



DT - Materials and Structures: Making a Tudor House

Outcome:
Linked to the Great Fire of London learning – to make a Tudor house

Term 3	Learning Question & NC Link	Substantive Knowledge To know that...	Disciplinary Knowledge I can...	Vocabulary	Assessment opportunity	Equipment & resources	Lesson ideas
Session 1	What is a structure?	To know and use technical vocabulary relevant to the project. To know what a structure is.	To explore a range of existing structures in the school and local environment e.g. everyday products and buildings. To plan by suggesting what to do next. To generate ideas based on simple design criteria and their own experiences, explaining what they could make. To develop, model and communicate their ideas through talking, mock-ups and drawings	wall, tower, framework, bridge, house, flat, bungalow, user, purpose, ideas, design criteria, product, function.	Questioning Checking prior knowledge	Photographs of different structures	What buildings/structures do the children already know? E.g. bridges, houses, flats, Eiffel Tower, etc. Explore looking at a range of buildings – discuss different types of building/structures – use books, photographs and online pictures to explore and encourage discussion. *Arrange a walk around Sandwich to identify and look at Tudor House in Sandwich. Do some rough drawings/sketches of houses/buildings and structures – this isn't an art lesson so we are not looking for a finished piece, just evidence of the children exploring different, buildings and structures – they could annotate and label if they wanted to. Add these to children's DT folders (we need to have more evidence in these and evidence of each stage. Add photos too!)
Session 2 Skill (Technical Knowledge)	How can we join components/parts? How can we improve structures? Can we talk about our structures using technical vocabulary taught?	To know how to make freestanding structures stronger, stiffer and more stable.	To investigate how to make a model stronger. To investigate how to make a model stiffer. To investigate how to make a model more stable. To know to join a loo roll tube to a flat surface. (By cutting small slits in the top of the tube and folding back). To develop, model and communicate their ideas through talking, mock-ups and drawings	Structure, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, sturdy, stiffer	Questioning Checking prior knowledge	Cardboard tubes Card Tape glue	Explore making a simple structure, using loo roll tubes or rolled up paper and card. Teach cutting slits and folding back, like tabs to fasten onto the surface of the card. You could have paper straws, cocktail sticks, matchsticks and explore making/engineering a structure. Show how you can make a square using cardboard triangles and lolly sticks. It could be linked to a story e.g. children act as engineers in order to help Rapunzel escape from her tower. Children work in teams to think about creative solutions for helping her escape, then design and build them. Or the bridge in 3 little pigs..... Lots of ideas STEM learning. Investigate how to make it stronger, stiffer, sturdier, etc. Encourage use of technical vocab. Record as photos of the children building/creating/engineering for their DT folders.
Session 3 Design	How do we want our product to look?	To know what different materials, tools and techniques could be used.	To develop, model and communicate their ideas through talking, mock-ups and drawings To plan by suggesting what to do next. To generate ideas based on simple design criteria and their own	Plan, design, explore, names of tools and equipment	Questioning Pupil voice Photos	Planning sheet	Plan and design their Tudor House. Look at techniques, materials, tools, skills they will need to make their models. Complete their designs and include; diagrams, labels, annotations, list of resources, materials and tools. How will each part be made? What will it be made from? Consider finishing techniques – paint? Straw? Lolly sticks for beams, etc? Is there an option for the children to make theirs from wood? Could teach some wood work here? We do have some equipment in school for this.

	What resources, tools do we need?		experiences, explaining what they could make.				
Session 4 & 5 (2 weeks) Make	How will we make our product?	To know how to apply the techniques taught to their build.	To use simple finishing techniques suitable for the structure they are creating. To select and use tools, skills and techniques, explaining their choices. To select new and reclaimed materials and construction kits to build their structures.	Finishing techniques	Questioning Checking prior knowledge Take photos as evidence and record pupil voice.	Cardboard boxes Card Lolly sticks Paint Straw	Make their models, following their plans. (2 weeks for this stage, if needed). Start finishing techniques in 2 nd week.
Session 6 Evaluate	How did the product build go?	To know how to critique their own work. To know how they can make improvements.	To evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	evaluate, criteria, likes/dislikes	Questioning Checking prior knowledge Record pupil voice	Evaluation sheets	Complete evaluation stage – give chn opportunities to discuss with adults and each other how their models look, what do they like/dislike? What worked well or not? Any improvements needed? – critique their own work. Record any pupil voice and add to folders. Display their houses in school.
Notes	*Start collecting cereal boxes						