Year 2 Medium Term Planning for the Learning Challenge Curriculum

Term: Autumn DT Project: Creating Towers

Previous Learning	New Knowledge /Consolidation	End of Project Outcome	Environmental Links	Key Inventors/People	Project Vocabulary
Strengthening joins/structures using tabs and brackets (rolling toy)	To use the positioning and shape of a stock set of materials (kebab sticks, jelly sweets & marshmallows) to strengthen a structure.	To create the tallest free-standing tower with kebab skewers and regular marshmallows or jelly sweets.	N/A	Comparing the height of key monuments of the local area (The Angle of the North, Grey's Monument, Penshaw Monument) Discuss who build them, when they were built, why and how (materials - including upcycling).	Explore & Compare Plan Choose & Design Build & Construct Attach &Join Cut Trim Structure Strengthen & Stable Stiffen Change & Improve

Section	Lesson	Key Skills	Learning Objective & Activity
Explore	**1**	• Explain the purpose of a product, how it will work and how it will be suitable for the user. • Choose the best tools and materials, and **explain choices** • Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion • Evaluate how good existing products are • Identify and name the mechanism being used	**To investigate famous tall structures both locally and globally.** What tall structures or landmarks are you aware of? Make a list as a class. Use PowerPoint to compare the height of famous landmarks in the North East – Angle of the North, Grey's Monument, Penshaw Monument. Discuss who built them and what was used – introduce the concept of upcycling using aeroplane wings to create The Angle of the North. Penshaw Monument (1844-1845) – John & Benjamin Green. 21m (70ft) Greys Monument (1838) – Joseph Welch, John Green, Edward Hodges Baily. 41m (133ft). The Angle of the North (1998) – Anthony Gormley. 20m (65.6ft).

Plan	**1**	• **Have their own ideas** and plan what to do next • **Explain what they want to do** and describe how they may do it • Describe a design using pictures, words, models, diagrams and simple ICT design • Design products following a design criterion •	**<u>Consider what shapes can be used to create a secure tower.</u>** What shapes could we use for the base. Discuss the use of strong shapes (hexagon, square, rectangle). Decide of what shape to create the base and sketch out on paper. Use wooden kebab sticks and select marshmallows & jelly sweets to join. Note: Pupils can only use either marshmallows, jelly sweets or a combination of both (design criterion).
Make	**2&3**	• Measure, mark out, cut and **shape materials** and components, with support. • Join materials and components together in different ways • Join materials in different ways • Use own ideas to try to make product stronger (via positioning and shape of materials)	**<u>Position and create shapes with marshmallows and spaghetti to create the tallest freestanding tower.</u>** Create the tallest tower with kebab sticks and marshmallows/jelly sweets. Using: - Teamwork - Communication *The tower must be freestanding. With support, measure the height of their tower using a metre ruler.
Evaluate	**4**	• Explain what they are making and why it fits the purpose • Describe what went well, thinking about design criteria • Talk about what I would do differently if I were to do it again and why	**<u>Consider if their tower was a success/fit for purpose.</u>** Use Seesaw template to review the following (using text/tick boxes) Mirroring planning outline, pupils consider the materials they used. Did you tower stand without help? Yes/No Did you use the materials you planned on using? How tall was your completed tower? **<u>Consider what went well and what could be done differently.</u>** Create a class mind map what went well. Add text boxes in a different colour showing improvements that could be made (extra detail to be added, where appropriate, to explain how this would improve the finished tower).