Hartford Primary School					
YEAR GROUP	Year 1	**SUBJECT**	Design and Technology	**TERM**	Autumn
Prior Learning (What should they already know)	• EYFS: Building skills				
Key themes and threads	• Structures: Freestanding structures				
RETRIEVAL VOCABULARY	cut, fold, join, fix, wall, tower weak, strong, top, underneath, side, straight, wood, plastic circle, triangle, square, rectangle,	NEW VOCABULARY	structure, framework, base, edge, surface, thinner, thicker, corner, point, curved metal, cuboid, cube, cylinder, design, make, evaluate, **user, purpose, ideas, design criteria,** product, function		

	Essential Learning for this lesson	**Suggested teaching tasks/approaches**	**New Knowledge – What I'm leaving the lesson with**
LESSON 1	**Research and evaluate existing products and design criteria** I can talk about our trip to the park and what structures we saw.	Look at photos from the park and show park ppt. Ask questions, e.g. *What are the structures called and what is their purpose? Who might use them? What materials have been used? Why have these been chosen? How have the parts been joined together? How have the structures been made strong enough? How have they been made stable?* Discuss materials used for each piece of equipment and children design their own parks. Where possible, ask the children to draw or photograph the structures they have been exploring and label with the correct technical vocabulary in relation to the structure, materials used and shapes e.g. wall, tower, framework, base, joint, metal, wood, plastic, brick, triangle, square, rectangle, cuboid, cube	I know what the strongest shape in a structure is. I know examples of strong and weak materials. I know why some materials work better than others in different structures.
LESSON 2	**Focused practical tasks** I can demonstrate a variety of construction skills	Ask the children to build and explore a variety of freestanding structures using construction kits, such as wooden blocks, interconnecting plastic bricks and those that make frameworks e.g.	I know how to make a structure stand well. I know how to make a structure stronger. I know how to make a structure that can carry something.

		How can you stop your structures from falling over? How they can be made stronger and stiffer in order to carry a load? Children could make models of the structures they have seen in school and the local area. Carousel ch making equipment with lego, wooden blocks, linking cubes or mobile with cardboard and masking tape.	
LESSON 3	**Focused practical tasks (skill development)** I can experiment with different joining techniques	Discuss playground equipment the children like. Use powerpoint to explain that they will design and make a piece of playground equipment for a playmobile person. What will we need to think about? Size Strength Materials to use Explain that today we are going to experiment with different joining techniques: Model cutting a toilet paper tube with little slots to attach to a piece of card. Model creating a pipe cleaner join. Model using plasticine to attach straws to a cardboard base. Explore the paper straws worksheet and children experiment with different joins.	I know how to make a structure stand well. I know how to join straws effectively using pipe cleaners. I know how to use a variety of materials to make different joins.
LESSON 4	**Design and elaborate design brief (personalise their own)** I can create design criteria for a specific purpose and user. I can show my ideas through a labelled drawing.	Show children available materials. Put children in pairs. Each pair to decide what to make – swing, slide, roundabout, climbing frame. In pairs, design and label the equipment they will make. List materials needed. What did you learn from the joins you made as your challenge last week? What different materials might you use? How could you make it stronger? Create some simple design criteria with the children e.g. the structure should stand up on its own, it should be strong enough to carry a playmobile person.	I know what a design brief needs. I know how to choose specific material to fit my design brief. I know how to draw and annotate a diagram. I know how to organise a list of resources that I will need. I know how to design a piece of park equipment for a specific purpose and user.

LESSON 5	**Make** I can make a piece of park equipment for a specific purpose and user.	Follow their design to make their equipment.	I know how to follow my design and alter if necessary. I know how to use scissors safely and purposefully. I know how to use presentation skills to make my park equipment look appealing. I know how to follow a process step by step, making changes if necessary.
LESSON 6	**Evaluate** I can evaluate my product against my design criteria I can explain why or why not my park equipment is suited to its purpose and user	Test children's equipment. Is it the right size and strength for the toy? What did you do well? What could you improve? Fill in evaluation sheet – stick photo of equipment on the sheet	I know how my park equipment met its design criteria. I know how to explain why my park equipment was suited to its purpose and audience. I know how I could improve my product to make it better.

Helpful resources to reference	CURRICULUM_DT_MTP_AUTUMN