



Year 1/2 Art and Design Knowledge Organiser: Free Standing Structures- Bridges



Subject Specific Skills

- 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 range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ☐ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- Explore and evaluate a range of existing products ☐ evaluate their ideas and products against design criteria
- Build structures, exploring how they can be made stronger, stiffer and more stable

Prior Learning

- Use a range of small tools, including scissors, paintbrushes and cutlery
- 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

Key Vocabulary

Frame structure – a structure made from thin components

Stability – in relation to a freestanding structure, the extent to which it is likely to fall over if a force is applied.

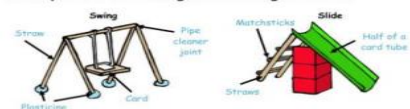
Buttress – a structure added to a wall, tower or framework to make it more stable and/or reinforce it.

Brick bonding – arranging bricks in a wall to improve the performance of the structure or improve its appearance.

Prototype – First 3-D representation of a product.

Design and create

Techniques for assembling freestanding structures



Show children how to join sheet materials and reclaimed boxes together using different tapes and glues.



Photos: Peter Smith Associates

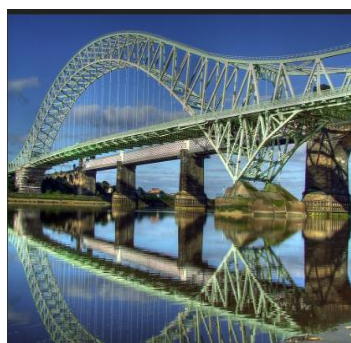
Now bend one piece of card and use it as an arch. How does this affect the strength of your bridge?



Investigate (style / techniques / examples):

- To explore free standing structures and explain how they know they are freestanding.
- To identify free standing structures and explain how they know they are freestanding.
- To identify similarities and differences in f/s structures.
- To experiment with different assembly techniques for strength and stability and make a prototype
- To design and make a free standing structure to meet a brief
- To evaluate how effective their f/s structure was and explain why it is good and or how it can be better.

Freestanding structures in the locality/ wider area



Evaluate:

To use their sketch books to record their observations, investigate cutting and joining techniques and make a prototype and use them to review and revisit ideas.

Evaluate a piece of work, reflecting upon the task used.