

MTP – D&T – Spring 2 YR1



Topic	Is the Wii/Xbox better than Grandma or Grandad’s old toys? (BV LINK) (D&T Kapow: Structures: Constructing a windmill)				
N.C Learning Objectives	<p>Design</p> <ul style="list-style-type: none"> 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>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> Build structures, exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 				
Vocabulary	<p>Design To make, draw or write plans for something.</p>	<p>Net A flat 2D shape, that can become a 3D shape once assembled.</p>	<p>Structure Something that has been made and put together. For example, a building, bridge, chair or table.</p>	<p>Windmill A structure with sails that are moved by wind.</p>	<p>Strong It doesn’t break easily.</p>
	LEARNING OBJECTIVE	STICKY KNOWLEDGE FACT	CORE LEARNING		
Lesson 1	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"> Children to understand what a windmill is. Children to describe the purpose of structures. Children to understand the importance of clear design criteria. Children to understand what a net is. 		
Lesson 2	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"> Children can follow instructions to cut and assemble the supporting structure of a windmill. Children can understand that the shape of materials can be changed to improve strength and stiffness of a structure. Children can identify a cylinder as a strong type of structure that is often used for windmills and lighthouses. 		

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Lesson 3	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"> Children can cut and assemble a turbine correctly. Children can understand that windmill turbines use wind to turn and make the machines inside work. Children can understand that axles are used in structures and mechanisms to make parts turn in a circle. Children can attach a turbine to the axle and attach it to the structure of my windmill Children can test and adapt their turbine so it turns in the structure.
Lesson 4	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"> Children can evaluate their windmill according to the design criteria. Children can test whether their structure is strong and stable and reinforce it if necessary. Children can test whether their turbine turns in the structure and alter the parts if it does not. Children can test whether their turbine turns freely in the wind/when blown on.
Outcome	Creating a windmill.		