

Structures: Where Does It Actually Fail?

engineering

What you need: newspaper · masking tape · drinking straws · card offcuts · string for ties · test weights — about ten identical small items to add one at a time (bags of 20 washers, 100 g masses, or small bean tins) · metre stick · round-tip scissors

Words to use

Buckle · Splay · Twist · Tie · Strut

Sketch your tower and label the parts. Mark an X where you think it will fail.

Which failure will it be – buckle, splay or twist? Because...

Load it until it gives way

	Weights it held	Which failure (buckle / splay / twist)
First build		
After our one fix		

Was my prediction right? Where did the force actually go?

The one fix we added (a tie or a strut), and exactly where