


KS2 DT		Year 6 - Spring - Structures- Bird houses	
Design	Make	Evaluate	
<ul style="list-style-type: none"> List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Use models, kits and drawings to help formulate design ideas. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read / followed by someone else. Use exploded diagrams and cross-sectional diagrams to communicate ideas. Sketch and model alternative ideas. Decide which design idea to develop. 	<ul style="list-style-type: none"> Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Produce detailed lists of ingredients / components / materials and tools. Use a computer to model ideas. Select from and use a wide range of tools. Cut accurately and safely to a marked line. Select from and use a wide range of materials. Use appropriate finishing techniques for the project. Refine their product - review and rework/improve. 	<ul style="list-style-type: none"> Research and evaluate existing products (including book and web based research). Consider user and purpose. Identify the strengths and weaknesses of their design ideas. Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user! Understand how key people have influenced design. 	
Key Learning		Vocabulary	Inventor- Fazlur Rahman Khan
<ul style="list-style-type: none"> Use the correct terminology for tools materials and processes. Use 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. Join materials using appropriate methods. Build frameworks to support mechanisms. Stiffen and reinforce complex structures 		<ul style="list-style-type: none"> frame structure stiffen strengthen reinforce triangulation stability shape join temporary permanent 	 <p>Fazlur Rahman Khan was a structural engineer who invented the tubular structural system, a design principle fundamental to modern skyscraper construction. His innovations, which involved creating a stiff, hollow "tube" of closely spaced columns on the building's exterior to withstand wind and seismic forces, revolutionized high-rise design.</p>
National Curriculum links:			

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others

Design	Make	Evaluate	Technical knowledge
<ul style="list-style-type: none"> • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 	<ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities 	<ul style="list-style-type: none"> • Investigate and analyse a range of existing products • Evaluate their ideas and products against their own design criteria and consider the views of others to improve • Understand how key events and individuals in design and technology have helped shape the world <p>shape the world</p>	<ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • Apply their understanding of computing to program, monitor and control their products.