



Shape and structure

Nuclear power stations generate electricity. All nuclear power stations have containment structures that hold the reactors. They come in different shapes, but are all very strong.

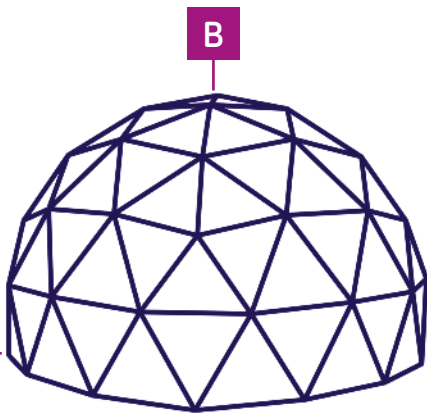
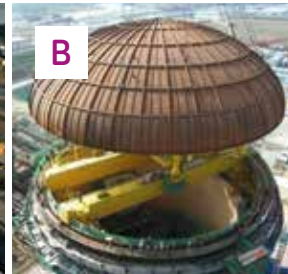
Look at the pictures (right)

Match them to the shapes:

Cylinder

Sphere

Dome



This is a beautiful and strong shape called a geodesic dome

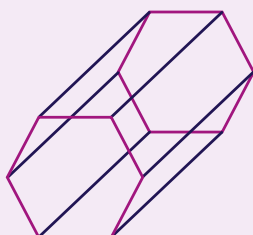
If you look carefully you can see lots of different shapes.

1. How many different shapes can you see?
2. How many sides do they have?
3. Can you name them?
4. Do any of the shapes have right angles?

Build your own strong containment structure

You will need:

- Spaghetti (the steel frame)
- Marshmallows (the bolts)
- Drinks can (the nuclear reactor)



You can cut the spaghetti to whatever size you want and stick them together with marshmallows.

1. Start by making a 2D **polygon** – you can decide on the number of sides but you must be able to sit a can inside.
2. How many sides does your polygon have?
3. Now turn your 2D polygon into a **prism**. You must be able to put the can into the prism.
4. How can you make your structure stronger? Look at the geodesic dome and think about why it is so strong.
5. Your teacher might like to test how strong your contain structure is by balancing some heavy objects on top.

