

## Subject Intent Statement

### **Design Technology**

Our intent for the teaching of Design Technology at Brockholes Wood School is to enable pupils to learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. We aim to provide pupils with the opportunities to design and make products that solve real and relevant problems within a variety of contexts. Through evaluations of past and present design and technology they develop a critical understanding of its impact on daily life and the wider world and how it makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

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## DT Subject implementation content

### DT Curriculum content

Our DT curriculum is designed using the statutory requirements from the National Curriculum and coverage is split into 5 areas:  
**Design, Make, Evaluate, Cooking and Nutrition and Technical Knowledge.**

### Key Concepts:

These areas are broken down into key concepts and year group progression is mapped out using these.

**Key Concepts:** Design, Make, Evaluate & Technical Skills – **Food, Mechanisms, Structures, textiles, electrical and CAD (Computer Aided Design).**

KS1 – 2x Mechanism topics, 2x Food topics, 1x Textile topic and 1 x structures topic.

KS2 – 2x Mechanism topics, 3x Food topics, 2x Structures topic, 2x Textiles topics, 1x Electrical topic (Y4) and 1x CAD topic (Y6).

### EYFS (Preschool – 3-4 years)

#### **Expressive Arts and Design**

Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.

Develop different materials freely, to develop their ideas about how to use them and what to make.

Develop their own ideas and then decide which materials to use to express them.

Join different materials and explore different textures.

Draw with increasing complexity and detail, such as representing a face with a circle and including details.

#### **Physical Development**

Use one-handed tools and equipment, for example, making snips in paper with scissors.

### Reception Early Learning Goals

#### **Expressive Arts and Design**

Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Share their creations, explaining the process they have used.

#### **Physical Development**

Use a range of small tools, including scissors, paint brushes and cutlery.

Begin to show accuracy and care when drawing.

	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
<b>Y1</b>	Design purposeful products based on design criteria and use pictures and words to convey what they want to design. <b>Blaze of Glory – Mechanisms – Seasons calendar - A2</b>	Select materials from a limited range that will meet the design criteria. Explain what materials they are using and why. Select and use a range of tools. <b>Grand Outdoors – Paper craft Structures – making bridges - Su1</b>	Talk about their design as they develop and identify good and bad points. (Across topics).	Cut, peel, chop and grate. Group familiar food products e.g. fruit and vegetables. Use basic principles of a healthy diet and discuss where food comes from. <b>Gardeners and Seedlings – Making fruit kebabs - Sp 1</b>	Fold, tear, cut along lines straight and curved, use a hole punch and explore how structures can be made stronger. <b>Grand Outdoors – Paper craft (structures) Su 1</b>
	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
<b>Y2</b>	Create appropriate design drawings and explanations to record their ideas e.g. First, Next, Last to convey chronological order. Generate, develop and communicate their ideas through talking, drawing and where appropriate, information technology. (Across topics)	Use a wide range of materials and components, including construction materials, textiles and ingredients according to their characteristics. Select and use a range of tools to perform practical tasks. <b>Woodland Friends – Making a hand puppet - Textiles Su1</b>	Evaluate existing products and their ideas and products against the design criteria and how it meets the needs of the user. (Across topics)	Measure and weigh food items, using non-standard measures e.g. spoons and cups. Understand the need for a variety of food items in a diet and the principals of a healthy diet. <b>Down on the Farm – Eat Well Plate – Make a healthy pasta salad - Sp2</b>	Use sliders, levers, wheels and axles to create a range of mechanisms. <b>Amazing Adventures – Mechanisms – Design/make a Moon Buggy prototype - Sp 1</b>

	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
<b>Y3</b>	Use research to develop criteria to inform the design of functional products that are fit for purpose and aimed at particular individuals or groups. Plan a sequence of events to make a product. Use prototypes to develop and share ideas. <b>How Does Your Garden Grow - Su 2 - Miniature greenhouse structures using wood</b>	Select and use a range of tools with accuracy, cut, shape, join and finish. Prepare pattern pieces as templates, cut slots. Select and use appropriate materials and components. <b>How Does Your Garden Grow - Su 2 – Miniature greenhouse structures using wood</b>	Identify the strengths and weaknesses of their designs in relation to purpose/user. Consider how well the finished product meets the design criteria of the user. Investigate key events and individuals in design and technology. How the design could be improved. (Across topics)	Develop sensory vocabulary and knowledge using, smell, taste, texture and feel. Follow instructions and/or recipes to prepare and cook. Join and combine a range of ingredients. <b>Live Strong – Food – Use instructions to make a cake - A2</b>	Use mechanical systems such as levers, gears, pulleys and linkages. <b>Iron Man - Sp 2 – Mechanisms, make moving iron man picture.</b>
	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
<b>Y4</b>	Develop more than one design or adaptation of an initial design. Consider aesthetic qualities of materials chosen, use CAD where appropriate – food labelling using CAD/technology. <b>Hunted - Su2 – Food, making ratatouille.</b>	Select materials and tools according to their functional properties. (Across topics)	Pupils to try out other pupils, testing it against design criteria, could the design be modified? E.g. a circuit which responds to the planned programme, creating a switch in a circuit. Understand how key events and individuals in design technology have helped shape the world. <b>Exploring Europe - Sp2 Textiles 3D bird from 2D shapes-sewing and different stitches. (Across topics)</b>	Record and reflect on taste and texture and feel, explore seasonality of vegetables and fruit, join and combine a range of ingredients. Follow instructions/recipes. E.g. – making ratatouille. Apply principles of healthy diet to prepare dishes. <b>Hunted - Su2 – Food, making ratatouille.</b>	Use running stitch, over sewing, blanket stitch, make button loops. <b>Exploring Europe - Sp2 Textiles 3D product from 2D shapes-sewing and different stitches.</b>  Understand and use electrical systems: bulbs, buzzers, motors circuits, and series of circuits. <b>Crazy Currents – Electrical Systems – Halloween Haunted House with lights - A1</b>

	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
Y5	<p>Record ideas using annotated diagrams/sketches. Use models kits and drawings to help formulate ideas. Sketch and model alternative ideas using cross-section and exploded diagrams. Use researched information.</p> <p><b>A River Journey – Make a class mural - Su1</b></p> <p>Use research to develop design criteria. Devise step-by-step plans which can be read/ followed by someone else. Decide which design ideas to develop.</p> <p><b>Food Glorious Food - Making cereal bars – linking to fair-trade and imported food from South America - A2.</b></p>	<p>Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Produce detailed lists of components and tools. Select from and use a wide range of tools. Cut accurately and safely to a marked line. Refine their product – review and rework/improve.</p> <p><b>Food Glorious Food – Making cereal bars – linking to fair-trade and imported food from South America - A2.</b></p> <p>Produce detailed lists of ingredients and tools. Select from and use a wide range of tools. Use appropriate finishing techniques for the dish.</p> <p><b>Food Glorious Food – Making cereal bars – linking to fair-trade and imported food from South America - A2.</b></p>	<p>Give report using the correct technical vocabulary. Understand how key people have influenced design. Consider and explain how the finished product could be improved related to design criteria. Test on the user.</p> <p><b>A River Journey – Make a class mural - Su1</b> <b>(Across topics)</b></p>	<p>Apply the principles of healthy diet when preparing and cooking savoury dishes.</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p><b>Food Glorious Food – Making cereal bars – linking to fair-trade and imported food from South America - A2.</b></p>	<p>Create 3D products using patterns and seam allowances, understand pattern layout. Pin tack fabric pieces together, use blanket stitch, back stitch over sewing. E.g. scrunches. <b>A River Journey – Make a class mural - Su1</b></p> <p>Use mechanical systems such as cams, pulleys and gears. Use electrical systems such as motors. E.g. – making levers. Use computing to program, monitor and control products.</p> <p><b>The Cogs of Creation - Sp2 - Mechanical Systems Cams, Pulleys and Gears. A moving toy.</b></p>
	Design	Making	Evaluate	Cooking & Nutrition	Technical Knowledge
Y6	<p>List tools, plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Use drawings to help formulate ideas. Devise step by step plans which can be read/ followed by someone else (such as a recipe) sketch and model alternative ideas. Decide which design ideas to develop. Use <b>computer-aided design</b> to create design ideas.</p> <p><b>Superheroes - CAD – Design a Viking longboat on Tinkercad – Sp1.</b></p> <p><b>Lights, Camera, Action – making the Viking boat – Su2.</b></p>	<p>Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Refine their product- review and rework/improve.</p> <p><b>Lights, Camera, Action – making the Viking boat – Su2.</b></p>	<p>Give report using the correct technical vocabulary. Understand how key people have influenced design. Consider and explain how the finished product could be improved related to design criteria. Test on the user. Understand how key people have influenced design.</p> <p><b>(Across topics)</b></p>		<p><b>Technical Knowledge:</b> Structures using bradawl to mark hole positions. Use hand drill to drill tight and loose fit holes. Cut strip wood, dowel, square section wood accurately to 1mm. build frameworks to support mechanisms. Understand how to strengthen complex structures.</p> <p><b>Lights, Camera, Action - Su2 – Structures – Making Viking boats previously designed using CAD in Sp1.</b></p> <p>Apply their understanding of computing to program, monitor and control their products.</p> <p><b>Superheroes - CAD – Design a Viking longboat on Tinkercad – Sp1.</b></p>

**Key Concepts:** Design, Make, Evaluate & **Technical Skills** – Food, Mechanisms, Structures, Textiles, Electrical & CAD

Year Group	Topic 1 (Autumn)	Topic 2 (Spring)	Topic 3 (Summer)
1	<p><b>Autumn 2 Mechanisms – Seasons Calendar</b></p> <p><b>Design</b> -Use pictures and words to convey what they want to design/make. -Propose more than one idea for their product. Use drawings to record ideas as they are developed.</p> <p><b>Make</b> -Join appropriately for different materials and situations e.g. glue, tape. -Mark out materials to be cut using a template. -Fold, tear and cut paper and card. -Cut along lines, straight and curved. -Use a hole punch. -Insert paper fasteners for card. -Experiment with levers and sliders to find different ways of making things move in a 2D plane.</p> <p><b>Evaluate -including researching existing products and evaluating finished products</b> -Explore existing products and investigate how they have been made (before design/make). -Talk about and record their design as they develop and identify good and bad points.</p>	<p><b>Spring 1 Food and Nutrition- Making fruit kebabs</b></p> <p><b>Design</b> -Explain where food comes from. -Group familiar food products e.g. fruit and vegetables. -Use pictures and words to convey what they want to design/make. -Select appropriate technique explaining: First... Next... Last....</p> <p><b>Make</b> -Select materials/ingredients from a limited range that will meet the design criteria. -Cut, peel, grate and chop a range of fruit and vegetables. -Work safely and hygienically. -Name the tools they are using.</p> <p><b>Evaluate-including researching existing products and evaluating finished products</b> -Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p>	<p><b>Summer 1 Structures- The Grand Outdoors-Making bridges</b></p> <p><b>Design</b> -Use kits/reclaimed materials to develop more than one idea. -Model ideas / make mock-ups with kits, reclaimed materials. -Describe their models and drawings of ideas. -Explore ideas by rearranging materials.</p> <p><b>Make</b> -Explore how to make structures stronger. -Investigate different techniques for stiffening a variety of materials. -Test different methods of enabling structures to remain stable. -Join appropriately for different materials and situations e.g. glue, tape. -Discuss their work as it progresses.</p> <p><b>Evaluate-including researching existing products and evaluating finished products</b> -Explore existing products and investigate how they have been made. -Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p>
2	<p><b>Spring 1 Mechanisms Amazing Adventures – design/make a moon buggy prototype.</b></p>	<p><b>Spring 2 Food and Nutrition - Down on the Farm – making a healthy pasta salad.</b></p>	<p><b>Summer 1 Textiles Woodland Friends – design/make a hand puppet</b></p>

	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Develop a range of ideas for their product.</li> <li>-Research and use pictures to help develop design ideas.</li> <li>-Use annotated drawings to record ideas as they are developed and offer explanations.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Explain what they are making and what they need to do next, select materials and name the tools needed.</li> <li>-Make vehicles with construction kits.</li> <li>-Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</li> <li>-Cut dowel using hacksaw and bench hook. Attach wheels to a chassis using an axle.</li> <li>-Use technical vocabulary when describing mechanisms, tools and materials they use e.g. axel, wheel, stable, strong</li> <li>-Join appropriately for different materials and situations e.g. glue, tape.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Explore a range of existing products and investigate how they have been made and use this to inform design ideas.</li> <li>-Note changes made during the making process as annotation to plans/drawings.</li> <li>Say what they like and do not like about items they have made and explain why.</li> <li>-Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Understand the need for a variety of foods in a diet.</li> <li>-Research and use pictures to help develop design ideas.</li> <li>Explain which ingredients they are using and why.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Work safely and hygienically.</li> <li>-Cut, peel, grate and chop a range of ingredients.</li> <li>-Measure and weigh food items, non-statutory measures e.g. spoons, cups.</li> <li>-Use appropriate technique explaining: First... Next... Last....</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Develop a food vocabulary using taste, smell, texture and feel.</li> <li>-Group familiar food products e.g. fruit and vegetables.</li> <li>-Explain where food comes from.</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Describe their models and drawings of ideas and intentions.</li> <li>-Use a range of pictures and words to convey what they want to design/make.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Name the tools they are using and why they are using those tools.</li> <li>-Cut out shapes which have been created by drawing round a template onto the fabric.</li> <li>-Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape.</li> <li>-Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Start to use the appropriate vocabulary to refer to fabrics and tools e.g. template, needle, thimble, knot, stencil etc</li> <li>-Talk about their design as they develop and identify good and bad points and adapt design ideas.</li> <li>-Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</li> </ul>
3	<p><b>Autumn 2 Food and Nutrition- Make bread</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Think ahead about the order of their work and decide upon equipment and ingredients.</li> </ul>	<p><b>Spring 2- Mechanisms Iron Man - make a moving iron man picture</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Develop more than one design or adaptation of an initial</li> </ul>	<p><b>Summer 2 Structures -Greenhouse structures</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Plan the stages of the making process.</li> <li>-Select from materials according to their functional properties.</li> </ul>

	<p>-Plan a sequence of actions to make a product.</p> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Follow instructions/recipes.</li> <li>-Join and combine a range of ingredients.</li> <li>-Prepare and cook using a range of cooking techniques.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Investigate similar products to the one to be made to give starting points for a design.</li> <li>-Develop sensory vocabulary/knowledge by analysing different types of breads using, smell, taste, texture and feel and compare these.</li> <li>-Discuss how well the finished product meets the design criteria of the user.</li> </ul>	<p>design.</p> <ul style="list-style-type: none"> <li>-Record the plan by drawing using annotated sketches.</li> <li>-Use prototypes (levers and linkages) to develop and share ideas of initial designs.</li> <li>-Develop vocabulary related to this project e.g. lever, loose/fixed pivot, system, mechanism.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Use mechanical systems such as levers and linkages.</li> <li>-Use lolly sticks/card and split pins to make levers and linkages of varied movements.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Draw/sketch products to help analyse and understand how products are made.</li> <li>-Identify the strengths and weaknesses of their design ideas in relation to purpose/user.</li> </ul>	<ul style="list-style-type: none"> <li>-Record the plan by drawing using annotated sketches.</li> <li>-Develop vocabulary relating to this project e.g. net, stable, structure, strong, weak</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Create shell or frame structures.</li> <li>-Strengthen frames with diagonal struts.</li> <li>-Investigate and make structures more stable by giving them a wide base.</li> <li>-Measure and mark square section, strip and dowel accurately to 1cm.</li> <li>-Select from a wide range of tools for cutting shaping joining and finishing.</li> <li>-Use and select tools with accuracy.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Consider and explain how the finished product could be improved.</li> <li>-Discuss how well the finished product meets the design criteria of the user.</li> </ul>
4	<p><b>Autumn 2 –Electrical- Design and make a haunted house with lights</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Draw on their understanding of simple electrical circuits and switches to help them generate ideas.</li> <li>-Develop a range of initial designs and use these to develop final designs.</li> <li>-Plan a sequence of actions to make a product.</li> <li>-Use annotated sketches that include some explanation.</li> <li>-Consider aesthetic qualities of materials chosen.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Select from materials according to their functional properties.</li> </ul>	<p><b>Spring 2-Textiles- Making a 3D bird</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Develop a range of initial designs and use these to develop final designs.</li> <li>-Plan a sequence of actions to make a product.</li> <li>-Consider aesthetic qualities of materials/ingredients chosen.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Learn how to cut shapes out of fabric using paper templates and pins.</li> <li>-To use a running stitch and begin to use other stitches including cross stitch and blanket stitch.</li> <li>-Understand seam allowance.</li> </ul>	<p><b>Summer 2 Food and Nutrition – Making ratatouille</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Design a ratatouille recipe using seasonal vegetables.</li> <li>-Plan a sequence of actions to make a product.</li> <li>-Make healthy eating choices.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Follow more complex instructions/recipes.</li> <li>-Join and combine a range of ingredients.</li> <li>-Prepare and cook using a range of cooking techniques e.g chopping, slicing, peeling, frying, oven baking etc.</li> <li>-To use kitchen equipment and tools more accurately.</li> <li>-To work safely and hygienically.</li> </ul>

	<ul style="list-style-type: none"> <li>-Create and use a variety of switches e.g. using paperclips, coins, foil and Identify which would work in their light design.</li> <li>-Use and control a switch to control their lamp (consider where the electrical components will be housed so they are not visible).</li> <li>-To cut slots and internal shapes with more accuracy.</li> </ul> <p><b>Evaluate- including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Investigate key events and individuals in Design Technology- the lightbulb inventor Thomas Edison.</li> <li>-Explain how the finished product could be improved and explain what you would do differently next time.</li> </ul>	<ul style="list-style-type: none"> <li>-Use appropriate decoration techniques e.g. sew on buttons</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Investigate similar products to the one to be made to give starting points for a design and use these to develop design ideas e.g. look at fabric Christmas decorations, teddies, clothing etc.</li> <li>-Draw/sketch products to help analyse and understand how products are made.</li> <li>-Explain how the finished product could be improved and explain what you would do differently next time.</li> </ul>	<p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Develop sensory vocabulary/knowledge by analysing a range of vegetables using, smell, taste, texture, appearance and feel.</li> <li>-Explore seasonality of vegetables and fruit.</li> <li>-Explain how the finished product could be improved and explain what you would do differently next time.</li> </ul>
5	<p><b>Autumn 2- Food and Nutrition - Making cereal bars</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-To design a healthy cereal bar by choosing ingredients according to their nutritional properties and sensory characteristics.</li> <li>-Create and refine a recipe, including ingredients, equipment, methods, cooking times and temperatures, which can be followed by someone else.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Weigh and measure using scales with accuracy and calculate ratios to scale recipes up.</li> <li>-Work safely and hygienically and understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Know where and how ingredients are grown and processed.</li> <li>-Show awareness of a healthy diet.</li> </ul>	<p><b>Spring 2 -Mechanisms- Cams, Pulleys and Gears- Make moving toy</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Use exploded diagrams and cross-sectional diagrams to communicate ideas.</li> <li>-Use models, kits and drawings to help formulate design ideas.</li> <li>-List tools needed before starting the activity</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Develop technical vocabulary appropriate to the project.</li> <li>-Use mechanical systems such as cams, pulleys and gears.</li> <li>-Select from and use a wide range of tools and materials.</li> <li>-Refine and improve product as they make it.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Research and evaluate existing products and use this to inform design decisions</li> <li>-Consider user and purpose.</li> </ul>	<p><b>Summer 1 Textiles- Design/make a class mural</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-Record ideas using annotated diagrams.</li> <li>Devise step by step plans how to make their design for the mural.</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Join fabrics using running, over stitch, back stitch and blanket stitch, which are smaller, neater and more consistent.</li> <li>-Pin and tack fabric pieces together with more complex designs.</li> <li>-To add decoration to the fabrics by joining textiles with a combination of stitching techniques.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>- Research and evaluate existing products and use this to inform design decisions</li> <li>-Identify the strengths and weaknesses of their design ideas and refine their product-review and rework.</li> </ul>



		<ul style="list-style-type: none"> <li>-Give a report using technical vocabulary.</li> <li>-Discuss how well the finished product meets the design criteria of the user (Test on the user!).</li> </ul>	
6		<p><b><u>Spring 1 Computer Aided Design – Design a 3D Viking Longboat (Tinkercad)</u></b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>-To use a cross- sectional diagram to communicate ideas using a computer program (TinkerCAD) to create and manipulate three dimensional (3D) digital Objects.</li> <li>-Explain why we might represent 3D objects on a computer and select, move, and delete a digital 3D shape.</li> <li>-Identify how graphical objects can be modified by resizing a 3D object and changing the colour of a 3D object.</li> <li>-To compare working digitally with 2D and 3D graphics.</li> <li>-Develop and improve a digital 3D model.</li> </ul> <p><b>Make</b></p> <p>To use a computer to model ideas. To develop one idea in depth explaining their reasoning for choices/adaptations.</p> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-To understand how key people have influenced design (The Vikings).</li> </ul>	<p><b><u>Summer 2 Structures-Making a Fairground ride</u></b></p> <p><b>Design</b></p> <p>To use detailed exploded diagrams that are annotated to communicate ideas.</p> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>-Use the correct terminology for tools, materials and processes e.g.bench hook, coping saw, mark out, measure, drill, reinforce etc</li> <li>-Use bradawl to mark hole positions and hand drill to drill tight and loose fit holes</li> <li>-Cut wood, dowel, square section wood accurately to 1mm.</li> <li>-Join materials using appropriate methods.</li> <li>-Build frameworks to support mechanisms, stiffen and reinforce complex structures.</li> <li>-Select from and use a wide range of tools.</li> <li>-Cut materials with precision and refine the finish with appropriate tools e.g. sanding wood with sand paper.</li> </ul> <p><b>Evaluate -including researching existing products and evaluating finished products</b></p> <ul style="list-style-type: none"> <li>-Research and evaluate existing products (including book and web-based research).</li> <li>-Consider and explain how the finished product could be improved related to design criteria of the user and purpose.</li> </ul>