

## MTP – D&T – Spring 2 YR1

<b>Topic</b>	Is the Wii/Xbox better than Grandma or Grandad’s old toys? (BV LINK) (D&T Kapow: Structures: Constructing a windmill)				
<b>N.C Learning Objectives</b>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> <p><b>Evaluate</b></p> <ul style="list-style-type: none"> <li>Explore and evaluate a range of existing products</li> <li>Evaluate their ideas and products against design criteria</li> </ul> <p><b>Technical knowledge</b></p> <ul style="list-style-type: none"> <li>Build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>				
<b>Vocabulary</b>	<p><b>Design</b></p> <p>To make, draw or write plans for something.</p>	<p><b>Net</b></p> <p>A flat 2D shape, that can become a 3D shape once assembled.</p>	<p><b>Structure</b></p> <p>Something that has been made and put together. For example, a building, bridge, chair or table.</p>	<p><b>Windmill</b></p> <p>A structure with sails that are moved by wind.</p>	<p><b>Strong</b></p> <p>It doesn’t break easily.</p>
	<b>LEARNING OBJECTIVE</b>	<b>STICKY KNOWLEDGE FACT</b>	<b>CORE LEARNING</b>		
<b>Lesson 1</b>	We are learning to include individual preferences and requirements in our design.	A design criterion is a list of points for the product to meet the needs.	<ul style="list-style-type: none"> <li>Children to understand what a windmill is.</li> <li>Children to describe the purpose of structures.</li> <li>Children to understand the importance of clear design criteria.</li> <li>Children to understand what a net is.</li> </ul>		

## MTP – D&T – Spring 2 YR1

<b>Lesson 2</b>	We are learning to make a stable structure.	Stable structures are safer because they do not easily topple over or fall down.	<ul style="list-style-type: none"> <li>● Children can follow instructions to cut and assemble the supporting structure of a windmill.</li> <li>● Children can understand that the shape of materials can be changed to improve strength and stiffness of a structure.</li> <li>● Children can identify a cylinder as a strong type of structure that is often used for windmills and lighthouses.</li> <li>● Children can understand what stable means and can ensure their structure has this property.</li> </ul>
<b>Lesson 3</b>	We are learning to assemble the components of my structure.	A windmill has three main parts, a turbine, an axle and a structure.	<ul style="list-style-type: none"> <li>● Children can cut and assemble a turbine correctly.</li> <li>● Children can understand that windmill turbines use wind to turn and make the machines inside work.</li> <li>● Children can understand that axles are used in structures and mechanisms to make parts turn in a circle.</li> <li>● Children can attach a turbine to the axle and attach it to the structure of my windmill</li> <li>● Children can test and adapt their turbine so it turns in the structure.</li> </ul>
<b>Lesson 4</b>	We are learning to evaluate my project and adapt my design.	Evaluation is to look at the good and bad points about something to help us improve, and testing a product lets us find out if everything works as it should.	<ul style="list-style-type: none"> <li>● Children can evaluate their windmill according to the design criteria.</li> <li>● Children can test whether their structure is strong and stable and reinforce it if necessary.</li> <li>● Children can test whether their turbine turns in the structure and alter the parts if it does not.</li> <li>● Children can test whether their turbine turns freely in the wind/when blown on.</li> </ul>
<b>Outcome</b>	Creating a windmill.		