Year 4 Medium Term Planning for the Learning Challenge Curriculum

Term: Summer DT Project: Kites

Previous Learning	New Knowledge /Consolidation	End of Project Outcome	Environmental Links	Key Inventors/People	Project Vocabulary
Strengthening using cladding (+ introducing rendering) building on the use of tabs & brackets to create a protype (elf house, photo frame, lunch box). Use of cardboard nets & templates.	Combining materials (Wood, paper, plastic) to create (joining) and strengthen a frame. Application of cladding and rendering.	To measure, cut and join materials with different properties to create a kite that flies.	What is the difference between upcycling and recycling? Discuss how products can be re-purposed Read somebody swallowed Stanley! By Sarah Roberts What else can a plastic bag be turned into? Create a mood board using MS Publisher.	When was the kite invented? Watch a history of kites: https://www.youtube.com/watch?v=oM2vSWuVGHg	Investigate & Compare Preparation CAD (Computer Aided Design) Assemble Components Properties Finish Precision Mark out Reinforce Functional Review & Evaluate Reusable & Recycle

Section	Lesson	Key Skills	Learning Objective & Activity
Explore	**1**	• Appreciate how products have evolved over time & some reasons for this. • Evaluate existing products based on design, materials, and function	**To investigate different shaped kites and why they fly.** Explore examples of different shaped kites. What do they have in common? Discuss how the sheet is slightly larger than the frame to allow air to get trapped. The science of kites: https://www.youtube.com/watch?v=NEv1HMX73N0 When was the kite invented? Watch a history of kites: https://www.youtube.com/watch?v=oM2vSWuVGHg
Plan	**1 & 2**	• Use sketches and CAD for clarity. • Plan the making process and required materials. • Develop a simple design criterion as a class.	**To consider what materials to use as a frame for a kite and why they are suitable.** Consider as class what is needed to create a successful kite and create a design criterion. Decide between using straws, plastic or wooden skewers to create a frame for a kite. Explain why this material has been chosen. Use pens to sketch out the shape and size of the sheet (+ decoration).

			Consider how the frame can be joined to the sheet and select methods to attach. Consider how to improve and strengthen. What will Seesaw template provided and text tool used to add notes.
Make	**3**	• Test & refine products to see if they work as intended. • Select and combine materials to meet design needs. • Reinforce structures with cladding and rendering. • Measure, mark, cut, and shape materials accurately.	**<u>To measure, cut and join materials with different properties to create a kite that flies.</u>** Use "How to" PowerPoint to follow steps to: Cut sticks or straws to a chosen size and attach the create a cross frame. Mark out and measure a carrier bag to create a sheet that is slightly larger than the frame. Combine materials to attach/join the sheet to the frame. Shape offcuts of the plastic bag to create a tail. Attach string and create a handle. Time to be given to test kite outside.
Evaluate **Explore**	**4**	• Identify strengths and weaknesses in a product. • Explain what went well and what could be improved. • Apply design criteria to product evaluation. • Begin to appreciate the global impact of using sustainable & recyclable materials.	**<u>To consider if the kite meets the design criteria, how materials can be upcycled.</u>** How would you change your kite? Mind map as a class. Revisit design criteria and tick off if you kite meets each point (Seesaw template). Insert a photo of the completed Kite into the Seesaw template. What is the difference between upcycling and recycling? Discuss how products can be re-purposed Read somebody swallowed Stanley! By Sarah Roberts Book or video (Bedtime Stories - https://www.bbc.co.uk/iplayer/episodes/b00jdlm2/cbeebies-bedtime-stories) What else can a plastic bag be turned into? Create a mood board using MS Publisher.

Substantive Knowledge	Disciplinary Knowledge