Year 1 Medium Term Planning for the Learning Challenge Curriculum

Term: Autumn DT Project: Rolling Toy

Previous Learning	**New Knowledge /Consolidation**	**End of Project Outcome**	**Environmental Links**	**Key Inventors/People**	**Project Vocabulary**
Exploring the properties of materials with regard to how strong/heavy they are.	Exploring new joining techniques (tabs & brackets) to increase the strength of a model.	To create a simple structure or toy that used a cardboard tube securely joined to another component (i.e. wheel or base).	Discuss the concept of reusing materials (tubes) and what can be recycled and what can't be recycled (Sellotape).	N/A	Explore, Compare, Risk & Safety Plan, Choose & Design Attach, Join & Cut Equipment & Tools Strengthen Tab & Bracket Change & Improve

Section	Lesson	Key Skills	Learning Objective & Activity
Explore	**1**	• Talk about & explore existing products, identifying what is good or could be improved. • Express personal opinions on products. • Begin to identify individual features that affect how products work (e.g., wheel size or position).	**To investigate how the size & position of wheels effects how effectively a toy moved.** Use a range of toy vehicles on the Beebot mats to investigate how easy they are to push. Discuss what toys were easier to move and why – look at wheel position, number of wheels and wheel size.
Plan	**2**	• Generate simple ideas through talking, drawing, or ICT. • Represent ideas using basic drawings or models. • Consider the purpose of a design (e.g., a bag to carry toys). • Recognise different materials and their basic properties.	**To use different emotions to create a design for their wheels. To consider the size and position of materials.** Indicate whether they will use a short or longer tube as the body of their "roller". Indicate where the wheels will be positioned (level = runs straight, both wheels off to one side = ditherer, each wheel off to opposite sides = wanderer). Consider if they would like to make their toy for themselves or a younger child. Key words to be used on the template. **Wheels to be designed on the back of the sheet – larger wheels needed to make joining easier.** *Plans to be photocopied onto card.*

Make	**3**	• Begin to join materials using simple techniques. • Use familiar tools and equipment safely. • Create a fixed axel to create a rolling movement.	**<u>Make a rolling toy that is robust using different materials.</u>** Use developing cutting skills to cut out their wheels and resize the tube used for the body (focus on keeping work tidy if possible/finishing techniques). As a class, discuss the difference between using only glue to join the tube to the wheels and using brackets or tabs (strengthening techniques when joining). **Work through following teacher example to attach one wheel using tabs and another using a bracket (visual & real-world examples to be used for reference).** Use tape to further strengthen. Explore the use of different tapes and discuss the differences.
Evaluate	**4**	• Talk about own work, linking to what went well. • Identify simple ways to improve a product. • Express opinions about the work of others.	**<u>To compare what was planned with what was produced.</u>** Use a paper handout to compare how the finished toy moved and what it looked like in comparison with the choices they were made on the plan. **<u>To consider what went well and what didn't.</u>** Class discussion based around the statement "I found …/easy … because", in my opinion … because… Where there any bad things (negatives) about the toy you produced? Mind map responses. Compare how different people approached the problem – what worked well?