

Design and Technology Medium Term Plan Year 2 Autumn Term 2

How can we create a strong and stable structure?

Research

What is a structure? Investigate structures and their purpose

Design

Design a structure with a stable base

Make it

Ensure the structure is strong, stable and can stand without additional support

Test it / improve it

Is the structure strong and stable?

Evaluate

Evaluate the final product, considering how it may differ if it were to be made again

Substantive Knowledge

- Know that structures are a building or other object constructed from several parts.
- Know that structures can be large (e.g. buildings and bridges) or small (e.g. chairs and tables).
- Know that freestanding structures are structures that can stand up without being attached to something else.
- Know that freestanding structures have a function
- Know that structures with wide, flat bases are the most stable
- Know that triangles are stronger than squares

Disciplinary Knowledge

Designing	Making	Evaluating
<ul style="list-style-type: none"> • Begin to develop their design ideas using research and discussion with peers and adults. • Understand the purpose of their product. • Think of an idea and plan what to do next. • Explain why they have chosen specific textiles or materials. • Draw a simple design and label the parts of their product. • Develop their own ideas through drawings, and where appropriate, make templates or mock ups. 	<ul style="list-style-type: none"> • Choose tools and materials and explain why they have chosen them. • Join materials and components in different ways, including glue, sellotape and masking tape. • Build structures, exploring how they can be made stronger, stiffer, and more stable. • With help, measure, cut and score with some accuracy. • Start to assemble, join and combine materials in order to make a product. 	<ul style="list-style-type: none"> • Evaluate their work against their design criteria. • Start to evaluate their product as it is being developed, identifying strengths and possible changes they might make. • With confidence talk about their ideas, saying what they like and dislike about their product
		Technical Knowledge <ul style="list-style-type: none"> • Make a model stronger and more stable

Resources and websites:	Vocabulary: (including definitions)	
<ul style="list-style-type: none"> • 	Structure	A building or 3D shape made from different materials and parts.
	Stable	Does not easily fall down

Freestanding

Not attached to or supported by another object.

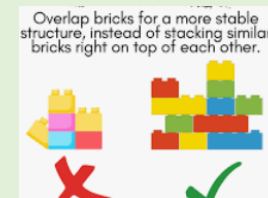
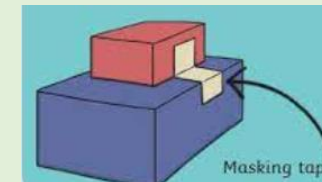
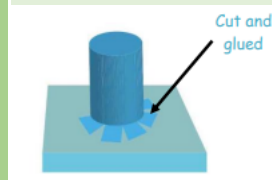
Function

What the structure is used for.

Structures:

How to make a structure stronger:

<https://www.youtube.com/watch?v=sPhuwXB1ZLM>



Prior Knowledge:

Reception

Expressive Arts and Design

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
- Share their creations, explaining the process they have used