



Spaghetti Structures

Before you start designing your models you need to do some experiments. This experiment will help you to learn about **TRIANGULATION** - this is really important when you design your models and engineers think about this when they design structures like bridges.

In groups you are going to build your very own structure, but rather than using the special kit you are going to use spaghetti!

Equipment:

- Meter rule,
- Raw spaghetti (please don't use cooked spaghetti!)
- Mixture of mini and normal sized marshmallows
- Wet wipes or hand towels (your hands will get very sticky).



These university students have also made some spaghetti structures - look at how they have made use of **TRIANGULATION**.

The Challenge:

Challenge 1:

Build the tallest tower you can.

Challenge 2:

Build a structure strong enough to support a Kit Kat.

Challenge 3:

Build a bridge at least 30cm long. If you think your bridge is strong enough then see if you can hand small weights from it without it collapsing.

Top Tips:

- Work in small groups of around four.
- Remember not to eat the marshmallows whilst you are working - not only will you have less materials for the challenge, you may also get a tummy-ache!
- Building spaghetti structures are harder than you think; listen to your team's ideas and stay focused on the task no matter how hard it might be.