

GROWING SPAGHETTI TOWERS

There is an increase in the construction of skyscrapers and high-rise buildings to accommodate the growing population and rapid urbanisation in most cities. This activity will introduce the basic design and engineering principles mainly used in constructing buildings. How tall can you build your building?

⌚ 15-20 minutes

Skill set Collaborative, creative, tenacious

Kit list

A packet of dried spaghetti

A packet of mini marshmallows for each pair/group

Paper

Pencils for sketching designs

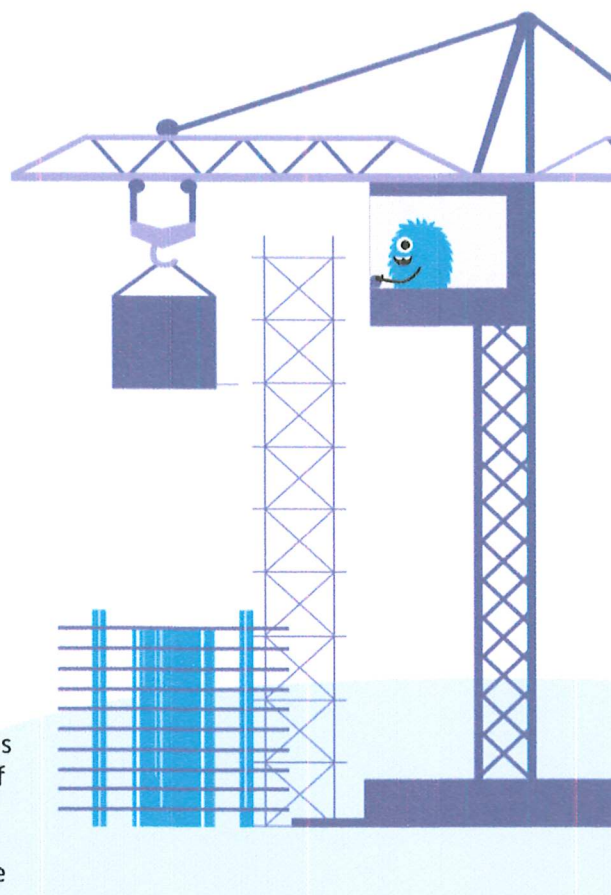
Optional tower decoration

Instructions

- 1 You will be working in pairs or small groups to design and build the tallest tower out of dried spaghetti and marshmallows. Think about the 'building materials' you have been given. What are the properties of the spaghetti and the marshmallows? What could they be used for?
- 2 Roughly sketch a design for your tower – how will you ensure the tower is strong enough to grow tall? Think about strong shapes such as triangles, how will you reinforce your structure?
- 3 Once you have agreed on your design, start building. Do you need to make any modifications to your design once you started construction?
- 4 If you have time, you may like to add paper decoration to your tower. Once complete, the tower will need to stand for at least 30 seconds. You can break the spaghetti and/or marshmallows into smaller pieces if that helps your design.
- 5 Take a deep breath and admire your spaghetti tower construction!

Watch out

- The marshmallows can get sticky. Wash your hands after construction.
- Spaghetti can be sharp. Be careful when using to avoid any injuries e.g. eye injury.
- Do not eat the marshmallows in this activity.



Next steps

We would love to see your spaghetti towers. Please take a photo of your tower and email the image to spaghetti@petroc.ac.uk, then log onto our website petroc.ac.uk to see the towers built by others during Science Week 2022.

At home

Think about the buildings you pass on your way to/from school.

- How are they reinforced?
- What makes them strong?
- How are they designed? How are they built?
- How can they grow so tall?

Career options

You can take a number of qualifications or higher-level apprenticeships if you wish to pursue a career in this area, for example an Higher National Certificate in construction. There are a huge number of jobs available such as architectural technologist, building surveyor or structural engineer.