

## Thornborough Design and Technology Curriculum Map

	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Reception</b>	<p>Seasonal Projects: Make a rainbow salad</p> <p>To design and make a hibernation box.</p> <p>To understand what hibernation needs and why some animals hibernate.</p>	<p>Bookmarks</p> <ol style="list-style-type: none"> <li>1. To develop threading and weaving skills.</li> <li>2. To practise and apply weaving skills to a specific material e.g. paper.</li> <li>3. To practise and apply threading skills with specific materials e.g. hessian and wool.</li> <li>4. To use threading or sewing to design a product (bookmark).</li> <li>5. To create a textiles product (bookmark) following their own design.</li> <li>6. To reflect with children on how they have achieved their aims.</li> </ol>	<p>Junk Modelling</p> <ol style="list-style-type: none"> <li>1. To explore and investigate the tools and materials in the junk modelling area.</li> <li>2. To develop scissor skills, to investigate cutting different materials.</li> <li>3. To learn how to plan and select the correct resources needed to make a model.</li> <li>4. To verbally plan and create a junk model.</li> <li>5. To share a finished model and talk about the processes in its creation.</li> <li>6. To share a finished model and talk about the processes in its creation.</li> </ol>	<p>Boats</p> <ol style="list-style-type: none"> <li>1. To understand what waterproof means and to test whether materials are waterproof.</li> <li>2. To test and make predictions for which materials float or sink.</li> <li>3. To learn about the different features and structures of boats and ships.</li> <li>4. To investigate how the shape and structure of boats affects the way they move.</li> <li>5. To design a boat.</li> <li>6. To create a boat based upon their own design.</li> </ol>	<p>Soup</p> <ol style="list-style-type: none"> <li>1. To explore fruits and vegetables and the differences between them.</li> <li>2. To use adjectives to describe how fruits and vegetables look, feel, smell and taste.</li> <li>3. To listen to and recall elements from the story 'The Best Pumpkin Soup.'</li> <li>4. To explore a pumpkin and describe it using the five senses</li> <li>5. To design a fruit and vegetable soup recipe.</li> <li>6. To practise cutting with a knife.</li> <li>7. To learn how to use a knife safely</li> <li>8. To design food packaging.</li> </ol>	
<b>Y1/2 Cycle A</b>		<p><b>Structures:</b> Baby bear's chair</p> <p>NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles</p>		<p><b>Mechanisms: Fairground wheel</b></p> <p>NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components,</p>	<p>Cooking activity linked to Geography</p>	<p><b>Mechanisms: Moving monster</b></p> <p>NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction</p>

		<p>and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable</p>		<p>including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria. Build structures, exploring how they can be made stronger, stiffer and more stable. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p>		<p>materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p>
Y1/2 Cycle B		<p><b>Textiles - Puppets</b> NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria</p>		<p><b>Structures: Constructing windmills</b> NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, explore test elements of own design,</p>		<p><b>Food: Fruit and Vegetables</b> NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Use the basic principles of a healthy and varied diet to prepare dishes, understand where food comes from.</p>

				adapt own design as necessary, know how to make the wheel rotate).	
<b>Weekly plans</b>					
<b>Y1/2 Cycle A Baby Bear's Chair</b>	To explore the concept and features of structures and the stability of different shapes. (Identify natural and man-made structures, understand what is meant by stability and can identify when a structure is more or less stable than another, know that shapes and structures with wide, flat bases or legs are the most stable).	To explore strength in different structures. (Understand that the shape of the structure affects its strength, know the meaning of the words strength, stiffness and stability, know there are different ways paper can be folded to improve its strength and stiffness, build a strong and stiff structure by folding paper, test the strength of a structure).	To make a structure according to design criteria. (Remember that chairs are structures and need to be strong, stiff and stable, know how to create joints and structures from paper/card and tape).	To produce a finished structure and evaluate its strength, stiffness and stability. (Know that the chair I design for Baby Bear needs to: support Teddy; be strong, stiff and stable, know how to create joints and structures, evaluate own structure according to the design criteria).	
<b>Fairground Wheels</b>	To explore wheel mechanisms and design a wheel. (Know how axles help wheels to move a vehicle, evaluate different designs, design and label a working wheel).	To select appropriate materials. (Understand the properties of different materials, communicate ideas to someone else, select appropriate materials for own wheel).	To make and evaluate a structure with a rotating wheel. (Evaluate a wheel mechanism and adapt as necessary, know how to ensure that the pod stays upright whilst being rotated around a fixed point).	To build and test a moving wheel. (Build a stable structure, test elements of own design, adapt own design as necessary, know how to make the wheel rotate).	
<b>Moving Monster</b>	To look at objects and understand how they move. (Understand that mechanisms are a collection of moving parts that work together in a machine, know that there is always an input and output in a mechanism, identify mechanisms in everyday objects, understand that a lever is something that turns on a pivot, understand that a linkage is a system of levers that are connected by pivots, devise whole-class design criteria	To look at objects and understand how they move. (Understand that mechanisms are a collection of moving parts that work together in a machine, know that there is always an input and output in a mechanism, identify mechanisms in everyday objects, understand that a lever is something that turns on a pivot, understand that a linkage is a system of levers that are connected by pivots, devise whole-class design criteria for what our moving monster should do).	To explore different design options. ( Understand that linkages use levers and pivots to create motion, consider own points to add to the class Design Criteria, draw two moving monster designs that meet all points of the Design Criteria, design includes the linkage they will use to make the monster move)	To make a moving monster. ( Know how to make linkages by connecting levers and pivots, know that materials can be selected according to their characteristics, design and make the features of a monster, evaluate how functional own monster is and whether it meets the Design Criteria).	

	for what our moving monster should do).			
Puppets	To join fabrics together using different methods. (Remember that different techniques may be used to join fabrics for different purposes, know how to join fabric by pinning, stapling or glueing).	To use a template to create my design. (Design a puppet, build my design on a template).	To join two fabrics together accurately. (Join fabrics together, align two pieces of fabric, know how to use a template, I can fit my hand into my puppet).	To embellish my design using joining methods (joining methods to decorate my puppet, fit my hand into the puppet after it is decorated, evaluate mine and others' work)
Constructing Windmills	To include individual preferences and requirements in my design. (Know what a windmill is, describe the purpose of structures, understand the importance of clear design criteria, understand what a net is.	To make a stable structure. Follow instructions to cut and assemble the supporting structure of the windmill, Know that that the shape of materials can be changed to improve the strength and stiffness of structures, know that cylinders are a strong type of structure that are often used for windmills and lighthouses, understand what stable means and can ensure my structure has this property).	To assemble the components of my structure. (Cut and assemble the turbine correctly, understand that windmill turbines use wind to turn and make the machines inside work, know that axles are used in structures and mechanisms to make parts turn in a circle, attach the turbine to the axle and attach them to the structure of the windmill, test that the turbine turns in the structure and alter the parts if it doesn't).	To evaluate a project and adapt a design . (Evaluate the windmill according to the design criteria, test whether the structure is strong and stable and reinforce it if necessary, test whether the turbine turns in the structure and alter the parts if it doesn't, test whether the turbine turns freely in the wind/when blown on).
Fruit and Vegetables	To identify if a food is a fruit or a vegetable. (Name a number of fruits and vegetables, know how to determine if something is a fruit, understand that some foods we call vegetables are actually fruits).	To identify where plants grow and which parts we eat. (Remember how to determine if a food is a fruit or a vegetable roots or stem, know that fruits and vegetables grow in one of three places).	To taste and compare fruit and vegetables. (Suggest what fruits and/or vegetables are in a drink, taste fruits and vegetables and describe their appearance/feel, smell and taste, make a choice as to what smoothie I will make and why).	To make a fruit and vegetable smoothie. (Describe how to prepare some fruit and vegetables before they are eaten, cut soft fruit safely, describe how own smoothie tastes).