

Year Group: 4	Term: Summer	Topic: Structures
NC Links		
To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.		
Other Curriculum Links		
Mathematics		
Links to Caedmon Curriculum Drivers		
Aspirations and Careers		
<ul style="list-style-type: none"> -embracing challenges that help us to grow -understanding that resourcefulness can help us to be the best version of ourselves -understanding how our learning links to the wider world -having an awareness of the local labour market 		
Links to Rights Respecting		
Article 28 - Every child has the right to an education. Primary education must be free and different forms of secondary education must be available to every child. Discipline in schools must respect children's dignity and their rights.		
Links to North East Ambition		
Link a lesson to the career of an architect/builder. What does the job entail? What skills are needed in the job? What day to day tasks would you undertake in this job?		
Gatsby Benchmark 4 - Linking curriculum learning to careers		
Topic Overview		
<ul style="list-style-type: none"> • By the end of this topic, children will have produced a range of free-standing frame structures. They will have designed a pavilion that is strong, stable and aesthetically pleasing by using appropriate materials and techniques. They will have used a design criteria to inform their design and evaluate their final product.. 		

Possible Visits/Visitors

Visits to building sites. Invite a builder to visit/video link and discuss their career.

Essential Subject Skills to be covered

- To design a stable and aesthetically pleasing pavilion structure
- To build frame structures that are sturdy
- To make free-standing frame structures of different shapes and sizes.
- To select appropriate materials to build a strong structure and for the cladding.
- To reinforce corners to strengthen.
- To use a plan to inform work.
- To make fair evaluations of the structures made by self and the class.
- To consider effective and ineffective designs.

Overall Learning Outcomes

By the end of the unit, children will have made different sized free-standing structures using the materials available and by safely following appropriate techniques. Their structure will be strong and sturdy. Produce a range of free-standing frame structures of different shapes and sizes. They will add detail to their structure before evaluating.

Learning Intentions (for use in self assessment at end of topic)

- To create a range of different shaped frame structures
- To design a structure
- To build a frame structure
- To add cladding to a frame structure

Sequence of lessons

- Children commence the lessons by using materials like toothpicks to create structures
- Children move on to design their own pavilions.
- Using their design plan, the children will build a strong frame for their pavilion.

- Children will finish the making part of their process by adding cladding then evaluate theirs and the work of others.

Suggested Strategies for Recording Learning

- Design and sketch ideas
- Explore truss structures using different materials
- Test and reinforce structures; sharing with the class what is successful and unsuccessful
- Write comments/teacher to write verbal feedback.
- Annotate ideas
- Photograph work