

Build It Up

This activity counts towards the Innovate Stage 3 badge.

What you'll need:

- Pencil
- Sticky tape
- 1 box and some smaller ones
- Construction items: lolly sticks, garden canes, paper, etc

What to do:

Step 1: Think about all of the tall skyscrapers and towers you've seen. How do you think they can get so tall without falling over? Here are some ideas:

- Have a wide sturdy base or Foundation that can hold lots of weight.
- Strengthen joints – if you are sticking walls on to the foundation, use pieces of cardboard to hold them together like in the picture.
- Make the building lighter at the top than the bottom.

Step 2: Get your biggest cardboard box and on the inside draw straight lines between all the corners or edges to make lots of triangles, like in the picture. Triangles don't collapse easily, so are strong. Triangles in construction are called trusses.

You can use trusses to make your skyscraper stronger by adding lengths of cardboard or lolly sticks along the lines you have drawn.

Step 3: On paper design a skyscraper. Make sure it looks interesting so people will want to live there, remember to use trusses to make it strong.

Step 4: Build your skyscraper. Don't forget to use trusses to make it strong. Give it a name!

