

Investigating roofs

These investigations look at the design of different roof shapes and also the water proofing qualities of different materials.

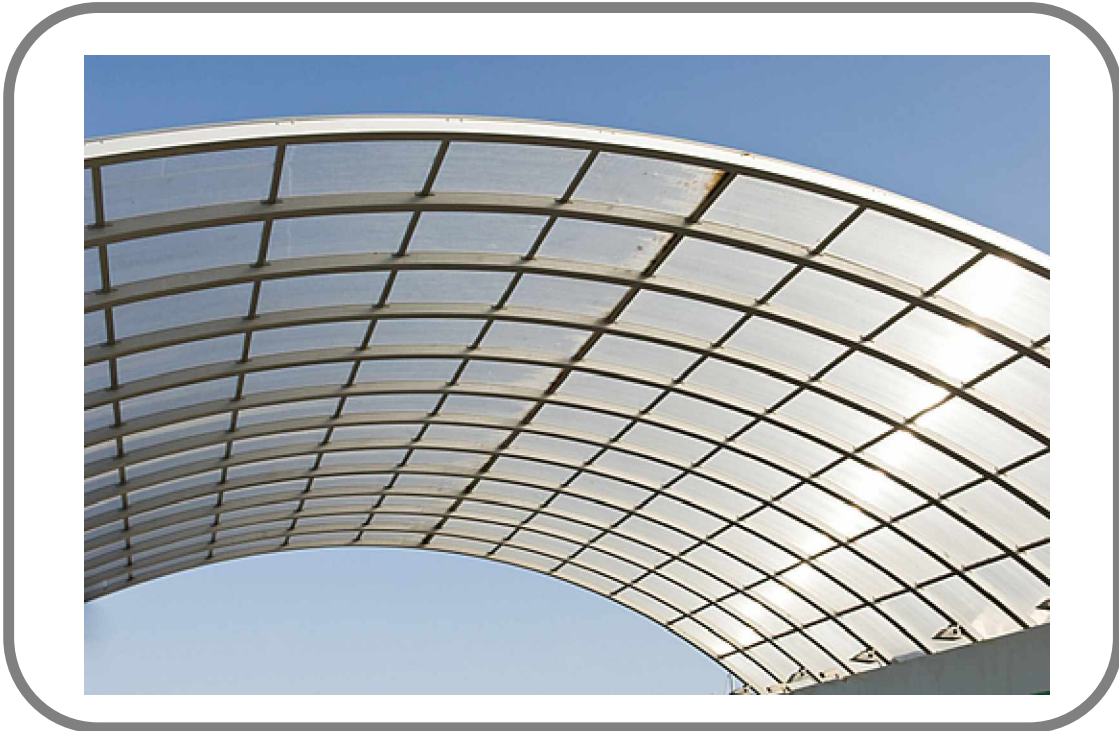
Design the strongest roof

Children use drinking straws and sticky-tape to build roofs of different design. Aim is to build the strongest roof that will cover an area of at least 10cm x 10cm.

Constraints can be placed on the amount of available materials to encourage the children to think of the most efficient ways to make a roof structure. Children should also devise a reliable way of testing each design to get meaningful comparisons.

The images below can be used to stimulate ideas about the shapes and constructions that can be investigated.





Water-proof roof

Children use 'thatch' and 'tiles' to cover their roof and see which one is the most waterproof.

Thatch can be represented by dry grass stalks (if available) or alternatively by drinking straws or modelling match-sticks/cocktail sticks with sharp ends removed.

Tiles can be modelled by cutting small squares out of thin card.

Investigate the ways that the materials are laid. For example, the thickness and angle of the thatch (too shallow an angle and the water will not run off) and how the tiles are overlapped.

Children decide on how to measure the degree of water proofing achieved. Suggestion would be to pour measured amount of water over the roof and measure amount that leaks through.



