St Andrew's C of E Maghull

Design and Technology Knowledge Organiser

Year 5 – Autumn 2 – Structures - Frame Structures

Knowledge	**Skills**	**Vocabulary**	**Lesson Sequence**
I understand how to strengthen, stiffen and reinforce 3-D frameworks. I know and can use technical vocabulary relevant to the project.	**Designing** I can carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. I can develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. I can generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. **Making** I can formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. I can competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. I can use finishing and decorative techniques suitable for the product they are designing and making. **Evaluating** I can investigate and evaluate a range of existing frame structures. I can critically evaluate their products against the design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. I can research key events and individuals relevant to frame structures.	**Stiffen**: To make something less bendy or floppy. **Strengthen**: To make something stronger so it doesn't break easily. **Reinforce**: To add extra support to make something stronger. **Triangulation**: Using triangles in a structure to make it more stable and strong. **Stability**: How well something stays still and doesn't fall over. **Shape**: The form or outline of something, like a square, triangle, or circle. **Join**: To connect two parts together. **Temporary**: Something that can be taken apart easily. **Permanent**: Something that is meant to stay together and not come apart. **Design Brief**: A short description of what needs to be made and why. **Design Specification**: A list of things the design must include or be able to do. **Prototype**: A first version or model of something to test out ideas. **Annotated**: Adding notes or labels to explain parts of a drawing or design. **Sketch**: A quick drawing to show an idea. **Design Brief**: A short description of what needs to be made and why. **Design Specification**: A list of things the design must include or be able to do. **Prototype**: A first version or model of something to test out ideas. **Annotated**: Adding notes or labels to explain parts of a drawing or design. **Sketch**: A quick drawing to show an idea.	Lesson 1 – I can evaluate existing bird houses. Lesson 2 – I can establish the design criteria for making a bird house. Lesson 3 – I can generate ideas of how to make a bird house. Lesson 4 – I can plan the making stage for a bird house. Lesson 5 – I can make a bird house. Lesson 6 – I can evaluate my end product – a bird house - against the design criteria.