**Architectural Ambitions**

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| **Main Subject Focus**  Design Technology  **Key Vertical Concepts:**  Investigate and evaluate existing products  Use focused tasks to develop particular aspects of knowledge and skills  Undertake design and make activities - make 'something' for 'somebody' for 'some purpose'  Evaluate effectiveness of finished product in terms of meeting purpose  Understand how design technology has impacted on our lives now, in the past and into the future | **Intent: Why?**  Pupils will learn about different types of structures and the materials used to build them. They will look at how materials can be joined and how to make them stronger, stiffer and more stable.  They will develop design and finishing skills. | **Links to prior and wider learning**  This unit links to History units regarding continuity and change, developing understanding of structures and buildings over time.  This builds upon design technology skills developed in earlier year groups and understanding of materials and their uses in Science. |
| **Key Stage 1 Pupils will be taught:**  Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].  When designing and making, pupils should be taught to:  **Design**   * 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   **Make**   * 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   **Evaluate**   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria | **Key Stage 2 pupils will be taught:**  Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].  When designing and making, pupils should be taught to:  **Design**   * 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   **Make**   * 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   **Evaluate**   * 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 their work | |
| **By the end of this unit pupils will learn:**  **EYFS/ KS1- To select appropriate materials to make freestanding structures and know how to make them stronger, stiffer and more stable**  **LKS2- To produce strong, stiff shell structures for a purpose. (using CAD)**  **UKS2- To be reinforce and strengthen a 3D framework** | | |
| **Skills progression should focus upon *Designing, Making, Evaluating and Technical Knowledge* within our school framework.** | | |
| **Wider Curriculum Links: Geography- build on knowledge of different geographical areas studied, Science- materials, Maths (nets)**  **Suggested Key Designers/ design work:**  EYFS/ KS1- Burj Khalia (Dubai), Forth Bridge (Scotland)  LKS2- Packaging, St Peter’s Basilica dome  UK2- Eiffel Tower | | |
| **Key Vocabulary**  **Structure, support, weight, strong, rigid, stable, base, materials**  **KS1- Freestanding structures**  **LKS2- shell structure, net, durable**  **UKS2- Frame structures, beam, column, foundation, triangulation, horizontal, vertical, diagonal** | | |
| **Wow moment-** | | |