

Year Group: 1	Term: Summer	Topic: Structures
NC Links		
To design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics		
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 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 North East Ambition		
<p>Link a lesson to the career of an Architect. What does the job entail? How does construction link to this job? What construction skills can you use in this job?</p> <p>Link a lesson to the career of a Tradesperson (bricklaying, roofing, painting, carpentry, masonry or welding etc.). What do these jobs entail? What kinds of trades can you specialise in? How does an understanding of materials and construction support this job? What skills are required for these jobs?</p> <p>Gatsby Benchmark 4 - Linking curriculum learning to careers</p> <p>Gatsby Benchmark 5 - Encounters with employers and employees</p>		
Topic Overview		
By the end of the unit, children will have identified some of the features that would appeal to their client and create a suitable design. They will be able to make stable structures to support their turbine then make functioning turbines and		

axles. Once their product is completed, they will evaluate their product by saying what is good about their windmill and what they could do better.

Possible Visits/Visitors

Visit into the local environment to see different constructions and structures (home/playground etc)

Essential Subject Skills to be covered

- Learn the importance of a clear design criteria.
- Include individual preferences and requirements in a design.
- Make stable structures from card, tape and glue.
- Learn how to turn 2D nets into 3D structures.
- Follow instructions to cut and assemble the supporting structure of a windmill.
- Make functioning turbines and axles which are assembled into a main supporting structure.

Overall Learning Outcomes

Children will have approached a design brief and developed an idea for a product based on this. They will discuss their ideas through talk and writing. They will understand how to make a stable structure and how to assemble it carefully. They will develop a range of techniques then make their product safely. They will evaluate their product and discuss strengths and weaknesses of their work.

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

- To include individual preferences and requirements in my design
- To make a stable structure
- To assemble the components of my structure
- To evaluate my product and design.

Sequence of lessons

- Children will begin by learning what a windmill is and constructing a model windmill by reference to design criteria created for the client, Mouse.
- Children will then construct the main part of their structure, making sure that it stands freely and holds together.

- Children will complete their turbines through cutting and folding. They will attach them to a structure and test them for strength and stability.
- Children will test their structures to ensure that it is safe for their client to live in. They will evaluate their product and discuss what was successful and unsuccessful.

Suggested Strategies for Recording Learning

- Design and sketch ideas
- Write comments/teacher to write verbal feedback.
- Annotate ideas
- Photograph work