

Y5/6 – Buildings in fairy tales: sturdy structures or disastrous designs?

Procedural knowledge

Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.

Create innovative designs with the user in mind, that improve upon existing products.

Measure and mark out accurately to the nearest millimetre.

Show an understanding of the qualities of materials to choose appropriate tools to cut and shape

Cut materials with precision and refine the finish with appropriate tools

Ensure products have a high-quality finish.

Evaluate the design of products through each stage, making continual refinements so as to suggest improvements to the user experience.

Combine elements of design from inspirational designers throughout history, giving reasons for choices.

Develop a range of practical skills to create products (e.g. cutting, nailing, gluing and sanding).

Factual and Conceptual knowledge

What is a frame structure?

A frame structure is made from thin components.

Which designers use frame structures?

Stephen Sauvestre

One of the designers of the Eiffel Tower



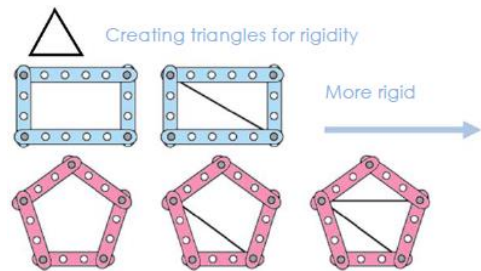
Thomas Farnolls Pritchard

Designer of The Iron Bridge



Why are triangles important?

Triangles are used to create rigidity in the structure.

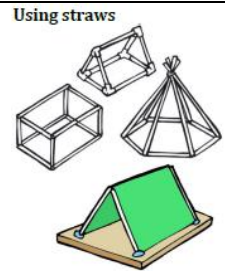


How can straws or paper rolls be joined?

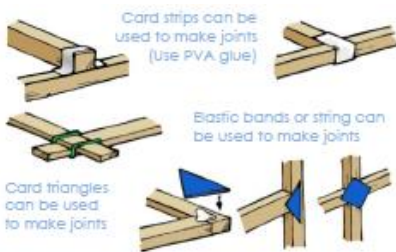


One straw creased and inserted
Flattened and glued
Pipe cleaner
Sleeve glued around joint
Sticky tape

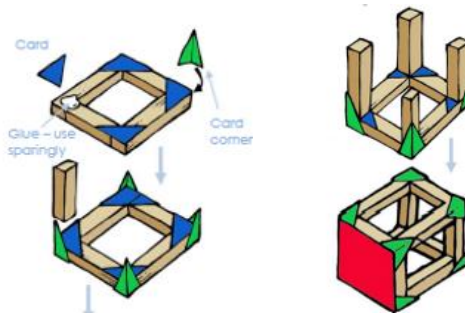
How can straws be used to create a frame structure?



How can pieces of wood be joined?



How can wood be used to create a frame structure?



Key Vocabulary

frame structure, modelling, compression, strut, tension, diagonal, triangulation, horizontal, vertical, strengthen, reinforce, stability