> </ul> <p><u>Product Design</u></p> <ul style="list-style-type: none"> <li>• Health and safety</li> <li>• Design brief</li> <li>• Research</li> <li>• Generating design ideas</li> </ul> <p><u>Graphics</u></p> <ul style="list-style-type: none"> <li>• Design brief</li> <li>• Key components</li> <li>• Product disassembly</li> </ul> <p><u>Electronics</u></p> <ul style="list-style-type: none"> <li>• Health and safety</li> </ul>	<p><u>Food Technology</u></p> <ul style="list-style-type: none"> <li>• Assessment and evaluation</li> <li>• Food sources and availability</li> <li>• Sensory/organoleptic evaluation</li> </ul> <p><u>Product Design</u></p> <ul style="list-style-type: none"> <li>• Materials research</li> <li>• Modelling</li> </ul> <p><u>Graphics</u></p> <ul style="list-style-type: none"> <li>• Sketching</li> <li>• Hand rendering techniques</li> <li>• Perspective drawing to construct 2D and 3D shapes</li> </ul> <p><u>Electronics</u></p> <ul style="list-style-type: none"> <li>• Health and safety</li> </ul>	<p><u>Food Technology</u></p> <ul style="list-style-type: none"> <li>• Assessment and evaluation</li> <li>• Nutrition</li> </ul> <p><u>Product Design</u></p> <ul style="list-style-type: none"> <li>• Practical lessons: using the laser cutter, using the coping saw</li> <li>• Assembly of product</li> </ul> <p><u>Graphics</u></p> <ul style="list-style-type: none"> <li>• Design stages: initial and final design</li> <li>• Final design and evaluation</li> </ul> <p><u>Electronics</u></p> <ul style="list-style-type: none"> <li>• Health and safety</li> <li>• Vacuum forming</li> <li>• Assembly</li> </ul>

	<ul style="list-style-type: none"><li>• Designing</li></ul>	<ul style="list-style-type: none"><li>• Soldering</li><li>• Quality assurance</li></ul>	<ul style="list-style-type: none"><li>• Quality assurance</li><li>• Evaluation</li></ul>
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