

# Mighty Monument Challenge- Years 4 and 6



## What's it about?

This exciting primary school Challenge is to design and build a lightweight free-standing structure, themed on a monument. Using materials from a given list, the structure should support as much load as possible, up to a maximum of 10kg, held in a container whose base is at a height of 900mm. The Challenge is focused on the concept of 'strength to weight ratio' rather than outright weight holding capacity. Therefore, a lightweight structure holding less than 10kg could potentially outperform a heavier structure that supports the maximum load.

The monument may either be themed on an existing world monument or pupils may research and construct a monument to honour a person or event relevant to the school's locality.

Judges will be looking for evidence of STEM learning into structures and forces, design and material experimentation and creativity in theming.

**Eligible school year groups:** 3-6

**Entries accepted from:** Individuals or teams of 2-5 students. Schools may submit a **maximum of 3 entries** for the Challenge. Teams may be mixed age if desired.

**Open to:** Bracknell Forest and Wokingham Authority schools, academies and private schools. Home-educated children may also participate. See our [Terms and Conditions](#).

Watch the [video](#) to see the creative entries in the 2019 competition.

## Testing

The structure will be weighed prior to loading using digital weighing scales, and the height of the base of the load container checked with a tape measure. Increasing load will be applied to the container, using small stainless steel blocks in 100g, 250g or 500g increments, to a maximum load of 10kg. Blocks may be loaded in any pattern within the container, as directed by the students. More than one block can be added at the same time, if desired, to maintain stability. Testing will stop when:

- ☑ the monument breaks or falls over
- ☑ the load is no longer supported at a height of 900mm
- ☑ or the entrant/team requests that no further load is applied

## **Materials list 2020**

### Permitted materials

- Wood – including, but not limited to, cocktail sticks, matchsticks, lollipop sticks, dowel or sheet
- Plastic – including, but not limited to, plastic bottles, straws, foam, rod or sheet
- Paper or cardboard in any form
- Fabric
- Thin rope, string, wool or other thread
- Foil, film or other similar sheet material
- Paper clips, staples, glue, tape, split pins or other similar connecting materials
- Any decorative materials including but not limited to stickers, paint, pen, pencil, crayon, glitter and feathers

### **Excluded materials**

- Commercial monument construction kits

### **Dimensions**

- The structure should support as much load as possible, up to a maximum of 10kg, held in a container whose base is at a height of 900mm
- The monument itself may extend beyond the height of the loading container, if desired.

There are no restrictions on the overall dimensions of the monument, however, please consider that it needs to be transported to the judging session

- The Challenge is focused on the concept of 'strength to weight ratio' rather than outright weight holding capacity. Therefore, a lightweight structure holding less than 10kg could potentially outperform a heavier structure that supports the maximum load
- The monument may either be themed on an existing world monument or pupils may research and construct a monument to honour a person or event relevant to the school's locality