Choosing the Right Material

Not only must a structure have the right shape, it must also be made of a suitable material. The material you choose will depend on its properties and the job that the structure is going to be used for.

It is sensible to make the windows of a house out of glass because it is transparent and the walls out of bricks because they are strong. The cost of the material is also an important factor to think about. You may think that silk would be the best material to make dusters, but it would be rather a waste of money!

Carbon fibre is strong and flexible. It is used to make boat masts because it can withstand large forces.

Aluminium
Steel
Carbon fibre / reinforced plastic
Fire-resistant materials
Plastics
Paint

Various materials have been chosen to make this aircraft. The framework is strong, the wings and body are light, the interior is colourful and the fittings are fire resistant and easily moulded.

Different bicycle designs suit different purposes. A racing bike has slick tyres on narrow wheels, while an off-road bike has fat tyres and a sturdy frame. Steel frames are cheap and relatively rust-resistant.

Aluminium is a lighter alternative. Titanium is slightly flexible so it gives a smoother ride.