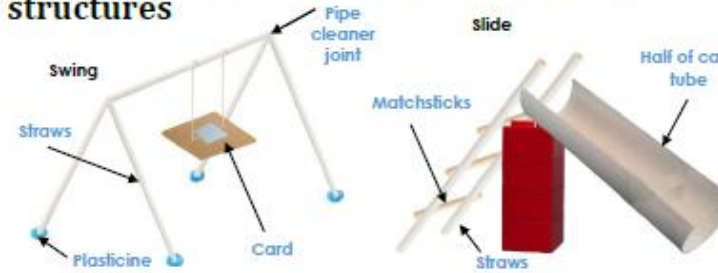


Free Standing Structures

Techniques for assembling freestanding structures

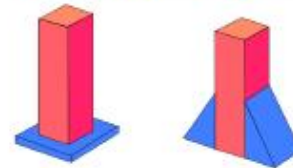
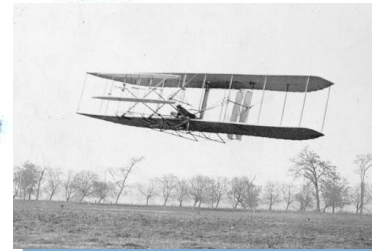


Show children how to join sheet materials and reclaimed boxes together using different tapes and glues.



Technical knowledge and understanding

Build walls with these different patterns. Tap away the centre brick in the bottom row of each wall in turn. What happens? Which wall is the strongest?



Wider bases and buttresses for stability

Vocabulary

Freestanding structure: a structure that stands on its own foundation or base without attachment to anything else.

Frame structure: a structure made from thin components e.g. tent frame.

Shell structure: a hollow structure with a thin outer covering.

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.

Mock-up: 3-D representation of a product.

Engineer Study

The Wright Brothers

- ✓ The Wright Brothers, Orville and Wilbur, were American engineers, inventors and bicycle makers.
- ✓ They are famous for inventing, constructing and flying the first aeroplane in the world.
- ✓ Orville was born in 1871 in Ohio, and Wilbur in Indiana, in 1867.
- ✓ A toy flying machine gave the brothers an interest in flight and aerodynamics. They designed and built several model gliders, and experimented with a wind tunnel.

