# Foxford Learning Plan

## Design and Technology
## Year: 8 - Rotation
## Topic: Responding to Design problems

| Key Skills | Over the course of this topic, I will be able to: |
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| | • Analyse a design brief to identify functional needs (e.g., size, capacity, ease of assembly). Use technical drawing or CAD to create accurate slot-together designs. |
| | • Assemble and test the storage unit for strength, stability, and usability. |
| | • Navigate Tinkercad to design a functional passive speaker that amplifies sound without electricity. Apply acoustic principles (sound reflection, amplification, resonance) to the design. |
| | • Prepare and export their design for 3D printing in the correct format (e.g., .STL). Evaluate the printed speaker's performance, considering both sound output and visual design. |

| I will understand: |
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| 1. How to interpret a design challenge and turn requirements into design solutions.. |
| 2. The importance of accurate measurement and fit in slot-together construction. |
| 3. How acoustic design influences sound in passive speakers. |
| 4. How CAD tools (like Tinkercad) allow for iterative design and refinement. |
| 5. How to evaluate both function and aesthetics when judging a finished product. |

| Key Vocabulary | |
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| **Design Brief** – a document outlining the aims, criteria, and constraints of a project. | **Iteration** – the process of improving a design through repeated testing and feedback. |
| **Tolerance** – the allowable variation in dimensions to ensure parts fit together. | **Slot-Together Construction** – a method of joining parts without glue or fasteners. |
| **Acoustics** – the science of sound and how it travels. | **Resonance Chamber** – a hollow space that naturally amplifies sound. |

| End of Topic Test | |
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| Score: | |
| Pathway: | |